

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

## **Indian Musicology and Study of its Interdisciplinary Approach**

Dr. Sudarshana Baruah  
Lecturer (Art Education)  
DIET (Under SCERT)

Govt. of Assam

Email: [sudarshana.baruah83@gmail.com](mailto:sudarshana.baruah83@gmail.com)

### **Abstract**

*The term "Musicology" is a portmanteau of the words "Music" and "Logos" (a Latin word). Logos signifies science or theory. In reality, musicology is a research-based study of all facets of music, including its history, theory, science, composition, acoustics, philosophy, and aesthetics. Moreover, in the case of Indian music, the proper and logical explanations of musical texts written in Sanskrit and other classical languages are the most important aspects of the musicological research. Numerous disciplines, including psychology, acoustics, science, mathematics, and philosophies, are related to music. This research paper focused on an interdisciplinary study of Musicology, Music and musicology in the contemporary era and also discusses on necessities of Indian musicology in special reference to the interdisciplinary approach.*

Keyword: Indian Music, Musicology, Interdisciplinary.

### **Introduction:**

Musicology was referred to as "Gandharva Veda" in ancient India. It belonged to the fifth Veda, also known as the Pancharva Veda. The Gandharva Veda exclusively discussed the theories and science of music. Between the 12th and 15th centuries B.C., this Veda was composed. Friedrich Chrysander coined the term "Musikalische Wissenschaft" in 1863 to refer to the study of music. It was later accepted by the French as "Musicologie" and by the English as "Musicology."<sup>1</sup>

Musicology is the study of all aspects of music. The significance of acoustics, music history and music theory cannot be overstated. Musicology may assist an artist in expanding their musical knowledge, but it does not aid in the development of talent. The ability to perform is innate. It refers to the research-based investigation and study of music. A musicologist is an academic who researches music. Musicology encompasses a variety of fields, such as the humanities, psychology (music therapy), social science, acoustics, and so on. It incorporates a variety of viewpoints and an interdisciplinary approach. This is a vast area of research and study. Indian musicology encompasses numerous genres in multiple varieties and forms, such

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

as primitive music, folk music, regional music, devotional music, classical music, a comparative study between various cultures, etc. In India, music was originally an integral part of socio-religious life. In ancient religious temples and Indian texts, numerous sculptures depicting human singing and dancing positions have been discovered. The cave art indicates and illustrates the rich culture of India. From the civilization of the Indus valley (2500 BCE), many sculptures of dancing women have been discovered. Indian music is extremely old and has a vast body of study. Frequently, our country's greatest maestros lack formal training in musicology. However, the question of musicology arises when music becomes an academic discipline. There is a need for extensive music analysis, music research, and music preservation. Today, musicology is studied as a distinct field of study around the world. The term musicology is synonymous with musical knowledge. Here, extensive knowledge of music theory, history, philosophy, and acoustics are required.

**Indian Music and Musicology:**

Indian Music and Musicology is a similar subject of study that studies Indian music. The Indian culture is quite rich. A variety of styles of folk music, light music, popular, and contemporary music, as well as classical music, have evolved over the years. Indians are organized into caste-community groups with unique cultures. Musicology is the study of music across cultures and periods. It includes all aspects of music. Musicology involves a variety of scholarly approaches to music. Musicologists Ashok D. Ranade, B. Chaitanya Deva, Prem Lata Sharma, Bhagavat Sharan Sharma, Harish Chandra Srivastava, Indrani Chakravorty, Thakur Jaidev Sing and Acharya K.C.D Brahaspati, etc. have published and contributed to the field. In the recent century, musicology has mostly been historical. Scholars have historically been more interested in the old music of Bharata and Sarangadeva than modern art, and much music research is merely grave digging.<sup>2</sup> Some exceptional people gave us a theory of contemporary music that we resemble. The historian is so dominant that musicology is sometimes confused with music history. Experimental and critical musicology is more important now. Many studies have been done on prominent musicologists' and composers' works. Now more than ever, music needs methodical, experimental investigation. We don't necessarily need actual objects and complicated equipment to experiment. This necessitates observing natural phenomena. Physical, and mental experiments are conceivable. Observe dispassionately and objectively. In our country, the scientific approach to music, including psychology, physiology, and acoustics, is not new, but it is ignored. Our ancestors had sensible ideas of sound and music. For instance, the sound is a characteristic of air. The nada was this vibration of air particles. Some have referred to air's kinetic action as karma. The 'vayu Santana' was the name given to the series of air movements and waves. The extraordinary theory of *shrutis* makes a significant contribution to the world's musical thought. Academic research on the use of notes or *swaras* in various instruments, the various ways and techniques of using notes, the *bhava* (mood) and *rasa* of these notes, and the application and impact of these notes or combinations of notes on the human mind, body, and

