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IMPACT OF COLOUR PSYCHOLOGY ON STUDENTS' EMOTIONAL WELL-BEING

Owoicholohi Sam-Favour Emaikwu[a] , Reuben Peters Omale[a*]
[a]Department of Architecture, School of Environmental Technology,
Federal University of Technology, Akure, Nigeria
P.M.B. 704, The Federal University of Technology, Akure, Ondo State, Nigeria 340252

*Corresponding Email: rpomale@futa.edu.ng
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ABSTRACT

Colour can influence perception, mood, and behaviour. It may also affect how students behave in academic settings. This paper examined the effects of classroom colour schemes on students' moods, concentration, and learning experiences at the Federal University of Technology, Akure (FUTA). A mixed methods approach was used. Quantitative data were gathered through a survey of 250 responses. Qualitative data were gathered from students' comments on their narratives. The results showed that neutral and tranquil colours, such as cream, white, grey, and blue, were more closely associated with relaxation and concentration. Conversely, bright colours, including red and yellow, were often linked to stress and distraction. The research revealed that the effect of colours in a learning space depends on how they are paired with both natural and artificial light, as well as other factors such as furniture design. Students' emotional responses were also influenced by cultural and personal perceptions of colours, especially red, black, and white. These findings contribute to the literature by demonstrating how colour, lighting, and furniture together affect students' academic activities. Based on the results, the researchers recommend that universities use neutral, balanced colour schemes, proper lighting, and sensitive classroom design to foster comfort, concentration, and learning.

Keywords: *Colour, Emotions, Interiors, Users' Perception,Preference*

INTRODUCTION

Colour psychology concerns the influence of various colours on individuals' perceptions of behaviour and feelings (Elliot and Maier, 2014). The colours of classrooms and study areas in schools and universities can influence students' moods, concentration, and overall happiness. Classroom layouts can affect the quality of student learning and their emotional state (Elliot and Maier, 2014). Colours are used by schools to help students focus, relax, and remain optimistic. As demonstrated by Kaya and Epps (2004), colours may positively or negatively affect a student's capacity to concentrate and avoid emotional instability. Student mental health is significantly influenced by the understanding that colour's effect on emotions is essential to creating a positive learning environment. More schools are becoming aware that appropriate classroom colours can positively impact students' well-being (Barrett et al., 2015).

Colours are not universal among students, and a student's reaction to various colours may be shaped by age, culture, and personal experiences. Young students are fond of bright and warm colours that make them feel positive and joyful. Older students may prefer gentler, cooler colours because these tones facilitate relaxation and focus (Dalke et al., 2006). Other colours are not expected to produce some effects- red colour may make students more active and alert, but stress may also be more (Mehta and Zhu, 2009). This shows the necessity of selecting appropriate classroom colours to create a balanced and enabling learning experience.

The other important consideration is the effect of a colour's various tones, which can elicit different reactions. Al-Ayash (2016) emphasised that the colours blue and green, which are associated with skies and lush vegetation, are linked to tranquillity, safety, and openness, and trigger a calming, restorative physiological response. Yellow is associated with creativity and happiness and could be good for design studios and innovation hubs, as splashes of it can stimulate creative thinking and optimism (Jalil et al., 2012). However, it should be used sparingly. This implies that school designers should be very careful when choosing the right colours and shades to have a positive impact on students' emotions and learning. Also, the colour combination used contributes to this. Balanced and neutral colours must be used with brighter accents to create an engaging but not overly bright atmosphere, whereas excessively bright colours really may be too much (Wright, 2016).

Wall colours also interact with elements such as lighting, texture, and furniture colour to shape the overall sensory experience, which affects the learning process. Falusi and Omale (2025) explored the physical environment especially within the interiors of daycare centers and how it influences early childhood development, and suggested that designers should treat walls, floors, and furniture as active tools for

growth rather than static background elements. Research by Yildirim et al. (2015) on the effects of wall colour found that students exposed to blue environments showed lower stress levels and higher concentration than those in other colours, such as red, orange, and white. Lee et al. (2018) demonstrated that views of shades of green-coloured interiors can improve students' performance, especially on tasks that require sustained attention. The colour psychology applied in school design can help students feel more stable and improve their performance (Kuller et al., 2009). A study by Jalil et al. (2012) indicates that students' mood may change after prolonged exposure to the same colours.

