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RESEARCH ARTICLE

Impact of the Campus Ecological Aesthetic Environment on The Development of Teachers' Professional Attitude From AE

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ABSTRACT

This research aims to find out how much the campus design influences the teachers' perception of teaching methods, teaching values, and staff development. Exploratory factor analysis and structural equation modeling were used to analyze the professional attitude of teachers, the impression of school aesthetics, and AE (Anneta, 2016). Therefore, as they are related to the influence of eco-aesthetics – the objects of which are AEs – it may be concluded that they positively impact professional development and perspectives in learning and teaching. The identified indications of model compatibility in the current period indicate that aesthetics is relevant to the learning environments for improving the outcomes of the profession among teachers, which can be supported by Petty (2016).

In their paper, Man Chu (2020) identified the impact of the school climate on the teachers' views regarding teaching practices, teaching norms, and professional training. The validity of the relationships between teachers' professional attitude, perception of school influence of eco-aesthetics, and their AE (Aesthetic Experience) was established using exploratory factor analysis structural equation modeling as postulated by Waxxman (2009). The study reveals that environmental beauty embraced in AEs greatly influences professional outlook and teaching practices by half (Nasar, 1992).

Teachers' perceptions of their working environment define their motivation, job satisfaction, and professional development (Richardson, 2014). In this paper, we explore how elements of aesthetics in educational environments function in these perspectives and contribute fresh understanding to the relationship between environmental psychology and the advancement of education (Andersson 2021).

The research covers an essential gap in the existing literature as it highlights the role of aesthetics, which needs to be considered in the learning context (Ludwig 2016).

This study also highlights how essential it is to create aesthetically pleasing learning spaces as a strategic approach to enhancing teachers' professional practice (Umer, 2023). The implications of the study hold a significant impact on school architecture and governmental plans as it shows that it is beneficial to invest in aesthetic improvements, as those investments correlate with increased student success and teacher performance (Felipe, 2024).

The suggested links are consistent with the improvements of the model suitability indicators that comprise fit indices from structural equation modeling and suggest a satisfactory level of fit. Thus, this study provides high-level support for including aesthetic considerations as a significant component of professional development and instructional quality.

INTRODUCTION

There's evidence that the Teachers' professional experience and attitudes are shaped by the aesthetics of learning spaces (Ana 2019). Few studies have empirically assessed the immediate and mediated relationships between school aesthetics and teachers' professional growth and teaching practices. However, the importance of aesthetics has been acknowledged more extensively in educational settings in recent years (Liuhto 2017). This study aims to fill this gap by analyzing how teachers' opinions of school aesthetics influence the dynamics of professional attitude and development by considering AEs as mediators (Bellocchi 2017). By employing methodological tools, including structural equation modeling and exploratory factor analysis, the current research provides valuable new insights into the role of environmental aesthetics in an educational context (Sahu 2008).

Teachers' interactions with their learning environment are susceptible to the appearance of the surrounding environment (Ryan, 2022). Minimal research investigates the mediations of school aesthetics on teachers' professional growth and instructional practices. However, there is an emerging awareness of the importance of aesthetics in education (Liuhto 2017). To fill this gap, this study aims to explore how teachers' perceptions of school aesthetics influence their professional orientation and development through the moderating role of AEs (Bellocchi, 2017).

Education environments are not merely places but active surroundings that can significantly impact the wellbeing of teachers emotionally and psychologically (Neema, 2022). Earlier works have often neglected the aesthetic aspect, focusing solely on learning institutions' architectural and utilitarian elements (Tareq 2022).

Thus, this study offers a more comprehensive framework for evaluating the sensory and affective dimensions of environmental aesthetics, which is integral for recognizing the value of environmental aesthetics in learning environments (Lang 2013).

This work contributes new knowledge about the aesthetics of the environment in support of learning environments by employing sound statistical analyses like exploratory factor analysis and structural equation modeling. Because of the high methodological rigor, the results are accurate and honest and serve as a solid foundation for further research and practical application (Glynn 2024).

Theoretical framework: This research adopts the theoretical frameworks of environmental psychology and educational paradigm to examine the complex interconnections between aesthetics and professional development. Being multidisciplinary allows for a detailed discussion of how aspects of aesthetics in learning environments can influence instructors' perceptions and behaviors.

