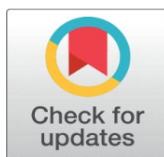
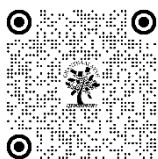


# LIGHTING DESIGN SCHEMES AND COLOURS IN DANCE PERFORMANCES: THE MAGICAL ILLUSION

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## ABSTRACT

Dance is a creative expression of movements, patterns, and stories they perform. The lighting design contributes to a complete theatrical experience for the audience by highlighting and framing every movement in each dance piece at the right moment. In solos and duets, lighting can emphasize this intimacy by using different spotlights in a particular area and it can make the rest of the stage dark. Different lighting fixtures will help by adding texture to the dance performances. The ambient lighting helps to set the scene, often shadow lighting, and backlighting produces striking images to elevate the body lines and also emphasize the shapes and angles. Few dance groups perform with the integrity of new technologies and Body.

This article aims to attempt a definitive and comprehensive illustration of how light design plays an important role in contemporary performances. The lighting design as an art form within the theater is certainly a creative process that illuminates the performer's body to create a visual bonanza experienced by the spectator. In contemporary dance performances, it became an essential illustrative medium rather than decorative elements like in some traditional dance performances.

Lighting design is a scenic art in contemporary dance performances concerned with atmosphere and 'body form' in relation to the performance space. The lighting design for a performance with a style and colour on a performer's body creates the magical illusion that is being experienced by the audience. Combinations of lighting design styles and body pigment are crucial and Indian contemporary dance groups adopted such technologies and make some interesting performances.

This study analyzes how lighting design influences dance works as a creative approach to performance-making. Blending of costume, makeup, set, interactive media, and lighting design is an added advantage that we can observe in these Indian contemporary Performances. This paper analyzes how lighting design and dance are an integral part of a colorful performance.

**Keywords:** Lighting Design, Dance Performance, Contemporary Dance, Indian Dances, Performance Body

## 1. INTRODUCTION

### 1.1. LIGHTING DESIGN AND THE DANCE

The lighting design history is a variety of approaches to lighting ranging from each period. The lighting design was assumed as the domain of techno craft rather art form. The lighting design is treated as the controlling of light in theater, as in the early 1950s, in western countries, most of the designers emerged from the production house but these designers emerged from the industry that produces the equipment. The advanced improvement in the technology industry created a new

world of visualization techniques and became part of the illusions that are created on stage during the performance to give a similar feeling to TV and film. Such technological development was boosted to create live performances and survive, in the early 20th century, with the advent of television. Adolphe Appia and Edward Gordon Craig, and their designs, recreated a natural scene using lighting design techniques. The new technology in lights allowed the designer's palette in a vast mode of colour in performance and makes possible visual language as fluid as a painter's hand and communicated through the colour, form, and style in designing the lights for the stage show. The designers added textures to the lighting design using different apparatus in the lights.

Some traditional dances in India had been performed under the light of oil lamps, petromax lights, and bulbs. Later they adopted halogens, par, and other kinds of lights. The new kinds of lights permitted the designers to think critically and design the performance creatively using the advanced programs of light. The computer/programmed base lights have impacted the tone of the design. The lighting design in dance in each act illuminated the surface and structures before the performers. Sometimes the performers are individually highlighted as per the choreography. The backdrops, sets, and other stage materials had been focused on and exposes as per the creative ideas of the designers and choreographers.

## **2. OBJECTIVES AND SIGNIFICANCE**

The objectives of this study on "Lighting Design Schemes and Colours in Dance Performances: The Magical Illusion" are to explore the effects of lighting design and colour schemes on the audience's perception and emotional response to dance performances. The study aims to investigate how lighting design and colour schemes are used to create different moods and atmospheres in dance performances, and how they can enhance the artistic expression and communication of the choreography. Additionally, the study seeks to examine the technical aspects of lighting design and colour schemes, including the use of different types of lighting equipment and the selection of colour palettes. Ultimately, the goal of this study is to provide insights and recommendations for lighting designers and choreographers to create impactful and visually stunning dance performances that leave a lasting impression on the audience.

