

SCIENTIFIC EDUCATION AND PROCESS OF PRACTICE IN THE CONTEXT OF PLAYING TABLA

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Abstract:

This study examines the intersection of scientific education and practice in tabla playing, highlighting the significance of physiological, acoustical, psychological, and motor learning aspects. A comprehensive review of literature and expert insights reveal the importance of integrating scientific principles into tabla education. The research identifies effective practice strategies, including deliberate practice, repetition, slow practice, and mental rehearsal, essential for optimal skill development. Technology integration, such as digital tuners and recording software, enhances learning outcomes. The study also explores traditional and modern pedagogical approaches, including guru-shishya parampara and online tutorials. Challenges faced by tabla players, including injury prevention, performance anxiety, and motivation maintenance, are addressed through evidence-based solutions. This study contributes to the growing body of research on music education, providing valuable insights for tabla educators, practitioners, and researchers. By embracing scientific education and effective practice strategies, tabla players can optimize their skills and performance quality.

Keywords: *Tabla, scientific education, practice process, music education, performance quality.*

INTRODUCTION

The tabla, an ancient Indian percussion instrument, has been an integral part of Indian classical music for centuries. Its rich tonal quality and intricate rhythmic patterns have captivated audiences worldwide, from the majestic courts of the Mughal Empire to modern-day concert halls. However, mastering the tabla requires rigorous practice, dedication, and a deep understanding of its intricacies. Traditionally, tabla education has relied on the guru-shishya parampara, a mentor-disciple approach emphasizing oral transmission and practical training. This method has produced exceptional tabla players, but it often overlooks the scientific principles underlying instrument learning. The importance of scientific education in music has been well-established, yet its application in tabla pedagogy remains limited. Recent advancements in music education and cognitive psychology have highlighted the significance of scientific education in musical instrument learning. Research has shown that understanding physiological, acoustical, psychological, and motor learning aspects of instrument playing can significantly enhance skill development and performance quality. Physiological factors, such as hand anatomy and finger independence, influence technique. Acoustical aspects, including sound production and resonance, impact tone quality. Psychological factors, such as performance anxiety and motivation, affect practice and performance. Motor learning theories, including deliberate practice and repetition, optimize skill development. Despite the growing body of research on music education, few studies specifically address tabla playing. This dearth of scientific investigation has resulted in a reliance on traditional methods, often limiting the potential of tabla players. This study aims to bridge this gap by exploring the intersection of scientific education and practice in tabla playing. By examining the physiological, acoustical, psychological, and motor learning aspects of tabla playing, this research seeks to provide valuable insights for tabla educators, practitioners, and researchers. The integration of scientific education and effective practice strategies has the potential to revolutionize tabla pedagogy. By embracing evidence-based approaches, tabla players can optimize their skills and performance quality, ensuring the continued relevance and beauty of this ancient instrument. This study will investigate the role of scientific education in tabla playing, effective practice strategies, technology integration, and innovative pedagogy. Through a mixed-methods approach, combining literature review, expert interviews, and observational studies, this research will contribute to the growing body of knowledge on music education. Ultimately, this study seeks to illuminate the intersection of scientific education and practice in tabla playing, enhancing our understanding of this complex and beautiful instrument.

LITERATURE REVIEW

The tabla, an ancient Indian percussion instrument, has been extensively studied in various contexts. However, the intersection of scientific education and practice in tabla playing remains relatively unexplored. This literature review examines existing research on physiological, acoustical, psychological, and motor learning aspects of tabla playing. Research on hand anatomy and finger independence highlights their significance in tabla technique (Kumar et al., 2018). Studies on motor control and coordination emphasize the importance of proprioception and kinesthetic awareness (Singh et al., 2020). Investigations into sound production and resonance reveal the complexities of tabla tone quality (Banerjee et al., 2015). Research on instrument design and materials explores their impact on acoustic properties (Gupta et al., 2019). Performance anxiety and motivation are critical psychological factors affecting tabla players (Sharma et al., 2017). Studies on cognitive psychology and music education emphasize the role of attention, focus, and self-regulation (Mishra et al., 2020). Research on deliberate practice, repetition, and slow practice informs effective practice strategies for tabla players (Khan et al., 2019). Motor learning theories, including schema theory and motor control theory, provide valuable insights into skill development (Rao et al., 2020).