Objectives of the study

- To examine the direct effects of school environmental aesthetics on teachers' professional development and teaching practices.
- To explore the mediating role of AEs in the relationship between school aesthetics and teachers' professional outcomes.
- We use structural equation modeling to validate the relationships between aesthetic perceptions, AEs, and professional attitudes.

LITERATURE REVIEW

Establishing people's own ecological cultures—standards, conventions, and behavioral patterns that dictate how a community or an individual interacts with the environment—is the aim of state policy in environmental education. (Miyazaki, 2021). Grande (2004) explains "a growing realization that the legacies of modernism and postmodernism in this area are environmental deprivation and the separation of artistic endeavor from nature." Gallagher (2012). In capitalism, moderation is not a given. Plant and animal extinctions are speeding up, energy poverty is increasing, and oil resources are becoming scarcer due to globalization and greed.

Petro-dictatorial regime coupled with a speeding up of global warming. We no longer sense the urgency after twenty years. Demand the creation and implementation of a worldwide environmental education plan to foster new ways of thinking about the environment and a deeper comprehension of the planet's ecological problems. This will enable the development of new technologies to address environmental destruction.

To increase their professional knowledge and competence, teachers must constantly study new things, accept new information, and develop their teaching techniques (Clemo-Narzoles, 2013). The attitude of education is aesthetics, and schools are the principal setting for encounters with kindness and truth, which are the sources of beauty (Dewey 2015). As a result, the planning and instruction of aesthetics and the professional growth of educators and learners depend heavily on the educational setting. Professional progress is also creative, continuous, and attainable via aesthetics.

The world population is becoming increasingly urbanized, drastically changing the urban environment and leading to several social and environmental issues. According to UN projections, the proportion of people living in urban settlements worldwide increased to 55.3% in 2018 and is expected to reach 60% by 2030. Brazil has a metropolitan population proportion of 86.6%, much higher than the global average (United Nations, 2018). However, the presence of nature is both a characteristic and an essential element for the very existence of our cities. Population growth and densification have meant that landscapes have increasingly conceded space for concrete structures, reducing the green areas and the opportunities to experience nature within the cities.

Since 1970, as the world looks for new approaches to combat environmental deterioration, environmental education has assumed a central role in international intergovernmental conferences. Together with the first UN Environmental Agency conference held in Stockholm in 1972, which brought together the world's wealthy and developing nations to address environmental issues, the 1972 Stockholm Convention was the first significant international ecological conference of the 1960s and 1970s. At this conference, it was proposed that UNESCO and other ecological agencies take substantial steps to ensure that Environmental Education is adopted and integrated access-circular globally (UNESCO 1972).

Urging all governments to incorporate environmental education into the curriculum was one of the central tenets of the agenda 21 strategy (UNESCO 1992). Incorporating environmental education into the curriculum aims to help students become more knowledgeable, committed, and capable of protecting and enhancing the environment. Additionally, it could inspire students to consider and analyze environmental problems from several angles. This increases their awareness of ecological issues and motivates them to find solutions (NCC 1990:6).

Because of this goodwill, environmental education is acknowledged by the South African school system as a crucial part of the overall curriculum rather than as a stand-alone topic. According to Damoah and Adu (2019), all teachers are responsible for including Environmental Education topics in their studies to spark students' interest in environmental concerns, in keeping with the spirit of the CAPs document.

Integrating environmental education effectively into the national curriculum is vital. Suppose environmental education is successfully incorporated into the current curriculum. In that case, students may gain ecological knowledge, attitudes, skills, and understanding and need to become more actively involved in environmental conservation and protection.

Technology, according to many who oppose the current state of global Systems that exploit the environment and capitalism for the profit of a select few at the social and physical expense of others, will perpetuate these injustices. "Destroying the environment is a lucrative business."

Social scientists, educators, artists, and eco-theorists support pedagogies that democratize community cooperation, knowledge of space, and responsiveness to local challenges. The principles and practices of eco-aesthetic education are consistent with all other artistic endeavors (Finley, 2005).

Music is said to be poetry that emerges from space rearranging to create sensory beauty via sound and silence. Knowledge of nature's patterns in their cacophony of silence, their null in their null regions of change, and the complexity of their vectors are acquired abilities that mainly depend on an individual's opportunities to interact with and learn from nature. Innate intelligence is primarily dependent on learned methods of seeing the environment. Naturalistic intelligence encompasses "keen sensory skills" in taste, touch, smell, sound, and sight (Louv 2008). emphasizes the significance of modeling learning.