The research study contributes to the field of performing arts by exploring the technical and artistic aspects of lighting design and colour schemes in dance performances. This research helps to deepen our understanding of how lighting design and colour schemes can be used to enhance the emotional impact of a dance performance and communicate the artistic vision of the choreographer.

The study has practical implications for lighting designers and choreographers, providing valuable insights into the technical aspects of lighting design and colour schemes. The findings of this study can help to inform the decisions of lighting designers and choreographers in selecting appropriate lighting equipment and colour palettes, as well as in creating specific moods and atmospheres through lighting design.

The study has broader implications for the audience's experience of dance performances. By investigating the effects of lighting design and colour schemes on the audience's perception and emotional response, this study helps to shed light on the ways in which lighting design can shape and enhance the audience's engagement with the performance. Ultimately, this research has the potential to contribute to the

development of more impactful and visually stunning dance performances, enriching the cultural landscape of performing arts.

In contemporary dance, as Peter Mumford stated

*" In several respects, lighting for contemporary dance has led the way in the development of lighting as a visual language, and the progress made in this area is now reflected in drama, musical theatre, and television. One of the main reasons for this is the spatial demands that dance makes on its performing area. In the majority of dance works, the entire floor space is required; and this leads to special design limitations, forcing the designer to work with the edges of the stage area. In such a space, in which solid scenery cannot exist, a shaft of light can assume the function of a three-dimensional object. Lighting is therefore used to build walls and linear structures, to change background and floor colours, to redefine areas, to contract and expand the stage space, and even to clothes the performers." Mumford (1985)*

In dance, the lighting design expresses mood, time, and space rhythmically as per music. The dancers Performing body can be seen as an artist's canvas, and the lighting design elevates different compositions, makeup, and costumes. The moment of the performers was highlighted through the intensity, mood, texture, and angle of the light. The controlling of intensity in design has a psychological effect on the spectator. The texture of the light and the angle of the light elevates the composition of the choreography and the performer's body in the performance. In the choreography, the lighting design highlights the link between the dancer's movement and the director's perception and the coherence between the actors' bodies and the stage design. The choreography design has multiple styles and colors that make the spectators' eyes journey with the performers, who are on the stage.

### 3. LITERATURE REVIEW

The use of lighting design and colour schemes is a crucial aspect of creating a memorable and impactful dance performance. In recent years, research has explored the ways in which lighting design and colour schemes can enhance the emotional and aesthetic experience of dance performances.

One study by [Chen et al. \(2019\)](#) explored the effects of different lighting designs on audience perceptions of a contemporary dance performance. The researchers found that lighting design had a significant impact on the audience's emotional response, with warm lighting colours eliciting positive emotions such as happiness and excitement, while cool lighting colours generated feelings of sadness and melancholy.

Similarly, a study by [Zhang et al. \(2020\)](#) investigated the impact of colour schemes on audience perceptions of a ballet performance. The researchers found that a red and black colour scheme created a dramatic and intense atmosphere, while a blue and green colour scheme produced a more tranquil and serene mood.

Other research has focused on the technical aspects of lighting design, exploring the use of specific lighting equipment and techniques to create different effects. For example, a study by [Fan et al. \(2019\)](#) investigated the use of LED lighting in contemporary dance performances, highlighting the versatility and flexibility of this lighting technology in creating dynamic and immersive visual effects.

Overall, the literature suggests that lighting design and colour schemes play a critical role in creating a visually stunning and emotionally impactful dance performance. This study aims to build upon previous research by exploring the technical and artistic aspects of lighting design and colour schemes in dance performances, and their effects on audience perception and emotional response.

## 1) Style and Colour

Lighting in dance performance is a combination of colour, emotion, and the movement of the body. The smooth operation of the lighting system, amplifying the audio, visual and digital media is a perfect example of a visual representation, and it creates an extraordinary visual image on the stage. The performers bring life to the choreography with a dynamic performance by merging their bodies and movement with the technology used in the choreography.

Different lighting schemes, from scene to scene, influences the emotions and mood. Based on the mood, different Lighting concepts are developed and associated with the colour combinations. Sometimes the change in light scheme elevates the emotions of the particular piece, or the main character's entry or exit.