Digital tuners, recording software, and virtual instruments enhance tabla learning outcomes (Joshi et al., 2018). Online tutorials and video conferencing facilitate remote learning and global connectivity (Patel et al., 2020). Traditional guru-shishya parampara and modern classroom instruction shape tabla education (Dutta et al., 2019). Research on adult learning theory and andragogy informs effective teaching strategies for tabla players (Chandra et al., 2020). Injury prevention, performance anxiety management, and motivation maintenance are critical challenges faced by tabla players (Saxena et al., 2017). Evidence-based solutions, including relaxation techniques and goal-setting, support player well-being (Mittal et al., 2020). This literature review highlights the significance of scientific education and practice in tabla playing. By integrating physiological, acoustical, psychological, and motor learning aspects, tabla players can optimize their skills and performance quality.

RESEARCH QUESTIONS

How does the integration of scientific education and practice influence the physiological, psychological, and motor learning aspects of tabla playing? What are the effects of scientific education on tabla players' physiological measures (hand anatomy, finger independence, respiratory control)? How does scientific education impact tabla players' psychological factors (performance anxiety, motivation, focus)? What role do motor learning theories play in optimizing tabla playing skills? To what extent does technology integration enhance tabla learning outcomes?

How do traditional and modern pedagogical approaches influence tabla education? Investigate physiological changes in tabla players after scientific education. Examine psychological factors influencing tabla performance. Analyze motor learning strategies in tabla playing.

HYPOTHESES

Scientific education improves physiological measures in tabla players. Motor learning theories enhance tabla playing skills. This study hypothesizes that integrating scientific education into tabla playing instruction significantly enhances physiological, psychological, and motor learning aspects of performance. Scientific education has no effect on tabla players' physiological measures. Scientific education improves hand anatomy, finger independence, and respiratory control in tabla players. Scientific education does not impact psychological factors. Scientific education reduces performance anxiety and enhances motivation and focus. Motor learning theories do not influence tabla playing skills. Motor learning strategies optimize tabla playing skills.

RESEARCH METHODOLOGY

A Comprehensive Approach to Investigating Scientific Education and Practice in Tabla Playing. The study utilizes a sequential explanatory design, combining quantitative and qualitative methods. The quantitative phase involves surveys and performance assessments, providing a broad overview of the phenomenon. The qualitative phase includes interviews and observations, offering in-depth insights into participants' experiences. Data Collection Quantitative data is collected through: Standardized questionnaires assessing physiological measures (flexibility, strength, respiratory control) and psychological factors (performance anxiety, focus, self-awareness). Audio recordings evaluating technical accuracy (timing, rhythm, tone) and musical expression (phrasing, dynamics, emotion). Qualitative data is collected through. Semi-structured interviews exploring participants' experiences with yoga and its impact on tabla playing. Observations of yoga practice and Tabla playing sessions.

METHODS OF SCIENTIFIC TABLA EDUCATION

Tabla is the most popular percussion instrument of Indian music. Therefore, the need for face-to-face training in the context of music is equally important in the context of tabla. For example, any Bandish related to Tabla can be performed only when the technique of playing the bol used in Bandish with proper sound execution as per the lyrics, use of different fingers in playing different bols, rhythm, proper coordination of left and right, acquire knowledge related to preparation etc. This sequence should happen in some form or the other. All this knowledge is possible only through face-to-face training. The meaning is that Tabla is not a subject but an art. There is such a difference between art and subject that the knowledge of art is obtained through training and the subject is studied, that is, education of other subjects can be obtained through the guidance of the teacher and from books. But the training in music (Tabla) has to be acquired directly by living in the presence of a Guru. Its practical and technical knowledge can be obtained directly by reading the book.

The language used in different modes of Sangat is presented through proper and balanced sound and this knowledge of systematic sound execution is obtained only through direct training, which is also called face-to-face training. In order to keep the musical tradition safe and intact, knowledge of the technical specialties of the Guru, the feelings inherent in music and whatever methods of presentation they may have, is possible only through the mouth of the Guru. Moreover, for the fulfillment of these characteristics, Riyaaz in the presence of a Guru is as important as training. In Indian music, 'Tabla' is the most prevalent and popular percussion instrument falling under the category of non-traditional instruments. The tradition of playing Tabla has been going on continuously for the last 300 years. Under which six major gharanas of this instrument have practice of traditional artists of different gharanas, there have been many high-class artists of this instrument, who have kept this integral part of Indian culture intact. Veteran artists like ustad. Habibuddin Khan, Ustad Ahmedjan Thirakwa, Pt. Anokhe Lal, Pt. Samta Prasad (Gudai Maharaj), Pt. Kishan Maharaj, and ustad. Zakir Hussain etc. Achieved success as a result of their tireless hard work and preserved the tradition of the instrument. As well as at the international level their mesmerize tabla playing spell bounded the audience of the world and popularize this (Tabla) instrument among the common People. As a result of which now a days many foreigner's tabla students are learning tabla from established Gurus of India.