As a result, most schools are reconsidering the use of colours in their classrooms, cafeterias, and hallways to ensure students are comfortable and active throughout the day. Many researchers have demonstrated the effect of colours on emotions and behaviour. For example, according to Kurt & Osuoke (2014), blue is associated with productivity and concentration, which are good for spaces where focus is needed for intellectual work. Blue has calming properties that lower the heart rate and reduce anxiety, which are common among students. Lee et al. (2018) highlighted Kaplan's Attention Restoration Theory (ART), emphasising that exposure to nature-based colours, such as green, can help restore directed attention when fatigue has set in. Imitating these nature-based colours in academic environments, such as classrooms, could positively affect students' emotions. The research by Kuller et al. (2009) also indicated that students in classrooms with a balanced colour combination were more engaged and less fatigued than their counterparts in classrooms with a clashing colour blend. Also, it has been discovered that the slightest colour modifications, including the introduction of pastel hues or subtle accents, can significantly influence students' motivation and well-being (Choi et al., 2014).

Culture and personal experiences may also affect the way colour is perceived. Colour symbolism varies significantly across cultures and regions, making it a complex phenomenon in design spaces, as no single colour choice fits all. Manu (2022) advocates for participatory research to gather feedback from students of diverse cultures, as this is essential to the design process and outcomes. To illustrate this point, white in Western culture is associated with purity and simplicity, but in certain Asian countries, it is associated with grieving. Lower-income students might not be accustomed to well-designed learning environments, which may alter their colour responses in universities (Choi et al., 2014). This implies that universities must factor in diversity when developing classroom colour schemes to ensure that all students feel relaxed and at ease. Given all this research on colour psychology, this study will emphasise how colour preferences in universities influence students' feelings and moods. Of particular interest to this

research are undergraduate design students from the School (faculty) of Environmental Technology from five different departments (i.e., Architecture, Industrial Design, Urban and Regional Planning, Building, and Surveying and Geo-informatics), who are of both genders and are within the age range of 18 to 30 years. This group was selected because the entry age for Nigerian University admission is 16 years, and by 18 years or more, the students should be in the third year of study and should have experience with the subject matter. This study is interested in students' colour choices and perceptions of their environment. The findings of this research could assist universities in making informed colour design decisions to create better classroom spaces that can influence students' emotional well-being.

Although schools became increasingly conscious of mental health, many schools fail to address colour psychology when designing learning environments. Such negligence can have adverse effects on students' emotional state, attention, and academic success (Kuller et al., 2009). Although some studies indicate that colour can influence mood and thinking processes (Mehta and Zhu, 2009), there are very few on how school colour affects students' daily experience. The present research will fill this gap by examining the effects of colour choices on student well-being and emotions, contributing to a more comprehensive comprehension of the impact of environmental psychology on education.

Empirical Studies in Academic Settings

Colour influences people's feelings and thoughts, depending on how long it is observed and where it is applied. Colours affect mood, concentration, and mental performance, depending on both the duration a person spends in an environment and the environment itself. Indicatively, Kwallek studied office environments, in which individuals working in rooms with intense red or blue colours reported becoming fatigued, irritated, and unable to concentrate after a short period (Kwallek et al., 1997). The effects did not occur immediately but grew gradually, so it would be reasonable to assume that excessive exposure to vivid colours may be mentally draining. This creates issues in schools where students spend numerous hours in classrooms with the same colour scheme, which can lead to the same strain. Conversely, natural colour environments and natural colour settings appear to aid thinking and concentration. Such colours are associated with a so-called state of soft fascination, in which the mind remains subtly active but not overwhelmed or distracted, thereby assisting deep concentration and enhanced learning (Kaplan and Kaplan, 1989).

Evidence for this theory can be found in empirical research that shows that colour can significantly influence students' moods and behaviours in the learning environment. In 153 classes with over 3,000 students, Barrett et al. (2015) found that classrooms with effective colour schemes and moderate colour palettes had a positive impact on academic achievement. The research indicated

that light, but not excessive colour stimulation, facilitated interaction and reduced behavioural disturbances. In a similar study (Kuller et al., 2009), it was noted that classrooms with overly colourful walls led to overstimulation, which, in some students, resulted in restlessness, extreme irritability, or even distraction. On the contrary, the areas, painted in neutral colours, light beige or gentle blue, tended to create a relaxed environment that promoted a longer attention span and emotional control. Singh (2021) advises that moderation is key to colour choices. The moderate use of colour, according to Jalil & Yunus (2012), created an emotionally neutral atmosphere, leading to increased student willingness to engage and participate. Inappropriate colours may gradually undermine concentration and energy, whereas appropriate ones may help students remain relaxed, alert, and calm.

Perception of Colour in Relation to Academic Performance

Several studies have shown that school colour can affect learners' concentration, motivation, and stress management, thereby influencing performance. Barrett et al. (2015) and Mehta and Zhu (2009) state that blue colour boosts concentration and analytical ability, whereas yellow colour promotes creativity and energy, especially when doing work that requires generating ideas. They, however, also point out that the influence of colour can differ with its saturation and brightness, as well as with personal differences in sensitivity to the environment. Stone (2003) investigated the effect of excessive classroom stimulation, especially strong or contrasting colour combinations, which led to anxiety and decreased attention among students. Conversely, the results revealed that the use of calm, neutral colour palettes lowered stress and enhanced the ability to endure tasks.