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

behavior are significant subjects. Medical science is advancing at a breakneck pace today. Suppose, if academic research is successful and makes a significant contribution to medical science, it will be the greatest achievement in the field of musicology and science. There are various aspects of Indian Music which require critical, experimental thinking and research study.<sup>3</sup>

**Interdisciplinary Study:**

Interdisciplinary studies combine academic fields. Sociology, anthropology, psychology, and economics are incorporated. Interdisciplinary studies draw on methodologies and insights from multiple disciplines or traditional fields of study. It brings together academics, students, and teachers to integrate different academic schools of thought, professions, technology, and views.

Musicology focuses on music's history. It studies how people lived and their culture across time. Its all-encompassing Composers and musicologists, their compositions and creations, their lives and evolutions, and books produced during various eras and on notable performances. Following independence, there was a great movement to educate people about Indian culture and fine arts. In the fine arts, music has maintained an uninterrupted connection to the torch bearers of Indian music, where various ustads predominantly Muslims, have made substantial contributions to the tradition's preservation. This period was followed by professionals and qualified musicians who made these great arts available to democratic India's new learners. Pandit Vishnu Narayan Bhatkhande and Pandit Vishnu Digambar transmitted the performing tradition in India through their stalwart pupils.

In the present scenario, Interdisciplinary musicology is a very important subject of study. comprises music therapy, aesthetics, musical instruments, acoustics, science and art behind the music, musical terminologies, psychology, philosophy, physiology, sociology, religion, and cognition of music and its study. The topic of Music and psychology encompasses music therapy, how our brain functions when listening to different tunes, how fast or slow music, a melody, or devotional tune affects our brain, and how we react and behave after listening to different genres of music. It examines emotional and psychological development through music. We react differently to sad and fast songs. So, we should examine the effects of musical sounds on the human body and mind. Musicological research must follow it. Nowadays, systematic musicology encompasses music related to the humanities. It studies human society and culture. It's social science-related. Music and musical study are part of our culture and must be observed and studied thoroughly.

**a)Physiology-**

Physiology is a subject of medical science. Musicology deals with the musical impact on the human mind, body and behavior. Physiology is concerned with the human body and its various components. It stimulates numerous areas of our brain and physiological responses, including the release of stress hormones. Numerous studies have demonstrated that music can affect central physiological variables such as blood pressure, heart rate, respiration, body

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

temperature, and skin. Nowadays its required deep study on these subjects. Many academic types of research on physiology and music have been done from different universities and many scholars have contributed through their scholarly writings.

**b)Study of Psychology and music****Impact of Music on Human Mind and Emotion:**

The study of the mind and behavior is referred to as psychology.<sup>4</sup> It encompasses both conscious and unconscious phenomena, as well as emotion and thought. Additionally, psychology examines the mental functions that underpin an individual's social behavior and the various behavioral changes that occur. The subject pertains to our emotions and mental processes. Art is a vehicle for the expression of human thought, beliefs, experiences, joy and sorrow, as well as a creative ability that we can acquire through our life circle. Performing arts such as music, dance, and instrument playing are all connected to our thinking, feelings, and creative ability. People can express themselves and communicate through music, which gives our minds immense pleasure and positivity. Music is a form of therapy, and it can be used to treat patients with Autism, as well as those suffering from various diseases such as heart problems, psychological disorders, speech disorders, and disorders affecting special children. Music lifts our spirits, inspires us, and keeps our minds sharp. It piques an individual's interest in studying and heightens his or her concentration level.