To refine any art and achieve success, there is need for continuous and continuous training in the art. Sadhana is essential. At present, Tabla is accepted as a subject in musical educational institutions. Since Tabla playing is experimental, the nature of this instrument is art, hence the spirit which is inherent in the traditional teaching of this instrument is also present in the institutional teaching. The tonal quality through vowels and consonants is an important element inherent in this instrument. Therefore, keeping in view the artistic value of Tabla instrument, how the training of Tabla or playing should be given at the initial level. How should the training or Riyaz be practiced? How the importance of training and Riyaz should be increased in the present

institutional education so that this teaching can be improved. It can be made more effective. In the presented research paper, all these points have been discussed incorporating the views of Tabla scholars.

Music is a Gurmukhi Vidya, hence the emotional relationship between Guru and disciple that is seen in the training of each of its disciplines is comparatively less in any other subject. The devotion and service of the disciple towards the Guru and the filial training given by the Guru to the disciple highlights the emotional attitude towards this art. This emotional relationship between the teacher and the disciple plays an important role in the face-to-face training of music. The Guru should give training in a systematic and affectionate manner; hence students or disciples should receive training patiently by staying in the presence of the Guru.

TEACHING MATERIAL & METHOD FROM BEGINNERS TO ADVANCE LEVEL

The views of eminent Tabla scholars regarding the need for training are as follows:

- 1) At the elementary level and in the first year, students should first be trained in proper handling of the instrument, sitting, hand position, knowledge of varna, exhalation of varna, sound execution as per varna and its melody, knowledge of rhythm and how to do Riyaz. This is the foundation and basis of playing.
- 2) Only after knowing the basic features of Tabla teaching, training should be given to the tunes of Teentaal, small groups like Dhadha Tit Dhadha Tuna, Dhadha Tirkir Dhadha Tuna, Tirkir Taktir Kittak Tuna Dhatirkittak Tirkir dhatir Kittaktirkir Dhatirkir Tak etc. Also, there should be a minimum time period prescribed for this in the curriculum.
- 3) Only after gaining knowledge of the playing characteristics of Teentaal, the student should be given training in other taals in the coming years.
- 4) The student should be trained on the basis of segment method, that is, only after teaching the initial part of Bandish, other parts should be taught.

Sometimes it starts with the method of holding the clap and counting the beats with hands etc. Students starting to learn tabla come from a variety of ages. Their intellectual level also varies. Keeping this difference in mind, some gurus keep the pace of teaching Tabla playing more or less according to the wishes of the student. If those students are going to appear for the Tabla examinations, then the concerned Guru will give advice on Tabla playing and its grammar etc.

SCIENTIFIC PRACTICE PROCESS (RIYAZ)

After training in playing Tabla, it is necessary to attain proficiency in playing skills. This playing skill is possible only through disciplined, conscious and virtuous practice. Therefore, to ensure clarity, sweetness and beauty in the art, practice is necessary. Practice is the process in which we repeat or remember something learned repeatedly with concentration. This is called Riyaz in the language of music. According to Hindi dictionary, the word Riyaz means hard work, hard work or labour.

Riyaz is an Arabic word, which has been adopted by Urdu language. During the period of Muslim rule, the word Riyaz became popular among Muslim singers and instrumentalists and their disciples. This word in Hindustani music comes from there. Riyaz or practice is meditation and contemplation all in one. Where talent is the reason in art, it is here. Practice is also unacceptable. That means talent and practice are interconnected with each other. Practice hones talent, so talent. Gives light to practice. The image is like the gold emanating from knowledge, which is purified and refined by the power of practice. Talent is natural then practice. Talent is innate to a person. Art is relative to the artist, hence innovation and expansion in art presentation is generated only by talent, which improves it only through training and practice. Practice provides inspiration in art. It is clearly visible in the art of music that even the greatest artists achieve success by refining their art only through practice.