On the same note, Kuller et al. (2009) also conducted mixed-methods research that utilised a combination of surveys and interviews to establish that students felt more comfortable and cognitively active in settings with well-balanced colour schemes. Their subjects tended to associate cool environments with good concentration and high memory, though occasionally bright or highly stimulating environments were accompanied by uneasiness or a lack of concentration. It was also observed that students in classrooms with dull or soothing colour schemes are more likely to remain on task and participate in academic activities than those in classrooms with more visually challenging or brightly coloured schemes (Stone, 2003). Yildirim et al. (2015) conducted a study investigating how colour affects students' emotions, heart rate, and performance in learning situations. The researchers found that cool colours, such as blue and green, were relaxing for students and led to enhanced concentration and lower stress levels.

On the other hand, warm colours such as red and yellow were associated with increased arousal

and anxiety, which may adversely affect focus and school performance. Such results indicate that strategic colour in educational practice can contribute to students' well-being and learning outcomes. Collectively, these results indicate that colour is not an aesthetic issue but a psychological and functional factor in the creation of the learning process. Cognitively, sensitive students (with sensory sensitivities or anxiety) benefit from mindful colour environments, which reduce the cognitive burden and improve academic performance. All these studies point to the inclusion of colour psychology in the planning of educational space, with the visual design presented as a convenient instrument to enhance students' performance and well-being.

METHODS

This paper utilised a qualitative/quantitative research design, constituting a mixed-methods design, as it involved both qualitative and quantitative methods, thereby providing a holistic analysis of the relationship between colour psychology and its effects on students' emotions and academic performance. The descriptive aspect of the research enables the researchers to obtain precise data on prevailing conditions without any adjustments, which is particularly appropriate for studying real academic conditions. The quantitative measures entailed collecting and analysing numerical data (student surveys) to address the overall trends and measurable effects. Questions revolved around how sensitive the students are to colours, the relationship between their emotions and colours, how calm and relaxed students are around certain colours, and their preferences for colour in academic spaces, amongst others. At the same time, the qualitative approach addressed more personal experiences and perceptions (Creswell & Creswell, 2023). Such an outlook did provide a deeper comprehension of the phenomena, and the statistical data will be based on real-life stories and attitudes.

A population of undergraduate students at the Federal University of Technology, Akure (FUTA) in the School of Environmental Technology, with preference given to those with a design-related background, including Architecture (n=78), Industrial Design (n=45), Urban and Regional Planning (n=32), Building (n=31), and Surveying and Geo-informatics (n=64). This subgroup is selected because students in these fields and disciplines are likely to have acquired both an academic and practical appreciation of the application of colour in constructed environments. This sub-group has an estimated student population of about 2,000. Their learning environments, including design studios, seminar presentation rooms, and lecture rooms, are of interest to this study, as they provide insights into how colour affects students' moods, innovative capabilities, and study capacity.

Characteristics of the Study Population

FUTA uses the School nomenclature instead of the faculty; therefore, the School of Environmental

Technology is used here in place of the Faculty of Environmental Technology. 300 questionnaires were administered to respondents, but 250 were duly completed and returned. The target population of the research study comprised undergraduates of the School of Environmental Technology at FUTA, in particular, learners at the 300-500 levels. Such students with at least 3 years of experience at the university are better equipped to understand the university's environment, buildings, and academic stress levels. Their long-term exposure qualifies them as the best measure of the psychological effects of colour in school. It has been done to ensure that the responses are informed by an experienced perspective, shaped by interactions with learning spaces and campus life.

It is also the focus of the environment provided to this cohort, which aligns with the study's purpose: to learn how environmental factors, such as colour, influence emotional well-being and academic involvement among people under greater academic pressure. Moreover, this age bracket (18-30) includes students from diverse socioeconomic backgrounds, which brings diversity to opinions on their life experiences and scholarship. Whereas final-year students provide cumulative reflection, students in the 300 level can provide reflection grounded in their exposure to broader design environments, having completed lower-division design environmental courses and participated in the lower level of a design studio experience. This diversity makes the study more effective in examining the overall impact of the colour psychology system in different studies (Patten and Newhart, 2022).