"For instance, contemporary ballet combines many traditional ballet steps with the weighted, free movements of styles like modern. Postmodern dance subverts various traditions and requires lighting concepts that are as innovative as the movements themselves. Choreographers who combine styles or blaze new trails might want their lighting concepts to reflect the unique stories they're telling".

Contemporary dance in India is a combination of several styles that portrays specific characteristics to focus on captivity. The lighting design varies with the genre of performance and its artistic values. The dance has adopted different styles, and that combination of these styles of dances, with lighting design, fetched a unique identity in global stage performances.

Traditional Dances like Bharata Natyam, Kuchipudi, kathak, shatriya, Chauh, and other regional dances are adopted in contemporary dance to indicate the striking lines and ethical movements of a performance body. To elevate the performers' body downlighting and side lighting with the colour tone, the lighting design plays an excellent job. Modern Dance /freestyle dance breaks the traditional lines to create a movement and explores shapes and gravity. The modern dances, on stage, create different layers of shadow and light to enhance the visual geometry of choreography. These artistic intentions were prominently highlighted through side lighting, thus the lighting design can emphasize the intricate form and add dimension to the stage performance. The jazz dance, where the performers move individual body parts in subtle, with angles, tell stories. To witness such body movements and angles the floodlighting and side lighting with color highlight the movement. The floodlights also provide a clear vision if the body moves on stage. The other freestyle dance Hip-hop emphasizes the exploration of precise movements in a quick manner. Side lighting and the silhouette lighting effect are a good combination of lighting design. This combination of lights embosses the movement of the performers on stage in choreography.

Contemporary dance performances and choreography works evolve with the different adaptations of dance forms, and the lighting design blends or reject different Lighting effects to create a meaningful stage performance. Choreographers, in post-modern time, subverts various traditional movements, that require innovative lighting design to identify the body on the stage and reflects the storytelling.

## 2) Setting the Scene

Unlike theater performances, contemporary dance performances, happen on a bare stage, or minimal setting, with a white backdrop, allowing the blending of lighting design and interactive media. Often, we see these dance performances'

backdrops manipulated through the colour lighting which creates a mood for the audience. Colour combinations of Red, blue, and green on the backdrop indicate different seasons, time, and spaces. Thus, dance and colour have a long history.

### 3) Colour and stage lighting in dance

Lighting design, with colours, impacts the psychological association of the audience. The primary colours in lighting Red, Blue, and Green, and the multiple combinations of these colours, have different meanings in the way the audience feels in common life. Each color in real life has a different association, but lighting designers commonly use the color to indicate different emotions as follows.

**Table 1**

Table 1 Colour and Emotions	
Colour	Associated emotions
Blue	To indicate Calm or Sad and loneliness
Red	Anger or passion, negativity
Green	Joyful, cheerful and echoes the nature
Amber/Yellow	Energetic and happiness
Purple	Royalty and sadness
White	No emotions, brightness

Colour temperature is a key factor to know the white light saturation. With the lower colour temperature and lower white colour, they are warm and soft. The higher the colour temperature, the higher the white colour, they are bright and bold. The mixture blending of these colours highly influences the scheme of lighting design for performance and creating an atmosphere. The spectator's eye catches the reflection of light from the objects arranged on stage. The colour pigment and the spectrum of the light depending on the mixture emulate a new colour which generally not found in nature. This kind of unique experience of colour combinations attracts the audience to reach the auditorium Based on the scheme designed, or when the white light varies, the reflected colour of the object changes and produces a different colour. Thus, the lighting scheme in a performance plays a vital role. The colour changes and lighting conditions, in general, are unnoticed but they have a clear significant influence on the psychological, physical and emotional, and environmental perception of the audience.

The scheme of lighting is nothing but a brush for a performance canvas. If we consider the stage performance as a painting, the light as a brush creates different artistic strokes and movements on the canvas. It is very important to understand which colour and what kind of strokes elevate the shadows and depth of the painting. The dark stage can be considered as a canvas of any colour, based on the artistic ideas of the performance, we use the proper combination of angle, intensity, and colour of the lights, which makes a visualistic art piece. The art piece that is generally, created on the stage is merely noticed, but the impact of such designed images on the stage through lighting is discussed widely to understand the lighting design's importance. The lighting designer controls the audience where to watch, and shows the path for their psychological journey, to the audience.