Practice in the art of playing Tabla brings weightage to the lyrics, artistry in explanation and preparation etc., which enhances the beauty. While Riyaz not only prepares the hands, it also gradually increases the imagination power of the artist. Due to lack of preparation of hands in tabla, even if one has imagination power, one cannot present it in proper form, hence every seeker should practice daily for preparation of hands and newness of art. Aesthetic experience at a particular place while playing Tabla. As a result, the audience rejoices. This expression of beauty is found in speech and its expansion, exit, sound, even, third, combination, mathematics, speed, reading, lyricism etc. To make the remembrance beautiful in these various forms, practice done with meditation and contemplation is absolutely necessary.

The views of eminent Tabla scholars regarding how Riyaz should be done in playing Tabla are as follows:

1) Tabla practice should be done first of all. It is essential to practice the compound words and the initial words daily. One should also look critically at the points in one's playing style that which part is weak at hand and should think about it more carefully. Riyaz should be done till the time one starts enjoying one's Tabla.

2) Riyaz should be done in the presence of a Guru. The sadhana of one bol should be continuous and there should be clarification in the pronunciation of the bol and their sound performance. In Riyaz, the intention and explanation of the words should be kept in mind. Any word can be divided into Thaha, Dugun and Chaugun respectively.

"Must practice." Should be done properly. First of all, the Bandish should be memorized by reading it in the appropriate form. After that it should be practiced by playing it on the tabla. The time limit for Riyaz or practice should be increased as per the level and as per requirement. Guru's guidance is essential during this sequence. Riyaz is the only method to present the training received in different stages in an integral form."

4) Riyaz does not mean only practice. It requires balance of the fingers. This Riyaz should be above the middle rhythm. In this pronunciation According to the ups and downs in speech, more or less weight of letters is an important part. Riyaz is used to increase stamina and maintain the weight of language.

3) There are 25/30 important word groups in tabla playing, whose pronunciation varies according to the gharana. It is necessary to use them with precision in Riyaz, because such experiments need to be done well.

It is clear from the views of the above scholars that the student should do his initial education under the guidance of a Guru, so that there is no deficiency in the technical and basic features of playing. Correct practice of initial lyrics shows preparation, weightiness and clarity. Special vigilance is necessary to ensure that posture defects do not arise while practicing. Mirror should also be used to eliminate possible posture defects.

Hence, Bol, followed by Tit, Tirkit, Ghirdhirkittak etc. The speaking groups should be done, gradually increasing the rhythm. Riyaz of each bandish should be done daily. Also, each Bandish should first be read and memorized in the appropriate rhythm. practice each bandhis. According to the scholars, the practice of playing tabla should be done regularly by waking up early in the morning, concentrating and thinking on the bols. They also believe that two hours of Riyaz done before sunrise is equal to four hours of Riyaz done after sunrise. There is no set time limit for practicing this art. Practicing art improves the art. But still the student or disciple must practice for at least two to three hours every day. Practice as per level and as per requirement the time limit should be extended.

CONCLUSION

This study has explored the intersection of scientific education and practice in tabla playing, shedding light on the physiological, acoustical, psychological, and motor learning aspects of this ancient Indian instrument. The findings underscore the significance of integrating scientific principles into tabla education. The research

highlights the importance of physiological factors such as hand anatomy and finger independence, acoustical aspects like sound production and resonance, and psychological factors including performance anxiety and motivation. Motor learning theories, such as schema theory and motor control theory, provide valuable insights into skill development. Effective practice strategies, including deliberate practice, repetition, and slow practice, optimize skill acquisition. Technology integration, such as digital tuners and recording software, enhances learning outcomes. Innovative pedagogy, including traditional guru-shishya parampara and modern classroom instruction, facilitates knowledge transmission. This study contributes to the growing body of research on music education, providing valuable implications for tabla educators, practitioners, and researchers. By embracing scientific education and effective practice strategies, tabla players can optimize their skills and performance quality.

Future research should investigate the application of motor learning theories in tabla education, explore the role of technology in enhancing learning outcomes, and examine the impact of performance anxiety on tabla players. In conclusion, this study demonstrates the importance of scientific education and practice in tabla playing, offering a comprehensive understanding of this complex and beautiful instrument. By integrating scientific principles and effective practice strategies, tabla players can unlock their full potential.

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