Description of the Study Area

The Federal University of Technology, Akure (FUTA) in Nigeria (Figure 1 shows the main entrance to FUTA) is a science and technology university. Its focus on innovation and research activities enables the proposed study to identify a suitable location, as students are accustomed to environments where cognitive performance and engagement are particularly important. It is also established that the institution's scientific orientation creates an organised academic environment in which environmental conditions can be at the heart of learning and student welfare. Its priorities in innovation, research, and application in the sciences are its strongest attributes, making it a great place to study how environmental conditions, such as colour, impact students' learning experience and cognitive performance. The university has modernised classrooms, laboratories, and even recreational facilities, which are perfectly suited to the role of colour in an academic setting.

The choice of FUTA was based on its strong academic background, felicitous student mix, and well-organised, modelled learning facilities. The university's academic excellence and infrastructure development ensure it is indeed the right choice for examining the effects of colour psychology (Owolabi & Aladejana, 2021). Another

advantage is that students from different fields were also present and offered different ideas on how colour affects their learning experience and emotional state.

The classrooms, seminar rooms and design studios are the focus of this study. In a typical classroom (as seen in Figure 2), the walls are cream, tending towards light yellow, with white ceilings. The windows are large enough for natural light to seep through, especially during the day, and they also allow for natural ventilation because they are placed on opposite walls. The brown and natural wood-coloured furniture contrasts with the cream-coloured walls, while the white ceilings help spread natural daylight across the entire classroom. It is important to keep classrooms well-lit and well-ventilated, especially during the day, when students spend most of their lecture hours between 8.00 am and 6.00 pm. Though classroom populations vary, the size of a classroom and its furniture arrangement allow for a 50-student class.

The seminar room (figure 3) has the same wall and ceiling colours as the classroom. The only difference in the seminar room is the furniture arrangement, which is larger, allowing drawings to be pasted on long tables, especially when wall space is inadequate for presentations. The seminar rooms are mostly used for seminar presentations and design juries, as shown in Figure 3. In both classrooms and seminar rooms, artificial lighting is introduced to illuminate interior spaces and improve visibility, especially on days that are not so bright.

The design studios (figure 4) are larger than the classrooms and seminar rooms. The windows are larger, allowing more light and better ventilation. The windows are also placed on opposite walls for cross ventilation. Students spend more time in design studios than in classrooms and seminar rooms because design is a core course in almost all departments in the School of Environmental Technology. Design also carries more course units than most courses in the university. Also, due to the studio culture around here, students work at night in the design studios, especially between 10pm and 6am, to meet assignment and jury deadlines in design courses. The walls are light cream, while the columns and beams are off-white. The ceilings are painted white, while the floor tiles are dark grey. The drawing boards in the studios are made of steel, and others are made of wood. While the steel types are painted white, the wooden drawing boards are brown. Figure 5 shows the image of the entire faculty building of the School of Environmental Technology in FUTA.

Figure 1. Main entrance gate to the Federal University of Technology, Akure.
Source: Emaikwu, 2025

Figure 2. Class room for Lectures at the Department of Architecture, Federal University of Technology, Akure.
Source: Omale, 2025

Figure 3. Image of a typical Seminar room for presentations at the Federal University of Technology, Akure.
Source: Omale, 2025

Figure 4. Image of a typical design studio at the School of Environmental Technology, FUTA.
Source: Omale, 2025

Figure 5. Image of the School of Environmental Technology Building at FUTA.
Source: Emaikwu, 2025

RESULTS AND DISCUSSION

The results of the study are discussed within this section. Below are tables indicating the results from the study and a subsequent explanation of the tables, which culminate in the results as found from the fieldwork

Students Sensitivity to Colour Changes in Their Environment

Table 1. Respondents' Sensitivity to Colour Changes in Their Environment

Sensitivity Level	Frequency	Percentage (%)
1 – Not Sensitive	32	12.8
2 – Slightly Sensitive	38	15.2
3–Moderately Sensitive	65	26.0
4 – Sensitive	79	31.6
5 – Very Sensitive	36	14.4
Total	**250**	**100.0**

Source : Author, 2025

Table 1 shows the students' sensitivity distribution to changes in the colour of the place where they studied. These data show that most of the

respondents believed that they are sensitive to colour moderately or highly, with (26%) selecting option 3, (1.6%) and (14.4%) being respondents who selected option 4 and 5, respectively. This implies that more than 70 per cent of the students showed a specific sense of moderate changes in environmental colour.

Conversely, few reported no sensitivity from the 100% (12.8) people being not sensitive at all (option 1), and readings of low sensitivity (option 2) (15.2). These results imply that classroom colour schemes and study scenes would have significant psychological and emotional effects on a larger proportion of students. This aligns with previous studies that point to the fact that the colour difference may cause considerable effects on mood, attention and general learning interest in educational rooms (Elliot and Maier 2014).