Music is a dynamic, living entity that pervades society and cultures. When it comes to eliciting emotions and feelings, music trumps language and other forms of art. Pt. Sharangadeva stated in his nineteenth-century book 'Sangeet Ratnakara' that 'Geetang Nrityang Vadyang Tranyang Sangeet Murchayate'. (In Sanskrit)Anecdote- Geet (Songs), Nritya (Dance), and Vadyas (Musical Instruments) are the three components of music (Instruments). Music is an incredibly powerful medium for quickly conveying emotion. That is why music is given precedence over all other forms of artistic expression. Visual arts such as painting and sculpture require a medium such as paint, brass, or other materials to create an artwork, but do not involve the audience directly. Audiences, on the other hand, are directly involved in performing arts such as music, dance, and drama when they attend live performances. For performing arts, the human body serves as the sole medium. While musicians can compose songs with their voices, dancers and actors can express their emotions through their bodies. The performing arts are inextricably linked to the audience. Throughout history, music has been referred to as the "Language of Emotions." This has piqued interest in the way music is perceived by the brain. As a result, emotional responses are elicited. Music, whether in films, live orchestras, concerts, or on a simple home stereo system, can be so evocative and stirring that the line between mental image and reality becomes blurred. It transported us to the realm of imagination, where we discovered peace and mental satisfaction through our creative ability. We experience delight and a sense of beauty when we watch musical performances or listen to beautiful pieces of music. Our musical tastes are becoming shallow for reasons unrelated to our tongue. It is intrinsically

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

linked to our spiritual fulfillment. We experience what is referred to as emotions in our hearts. The heart is merely our brain's emotional response to stimuli. Advances in our understanding of how music affects the brain and elicits physiological and emotional responses have resulted in the development of innovative new applications for music. The term "psychology" refers to the scientific study of human behavior. It is indissolubly linked to memory. This naturally prompts thought about how music cognition might be related to other complex cognitive abilities. Music has an undeniable ability to affect and manipulate emotions and the brain, but it is largely inconceivable. <sup>5</sup>There has been very little serious research into the mechanism underlying music's ability to physically influence the brain, and knowledge about the neurological effects of music is still limited. The human brain, one of the most complex organic systems, is comprised of billions of interacting physiological and chemical processes. Music is widely regarded as having a positive impact on people's lives. Therefore, much research is required in this field.

**Taxonomy of educational objectives and relation with music- (Music and Psychology)**

**The three spheres and purpose of learning and its relation with music (Bloom's Taxonomy)** - According to Benjamin Bloom and his followers, there are three purposes and domains of learning in the education system for the development of skills and growth of children. In other words, the purpose of learning must be for the development of these domains given below. In Education, it is an integral part of learning.

**Cognitive Domain**—It is concerned with the brain and mental capacity of a human. The cognitive domain is concerned with knowledge and intellectual ability development. A teacher teaches children in different methods or ways to developmental ability. Music aids in the development of the brain and other activities. This category encompasses specific facts, procedural patterns, and concepts that aid in the development of intellectual abilities and skills, as defined by psychologist Benjamin Bloom in 1956. Music and other arts help to the developmental growth of human beings.

**Affective Domain-**

( Based on emotions)

The affective domain skill refers to how people react emotionally and their capacity to feel the pain or joy of other living things. Affective goals are the development of attitudes, emotions, and feelings of humans. Practicing music also contributes to the domain's growth. In vocal music, creative thinking and emotions are necessary to elicit bhava and rasa.