When the electric light bulb was introduced to the stage all shades of colour were at first mixed from varying proportions of the three primary colours of light (red, green, and blue). An even distribution of these primary colours around the

stage produces 'white light'. 'Primary mixing', however, is not an efficient means of achieving either brightness or subtlety of hue, and the system tends to issue in warm-toned 'white' general light and a gaudy use of separate colours.

Somewhat surprisingly, the red, green, and blue system are still sometimes used, although the 'straight out of the tube' range of intermediate shades available to the modern lighting designer includes approximately one hundred hues; and the colour 'palette' is extensive and subtle. The availability of different lamp sources (such as tungsten, quartz, iodine, and fluorescent) extends the range further because each has a different white light colour temperature: this offers us a change of quality as much as of identifiable colours. 'Colour correction filters' such as 'no colour blue' and 'no colour straw' which are currently in general use, simply 'warm' or 'cool' a white light source. [Watson \(2018\)](#)

In visual interpretation, the brain accommodates a complex combination of superimposed and 'collaged' images. Somehow the brain organizes everything so that one can rapidly look from one thing to another without confusion. The brain's processing of what we see can naturally control perception in general, and perception of colour in particular. The intense, pure colours of a sunny day are transformed if one closes one's eyes or blocks out light with one's hand: this does not produce darkness; rather, a plethora of mixed images floods the vision of the brain. Often the impression is no less vibrant than the 'open eyed' view, but it is different: shapes remain but the colours have altered (it is multiple-colour-negative of the view through open eyes). It is a series of 'after-images' and colours finding their natural opposites or complementary colours. (Complementary colours are opposite in the spectral circle so reds become greens, yellows become purples, blues become oranges, and so on.) So, the perception of colour is relative not only to the quality of light but also to the colours which have been perceived immediately before.

Since the audience's perception of colour is tempered by what it has most recently experienced, the same colour can be perceived differently using technical adjustments: blues may appear greenish or mauvish, depending on what has been seen before, or adjacent to the surface; a strongly lit red stage will produce a green 'after image' in the mind which will then mix visually until the eyes re-adjust with the first sight of a blue-lit stage cover. This is a control principle that operates on a more complex and subtle basis than the 'primary mix' principle, though the natural scientific laws are the same.

The use and understanding of colour are therefore aesthetically central to lighting for dance; in dance, perception of colour not only fulfills a decorative function, but it also informs the action, emotion, and 'placement' of the dance. Colour helps to direct an audience on how to perceive movement relative to the space in which it is performed, as well as modulating the quality of that space, and thereby the dance within it. Many experiments in the dance with lighting design provided the freedom to create a 'magical illusion'.

#### **4. CONCLUSION**

Lighting design has experienced significant growth as an expressive tool in performance over the last two decades. This has resulted in the emergence of new lighting systems and the exploration of new forms of lighting design. Furthermore, there is an inseparable relationship between lighting design and choreography in contemporary dance works. Unlike other visual mediums, contemporary dance does

not impose limitations on performers on stage, and as such, lighting design has become an essential component in enhancing the performance experience. Technological advancements have facilitated the growth of lighting design, and new experiments have been conducted to uncover new forms and methods. In particular, the scenic quality of light controls the space and enables the visualization of performers on stage. These factors have contributed to the mutual growth of lighting design and performance art.

In conclusion, the relationship between lighting design and dance performances is a crucial aspect of the performance experience. The alliance between lighting and dance has stylistically influenced every aspect of the performance, and lighting design has played a significant role in creating a new magical illusion during the performance on stage. The use of lighting schemes and colours in dance performances has resulted in a unique visual language that enhances the overall performance experience for the audience. Therefore, it is important to continue exploring the creative potential of lighting design in dance performances and how it can be used to create a more immersive and captivating performance for audiences.

### **CONFLICT OF INTERESTS**

None.

### **ACKNOWLEDGMENTS**

None.

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