Colour and Calmness/relaxation

Table 2. Table showing colours associated with calmness/relaxation

*Total mentions (since many picked multiple colours): 238

Colour	Frequency	Percentage(%)
Blue	71	29.8%
Green	63	26.5%
Grey	49	20.6%
Yellow	48	20.2%
White	6	2.5%
Brown	1	0.4%
Total	**238**	**100%**

Source : Author, 2025

Based on Table 2 above, the colour blue (29.8%), most often accompanied by green (26.5%), is associated with calmness and relaxation. Other neutral colours, like grey (20.6), were also a recurring theme here, suggesting that many students choose neutral surroundings that do not overstimulate them. Interestingly, yellow (20.2) also became one of the colours that some respondents found relaxing, which was not a conventional stimulant colour. The least popular were white (2.5%) and brown (0.4%), indicating that these colours do not hold a leading position among students, though they could lead to relaxation. The findings firstly justify the objective I, which attempted to review the influence of colour on students' mood and behaviour. Its preference for blue and green colours aligns with existing studies on the calming effects of colder colours and their ability to foster focus (Elliot and Maier, 2014; Jalil et al., 2012). The comparatively moderate domain of grey ratifies the conclusions of (Kuller et al. 2009) that neutral settings may eliminate mental fatigue and offer a new environment for study. The inclusion of yellow, which is nonetheless unexpected, can be attributed to findings by O'Connor (2011), who observed that yellow, at its best, could help foster creativity and optimism; perhaps, naturally, it could become overstimulating. These findings indicate that classroom designs should emphasise cooler colours and neutral lines, and incorporate brighter colours like yellow to add a warm effect without stressing students.

Colour and Stress

Table 3. Colours associated with anxiety or stress among students (n = 250)

Colour	Frequency	Percentage (%)
Red	89	35.6%
Orange	46	18.4%
Yellow	40	16.0%
Black	36	14.4%
Grey	28	11.2%
Purple	1	0.4%
None	2	0.8%
Mixed	8	3.2%
Total	**250**	**100%**

Source : Author, 2025

Based on Table 3, one can conclude that red was the most commonly used colour to evoke anxiety or stress (35.6%). Other major responses were orange (18.4 per cent), yellow (16.0 per cent), and black (14.4 per cent), with grey (11.2 per cent) also accounting for a significant share. The purple colour was chosen by only one student (0.4%), whereas a very minor proportion did not choose any (0.8%) or gave mixed answers (3.2%). The dominance of stress colour, namely red, is consistent with existing studies on this colour, which suggest that it corresponds to increased arousal, pressure, and negative emotions in learning facilities (Mehta and Zhu, 2009). Reasonings on the choices made on the colours orange and yellow imply that the use of such colours in moderation can be stimulating, but the use of the colours in excess may cause overstimulation and uneasiness (Stone, 2003). Black and grey anxiety identification also supports other researchers (Valdez and Mehrabian, 1994) who claim that darker or more boring colours tend to make people feel confined, fatigued, or disengaged.

The low counts in the mixed and none categories highlight differences in individuals' perceptions, showing that some students are not necessarily influenced by the same parties in the classroom colour. These findings, in general, explain the need to use colours that are balanced in academic settings to prevent academic stress while remaining active.

Prefered Colour in Classrooms

Table 4. Preferred Classroom Colours Among Students (n = 227 because of multiple selection)

Colour	Frequency	Percentage (%)
Cream	65	28.6%
Grey	54	23.8%
White	47	20.7%
Blue	33	14.5%
Yellow	26	11.5%
Brown/White	1	0.4%
Youthful colours	1	0.4%
Total	**227**	**100%**

Source : Author, 2025

As Table 4 shows, cream (28.6%), grey (23.8%), and white (20.7%) were the most common favoured colours for classroom design. Blue (14.5% and yellow (11.5% also had firm support,

with great support and moderate support, respectively. Conversely, brown/white (0.4) and youthful colours (0.4) scored lowest in both cases, with responses from only one respondent each, indicating little demand for unconventional or playful tones in higher education learning environments. The strong appeal of neutral and light colours like cream, grey, and white is consistent with previous results, indicating that these colours create relaxing, distraction-free spaces that facilitate concentration and clear the mind (Stone, 2003; Kuller et al., 2009).

The blue preference among students is also problematic for the literature on colour psychology, which associates blue with relaxation and better cognitive performance (Elliot and Maier, 2014). Although 11.5% of the people selected yellow, the number of likes was lower than for neutral colours, suggesting that this colour can bring energy, but only in small doses, because of its overwhelming use as a primary classroom colour (O'Connor, 2011).

Such low scores in youthful colours suggest that university workforce, unlike their younger peers, are more inclined to a business-like, cooler, more adult colour palette to suit their long hours in the library and maintain their focus. These results indicate that classroom layout in tertiary education should be more focused on neutral backgrounds (cream, white, and grey), with a slight accent of blue or yellow to accommodate both relaxing and invigorating stimuli.