**Psychomotor Domain**-Psychomotor is the Capacity for manipulation or physical exertion. It is related to handwork, footwork, and activities involving body movement. The Psychomotor Domain is concerned with our brain and motor abilities. We operate by the signals sent by our brain. Even a doctor operates on a patient using his or her brain activity or knowledge,

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

and also uses his / her hands and body to operate on the patient. This is referred to as psychomotor ability. Music, dance, and any other form of art also help or contribute to the development of Psychomotor abilities. In dance creative thinking physical exercise, hand gestures, and body movement is essential. In visual art, creative thinking, as well as the use of hands, is the medium of expressing our feelings and thoughts. In instrumental music use of hands and mind to think creatively is the basic factor.

**Detailed study of cognitive, Affective, and psychomotor skill development:****1. Affective Domain-**

The affective domain is divided into five levels, beginning with the simplest processes and progressing to the most complex. It is related to our heart.

**Receiving-**At the lowest level, the student pays attention passively. Without this level, learning is impossible. Receiving is also concerned with the student's memory and recognition.

**Responding-**Students participate actively in the learning process by not only attending to a stimulus but also reacting in some way. The student ascribes a value or set of values to the acquired knowledge.

**Organizing-** The student can group disparate values, facts, and ideas and fit them into his or her schema. The student is comparing, relating, and expanding on what has been learned.

**2. Psychomotor domain-**

(Action based)

Skills in the psychomotor domain describe the ability to physically manipulate a tool or instrument like a hand or a hammer. Psychomotor objectives usually focus on change and or development in behavior and or skills. It is related to our hand activity and also brain activity. The psychomotor domain refers to the use of motor skills, coordination and physical movements. Measurement of learning may be gauged in terms of the following-

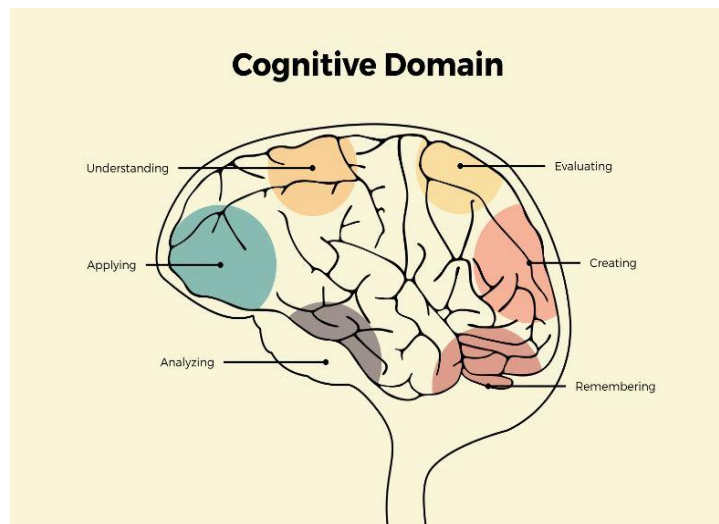
1. Speed
2. strength
3. Endurance
4. Coordination.<sup>6</sup>

Music training has been shown to significantly enhance our motor and reasoning abilities, as well as our cognitive and affective domains. We generally believe that learning to play a musical instrument benefits children. However, it is more beneficial than we might expect. According to one study, children who have had years or more of musical instrument training perform better in auditory discrimination abilities and fine motor skills than children who have not learned an instrument.

**3. Cognitive Domain-**Cognitive domain in education is related to our brain development and activity.

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

## How the brain works in the cognitive Domain-



Almost all signals from the brain to the body and vice versa are transducer signals. The brain's right cerebral hemisphere is primarily responsible for controlling the left side of the body, while the left cerebral hemisphere is primarily responsible for controlling the right side. When one hemisphere of the brain is damaged, it affects the corresponding hemisphere of the body. For example, a stroke in the right hemisphere of the brain can result in left arm and leg paralysis. The cerebrum (both sides of the brain) is divided in half by a deep fissure (hemispheres). Despite the fissure, the two hemispheres of the brain communicate via a dense network of nerve fibers that runs parallel to the fissure's base. While the two hemispheres may be mirror images of one another, they are not. For instance, it appears as though the ability to generate words is primarily a left hemisphere function, whereas the right hemisphere appears to regulate a variety of abstract functions. When individuals view photographs of the brain, they usually focus their attention on the cerebrum. The cerebrum is placed at the very top of the brain and is where