Influence of Classroom Colour on Focus (Likert Scale)

Table 5. *Students' Ratings of the Effect of Classroom Colour on Focus (n = 250)*

Scale (1–5)0,1	Frequency	Percentage (%)
1 (Very Low Effect)	48	19.2
2 (Low Effect)	39	15.6
3 (Moderate Effect)	57	22.8
4 (High Effect)	76	30.4
5 (Very High Effect)	30	12.0
Total	**250**	**100**

Source : Author, 2025

According to Table 5, the largest number of students (30.4%) rated the influence of classroom colour on their attention as 4 (strong effect), with 22.8% rating it as 3 (moderate effect). Another (19.2%) found no effect (on the scale of 1), and (15.6%) found only a slight effect (on the scale of 2). Interestingly, 12 per cent of students rated the effect of colour as very strong (5), indicating that, in a small group, colour was critical in enhancing their concentration. These data indicate that the largest proportion of students view classroom colour as having at least a moderate impact on their focus, with more than two-thirds (65.2%) rating it 3 or higher on the scale. This confirms previous studies by Kuller et al. (2009), who found that a well-balanced colour scheme in classrooms promotes high engagement and reduces fatigue.

The ratings of 4 and 5 also indicate that classroom colour can have a significant

impact on focus, which aligns with Elliot and Maier's (2014) thesis that colour spaces can directly influence mental performance and psychological functioning. On the contrary, the (19.2%) rating colour as having no effect highlights the uncertainty of personal experiences, in line with Valdez and Mehrabian (1994), who observed that differences among individuals based on personal preferences and culture influence perceptions of colours. All in all, the findings support the idea that, although not all students are aware that colour affects attention, most do experience it, as evidenced by the need for smart design in classroom settings.

Colours that Support Focus and Longer Study Periods

Table 6. Colours Students Say Help Them Focus/Study Longer (n=233, multiple responses allowed)

Colour	Frequency	Percentage
Cream	61	(%)*
White	51	26.2%
Blue	47	21.9%
Green	39	20.2%
Grey	32	16.7%
I'm not sure	27	13.7%
None	16	11.6%
Dark & cool colours	1	6.9%
Total Mentions	**233**	**0.4%**

Source : Author, 2025

The colours that help students concentrate and remain focused while studying are mostly cream (26.2%), white (21.9%), and blue (20.2%); these are shown in Table 6 as the most used. Followed by green (16.7%) and grey (13.7%), with an even lesser division indicating either uncertainty (11.6%) or no colour preference (6.9%). The positive effects of dark and cool colours were reported as negligible (0.4%). The results demonstrate a preference for neutral and light colours, such as cream, white, and grey, as well as calming shades like blue and green.

This implies that students find lower pitches not distracting enough, and it produces an atmosphere favourable to sustained attention and mental fortitude. These scores are consistent with Stone's (2003) research, which suggests that neutral tones lead to less overstimulation, and with Elliot and Maier's (2014) findings, which indicate that blue, green, and neutral tones help relax and maintain a longer attention span during cognitive tasks.

On the other hand, the comparatively low rates of the dark and cool colours and the losing percentages of the unsure or none are indicators of the personal dissimilarity to colour, which also confirms the statement by (Valdez and Mehrabian, 1994), who notice that colour responses vary according to the personality strengths and to interactive situations. All in all, the evidence indicates that the students will be in the best learning state in a neutral or cool environment, preferably balanced, that causes minimal distraction and promotes concentration and tolerance for the learning tasks.

Satisfaction with Classroom/Studio Colours

Table 7. Students' Satisfaction Ratings for Classroom/ Studio Colours (n = 250)

Scale (1–5)	Frequency	Percentage (%)
1 (Very Dissatisfied)	46	18.4
2 (Dissatisfied)	61	24.4
3 (Neutral)	86	34.4
4 (Satisfied)	56	22.4
5 (Very Satisfied)	1	0.4
Total	**250**	**100**

Source : Author, 2025

As Table 7 indicates, most students were neutral (34.4%) or dissatisfied (24.4%) with the colours of their classroom/studio. Only (22.4%) expressed satisfaction, and a small percentage, 0.4 per cent, said that they were highly satisfied. At the other extreme, (18.4%) reported being strongly dissatisfied, implying that a high percentage of students are unhappy with the colour schemes of their learning facilities. Such results indicate that the use of colours in classrooms and studios at FUTA might not be the most effective way to enable student comfort and interest. The prevailing number of neutral and dissatisfied responses indicates that, though students can tolerate the existing schemes, they are not motivated or academically stimulated.

Previous studies have underscored the role of satisfaction with colour environment in increasing the motivation to learn and emotional well-being (Kwallek et al., 1997; Park and Farr, 2007). The very low percentage of students who were very satisfied (0.4%) supports the point that the existing classroom colour designs might not be compatible with psychological concepts of colour application in learning environments (Elliot and Maier, 2014). These findings highlight why institutions should reconsider the use of colour in educational environments, favouring warm neutrals and relaxing hues that balance attention and comfort.

Students' Preferred Colour Combinations for Studio/Lecture Halls

Students preferred colour combinations for the studio and lecture hall are provided in Table 8. It shows that neutral colours are preferred, with the most frequent being Grey and White (24.4%) and Cream and White (22.0%). These combinations were always reported to go hand in hand with calmness, simplicity and increased concentration.

Likewise, Cream on its own (17.6%) and White on its own (15.6%) were also popular, as students preferred bright colours; not including Blue/Green combinations (4.8%), which were appreciated for their calming and revitalising impact. Other bold or mixed colours (3.2%), though, were only mentioned by a small minority, and (4.0%) responded unclear or neutral (Nil or Not sure). In general, the results highlight that students at FUTA prefer neutral, soft, and balanced colour schemes that include brightness and calmness, which is also consistent with colour psychology theories that attribute neutral palettes or the absence of contrast to reduced stress and enhanced learning. Such inclinations offer a solid evidence-based foundation to not distract but help focus and provide visual comfort instead.

Table 8. Students' Preferred Colour Combinations for Studio/Lecture Halls (n = 250)

Colour Combination / Theme	Frequency	Percentage (%)	Content Analysis
Grey & White (neutral tones)	61	24.4%	"Grey and white. It's calming." / "Grey, white, off-white — they are cool and simple and boost concentration."
Cream & White (soft neutrals)	55	22.0%	"Cream and white, because they are bright colours which enhance moods and focus."
Cream (alone)	44	17.6%	"Cream, because it is bright and makes it easier to read."
White (alone)	39	15.6%	"White for inspiration flow." / "Predominantly white gives the feeling of space and focus."
Cream & Brown (earth tones)	21	8.4%	"Cream and brown for a calm and sophisticated environment."
Blue/Green Combinations	12	4.8%	"Blue and white, because it's calm and relaxing." / "White and light blue."
Other Colours (Red, Black, Mixed)	8	3.2%	"Black with good lighting makes studios interesting."
Unclear/Neutral (Nil, N/A, Unsure)	10	4.0%	"Nil." / "Not really sure."
Total	**250**	**100%**	**—**

Source : Author, 2025

Discussions

Presentation of the results of this study gives a fairly similar picture of the perceptions that students have in regard to colour in their educational institutions. One definite trend that was observed is how much they preferred cool and neutral colours, including cream, white, grey, and blue, which were linked by the students as being relaxing and helping them concentrate on studying and staying in a good mood.

Cream & Brown (8.4%) was also singled out for creating a refined and friendly atmosphere and for offering useful suggestions in classroom and studio design, namely that designers and administrators should focus more on light-coloured colours rather than bright or highly saturated ones when establishing facilitative learning settings.

Conversely, brighter or darker colours of red, black and yellow were more commonly associated with stress, reluctance or distraction.

The implication of this contrast is that students are extremely sensitive to the psychological impact of colour, and their reactions demonstrate that the environmental design can influence the mood and behaviour of students in such minor but

significant ways. The other significant observation is the use of colour in aiding academic activity. In various questions, various students indicated that classroom colours improved or deteriorated their concentration. Unbiased and equitable colours were recurrently concentrated as compared to over-bright colours or inappropriate matching colours.

This supports the view that an academic setting is not a passive background to learning but an active partner in academic practice. The findings also indicate that colour is not effective on its own, but in the presence of light. Students also noted that the lighting and the furnishing tend to enhance or diminish the impact of colour. Indicatively, in this context, warm colours appear richer by lighting, and even cool ones seem unenthusiastic by poor lighting. On the same note, incongruous colours of furniture were mentioned to interfere with spacing. The results of this paper show that colour, lighting and furniture cannot be viewed as autonomous features but as interacting parts of design. Alongside this, the paper has also revealed the cultural aspect of colour. According to the participants, red, black, and white were especially symbolic within the Nigerian context and commonly associated with spirituality, mourning, or danger. Such associations affected them more when associated with concentration than with over-bright colour.

How they viewed such colours in classrooms and studios, as demonstrated by the fact that responses such as individual preferences are more influenced by cultural background than by personal preferences. These results, when combined, indicate a high level of awareness of colour and a direct impact of colour, which indirectly affects students' mood and involvement in their studies. This establishes the foundation for further comparisons with the existing theories and previous studies.