Intellectual function occurs. It serves as a repository for your memories and enables you to plan, visualize, and think. It lets you chat, as well as read books and play games. While all of the brain's components work together, each component possesses distinct characteristics. Three fundamental units comprise the brain. These are The prefrontal cortex, the midbrain, and the hindbrain. The hindbrain is made up of the upper section of the spinal cord, the brain stem, and a wrinkled ball of tissues, known as the cerebellum. The hindbrain is responsible for regulating critical bodily functions such as respiration and heart rate. The cerebellum organizes movements. The cerebellum is stimulated when you play the piano or strike a tennis ball. The midbrain is located near the top of the brainstem and is involved in several reflex activities as well as the control of eye movements and other voluntary movements. The forebrain is the largest and most developed part of the brain.<sup>7</sup> When people view and admire

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

a painting or work of art, their cerebrum is often stimulated. The cerebrum is placed at the apex of the brain and is responsible for cognitive activities. It serves as a repository for your memories and enables you to plan, visualize, and think. These are the critical areas of the brain associated with artistic or creative endeavors. It enables you to track down friends who are reading books or playing games. Every person is born with an innate musical ability. Since ancient times, it has been recognized that the unborn child absorbs the environment and behavior of its mother and also begins to learn. For pregnant women, the Hindu scriptures advise a certain daily ritual. Nowadays, music psychology is a critical area of study and research. Music has a profoundly beneficial effect on our minds, bodies, emotions, and society. Not only in India but also in other parts of the world, cancer patients with various muscular sprains have been treated using music therapy. Just as a physician sees changes in a patient's physical condition when under the influence of a certain medicine, a psychologist studies changes in the mind under various circumstances.<sup>8</sup> Introspection is the practice of observing our mental processes. We will investigate the changes that occur in the mind as a result of musical notes through introspection and interpretation. It has been demonstrated that listening to various types of music at specific times of the day helps preserve excellent physical and mental well-being. Music is a science as well as an art form. Thus, a person must listen to music, at least one meaningful and melodic song per day, to maintain a sound mental state and physical health.

Each musical notes have a different impact on the human mind and behavior. Its musical notes elicit different rasa or sentiments. so it is necessary to study how musical notes and a combination of music notes create an impact on the human mind and body.

**Music and Aesthetics (Branch of Philosophy):**

Aesthetic means beauty. It encompasses what happens in our mind when we engage with aesthetic objects or environments such as viewing art, listening to music, reading poetry, acting, enjoying play, and exploring nature. The philosophy of art specifically studies how artists imagine, create and perform works of art as well as how people use, enjoy, and create art. Aesthetic is a branch of philosophy which concern deals with the nature of beauty and taste

as well as the philosophy of art. The philosophy of art especially studies how artists imagine, create and perform works of art, as well as how people enjoy and criticize art. Scholars in the field have defined aesthetics as 'critical reflection on art, culture and nature. The word aesthetics is derived from the Greek word aesthesis. This means beauty. Alexander Baumgarten first used the word aesthetics as a branch of philosophy. Some scholars have separated aesthetics and the philosophy of art, claiming that the former is the study of beauty and taste. While the latter is the study of works of art.<sup>9</sup>But aesthetics typically consider the question of beauty as well as art. It is a deep course of the research study. Music is an aesthetic representation of the artist's depth. It is rather a projection of the artist's mental feeling and imagination in the outer world. It is therefore a transformation or translation of



**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

the ideal into the real, or it can be said to be the production of the tonal form or picture, corresponding to that of the mind, combined with color, pitch, grace, harmony, melody, tones, microtones, etc.