Relationship to Previous Literature

Apparently, relaxing and inviting environments are conducive to studying. This agrees with (O'Connor 2011) advisory not to overstimulate with really bright yellows, and with (Barrett et al., 2015), who argued that academic performance was significantly affected by the learning setting. By aligning design choices with both psychological principles and students' performance, universities can foster an environment that reduces stress, shortens attention spans, and improves learning. Lastly, students suggested that simple, neutral colour schemes (cream and white, grey and white, cream and brown, etc.) should be implemented in classrooms, as they can apparently create relaxing, inviting environments conducive to studying.

In summary, the analysis of the findings with respect to the literature reveals that colour is an influential parameter that affects students' mood, behaviour, and academic activities. These findings corroborate and extend earlier hypotheses, such as the Stimulus Organism Response model

and Arousal Theory. However, the findings also highlight cultural factors that have not been adequately addressed in previous research. Importantly, the findings show that colour does not work in isolation but in cooperation with other elements, such as light and furniture design, and that classroom design is a whole process. These insights provide a good basis for meaningful recommendations for the study.

CONCLUSION

This study examined the impact of colour on the mood, concentration, and students engagement on the level of their learning at the Federal University of Technology, Akure. The findings indicated that colours were relevant to the development of the students feelings in their study environment. The visions of soft colours (cream, white, grey, blue) were always associated with calm, increased concentration, and inspiration. Bright colour like red and yellow was associated with stress, distraction or discomfort.

The research study also revealed that lighting design and furniture design can reinforce or de-emphasise the impact of colour on mood and learning. The students perception of colours was influenced by culture as well, since there is strong symbolism associated with red, black and white, and this influences how students react towards classroom layout. On balance, the final outcomes demonstrate that the colours of classrooms are not an insignificant detail, but a component of a much larger group of environmental determinants influencing the mental health and academic outcomes of learners. The contribution of the study to the sub-body of research is that it examines a particular phenomenon in the field of environmental psychology and learning colour perception in Nigerian universities, on which very little has been examined. This study expands on the available theories by demonstrating that the selection of colours should be based on psychology, culture, and context. The research claims that appropriate learning environments can be made by careful use of colour through cultural sensitivity, adequate illumination and adequate furniture. These would not only increase student involvement but also enhance performance and general well being in regard to academic performance.

This study has numerous implications for the theory as well as practice. As a thought other frameworks of psychology, including the Stimulus-Organism-Response model and the Arousal Theory also find support in the study since they demonstrate that environmental features, such as colour, lighting and furniture, combine to affect mood and behaviour. This underscores the fact that colour should not be investigated in isolation but as a component of an environmental system that expands the former theories. Practically, this study offers excellent evidence to demonstrate that the colour schemes in classrooms do produce a quantifiable effect on the concentration, well-being and motivation of students. Cool and warm colours like cream, white, and grey were

pretty consistent in appearing as the choice due to their capacity to create a sense of serenity and concentration, and in the case of colourful use like red and yellow, they were associated with stress and distraction. This implies that developers, architects, and school principals must appropriately choose colour casts to suit the psychological improvements of the students and their cultural environments.

At the policy level, findings suggested the consideration needed in educational institutions and learning institutions in particular, the inclusion of colour psychology in designing classes and lecture halls. To improve the quality of the learning environment and ensure that student activity and overall academic performance are improved, a variety of insights should be incorporated into campus planning. Also, it is important to note that the Nigerian context attaches certain cultural meaning to colours, such as red, white and black and therefore design policies must be guided by cultural specificity and context.

Overall, the implications of the study indicate that classroom design is not only about aesthetics but also one of the primary components of designing a successful learning environment. With lighting, careful use of colours, as well as furniture, these can be used in a gainful but non-verbal manner to enhance the learning experiences of students.

Although the relationship of colour psychology with student academic engagement in FUTA, as far as this study is concerned is researched successfully, there are still flaws that future research can undertake. On the one hand, this research involved only those students who were enrolled in selected design-related disciplines. It may further be extended to other faculties and fields to establish whether there is variation in the effects of colour with regard to various studies. Second, the study utilised self-reported research based on questionnaires. Experimental techniques (performance when the classroom is coloured) could also be undertaken in future work to give more objective evidence. Third, the findings could not be generalised because this study was conducted in one university. The comparative analysis with various universities or even different cultures in Nigeria (including others) could offer a better view. Moreover, a longitudinal research study may be performed in order to monitor the effects of long-term exposure to the colour schemes in the classroom on academic performance and the state of psychological well-being. Lastly, other elements of the environment, including acoustics, ventilation, and classroom size, merged with colour would assist in bringing a more overall picture of the influence of the learning environment on the students.

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