**Acoustics-**

Acoustic is a term that refers to anything that has to do with sound or the sense of hearing. It is a field of physics that studies the physical properties of sound. It refers to the characteristics of a room or structure that determine how sound is transmitted through it. It is connected to our auditory sense organs, to sound, or the science of sound. It is the study of how sound can be dampened or absorbed, whether through or in conjunction with sound waves. It is associated with musical instruments whose sound is not altered electrically. Acoustics is the science of sound production, control, transmission, reception, and effects. The term originates from the Greek 'akoustos', which translates as "heard." Since its inception in the study of mechanical vibrations and their transmission via mechanical waves. Acoustics has found significant applications in almost every facet of life. Acoustics is one of the topics of physics and it is also related to music. Acoustics is also one of the parts of musicology. So, In musicological studies and research, the acoustics would be a broad subject of discussion.<sup>10</sup>

**Musicology in the contemporary era:**

For a variety of reasons, our musicians have lost touch with this living musicology. It is beneficial and healthy to recall that Bharatha spoke of shruti about his own era's music. He did not refer to music that he considered being ancient. He even demonstrated his point with an experiment. Ahobala specifies string lengths on the vina of his time and avoids describing music he was unfamiliar with. These were truly great musical scientists. Without their contemporaneous writings, one can only imagine how difficult it would have been for us to reconstruct the history of our music. All of our great musicologists, such as Narada, Matanga, Sarangadeva, and Venkatamakhin, have contributed to the science of music in this way.<sup>11</sup> Today's situation is far from ideal. There has been more written about ancient music than about what we sing, play, and hear today. What we now require is the application of newer knowledge and technique to music, as well as the opening of newer avenues in musicology. Once one accepts the logic and approach of science, even the history of music takes on a new hue and can be viewed through new eyes.

**Conclusion:**

The first and most important concern is scientifically investigating musical material. So far, musicology has been historical and based on citations from ancient literature, forgetting the fact that the best of these texts were scientific treatises on music. Shruti's theory, the Fourfold classification of instruments, and string lengths on the vina - all have a scientific basis. But in the present time, Contemporary philosophy and lifestyle have impacted our music and

**UGC-CARE enlisted & Indexed in the EBSCO International Database of Journals**

musicology. Few people are aware, and this understanding of modern art and research on the various field like interdisciplinary subjects is less than how much required, and also scientific attitude is required to build creative musicology. The concept of the fundamental theory of Indian music is required for musicological research in any subject. Experimental and scientific investigations are needed in musicology nowadays. Ancient musicologists and writers brought scholarly research to Indian Musicology. Now is our responsibility to do authentic and scientific research. Preservation, documentation, and audio/video recordings are crucial to preserving our cultural history. The current music system demands interdisciplinary music and musicology studies in various subjects reflected in the present time condition.

**Reference:**

1. Ghosh, Pradip Kumar. (2008). "A study on Indian musicology". In *An introduction to music and musicology* edited by Gautam Nag. Kolkata: Rabindra Bharati, University, p.9
2. Sarma, Lovely. (2008) *Glimpses on Indian Musicology*. New Delhi: Sanjay prakashan, p.1
3. Ranade, Ashook D. (1998). *Essays in Indian Ethnomusicology*, Delhi: Munshilal Manoharlal publisher, p.1-6
4. Rao, H.P.Krishna. (2008) *The psychology of Music*. Delhi: Low Price Publication, p.3-7
5. Ibid. p.12-14
6. Sarma, Narayan. (2013). *Xixshu xisksha aru sampratik saishab* (Book on Education in Assamese language). Asok publication, panbazar, Ghy.45-70
7. Basant: *Sangeet Visharad*, Hathras: Sangeet Karyalaya, 2015. p.604
8. Ibid.
9. Mittal, Anjali. (2009). *Hindustani Music and aesthetical concept of form*, New Delhi: D.K. Printworld, p.1-4
10. Deva, B.Chaitanya. (1980). *The music of India*, New Delhi: Munshiram Manoharlal Publication, p.2-7
11. Swami Prajnananda. (1980). *A historical study of Indian Music*, Delhi: Munshiram Manoharlal Publication, p.42