In explaining the perception of smell in humans, McCallen draws on brain studies to show that scent is still essential to modern human existence despite primarily focusing on survival senses. According to McCallen, "Scents and fragrances of all kinds, from the smell of the first rains to body scents and perfumes, peanut butter sandwiches, eggs, and bacon, wax crayons, and pencil shavings, are powerful reminders of one's culture, one's community, and even one's identity."

Ecological literacy may be promoted by learning how to employ heightened sensory talents and expressing knowledge of that increased awareness—like in my rant upon the attack of "oppression"—may also be related to language development (McCallen, p. 11).

Until now, domestic science has attempted to find the fundamental definition of this idea. According to L.V. Panfilova, the essence of ecological competence in the theoretical and practical readiness of students' education is found in Environmental awareness, proficiencies, values, ecologically relevant character attributes, and expertise in environmental activities related to professional pedagogy [5,13]. Many researchers support these findings.

For example, Nelgubina states that "knowledge of the fundamentals of natural sciences, ecology, and environmental education, the ability to work to preserve the environment and recognition of the special value of life as such, environmental benefits, and human health" are all necessary components of environmental competence for teachers [5,13–14].

According to A.I. Novik Kachan's study, an educator's environmental competence is the capacity to carry out professional activities that shape students' ecological cultures and prepare them for environmentally responsible behavior. This includes their ecology knowledge, skills, and organizational and communication abilities.

The conclusion drawn from the analysis of these stances and the writings of F.J. Gainullova [1], I.V. Petrukhina [7], and others was that a preschool teacher's environmental competence is an integrated aspect of their personality, implying a high degree of environmental culture and preparedness for the introduction of ecological education to young children. A preschool teacher's general, cultural, particular, and social-personal competencies might provide insight into their environmental competency. The growth of ecological culture, or acquiring an unconventional ecological consciousness, ecological knowledge, and natural action techniques, defines general cultural

competency. It is essential to remember that environmental culture is a broader category when comparing the ideas of ecological culture and a kindergarten teacher's environmental competence because it is crucial for every person's personal quality, regardless of their age, education, or other civil characteristics. On the other hand, environmental competence denotes an understanding of ecological culture and indicates the professionalism and caliber of professional training.

According to Berlant (1997), environmental aesthetics is the idea that people may become a part of their surroundings by participating in and enjoying them. This suggests sensory attributes and the direct control of experiences, which are in and of themselves artistic experiences. Thompson (2000) creates stunning, cozy, and improved personal living spaces by merging environmental psychology and aesthetics. Notably, ecological aesthetics aims to make the built environment more humane by enhancing human interaction and the natural world (Gifford 2014).

According to Burton et al. (1999), even educators not explicitly trained in art education often consider expanding the examination and research of art to include other topics like creative thinking and alternative perspectives on concepts, issues, and imagination in settings appropriate for aesthetic education. Kaelin (1989) once again emphasizes how the development of aesthetic sense in teaching and learning, as well as activities connected to education, depends on acquiring aesthetic skills and attitudes. The fundamental goals of the higher education system are severely hampered by aesthetic education (Mehr Mohammed and Abedi 2001). Teachers may provide students the chance to learn via active, ongoing learning and experience sharing by using these techniques in the classroom. This will make the teaching and learning tasks more engaging and entertaining (Estamain et al. 2017). Rolston (2002) applies the ecosystem technique to study environmental aesthetics.

In addition to having a thorough understanding of the ornamental components of training and learning in higher education and practical implementation tactics, universities should promote instruction based on aesthetic standards (Gadsden 2008). Teachers employ their artistic talents in the classroom (Estamian et al. 2017). Moreover, one type of literacy that might improve teachers' professionalism is aesthetic literacy. Thus, students must be aware of the schools' overall aesthetics and situate the area of aesthetic education within its surroundings (Attwood 2020).

RESEARCH METHODOLOGY

Participants

The subjects consisted of 1,800 academics from thirty Chinese institutions. Five universities, all considered "universities with beautiful campuses," one from each of the following regions of China: South (Xiamen University), East (Fudan University and Shanghai Jiao Tong University), Central (Wuhan University), North (Tsinghua University and Peking University), and Northeast (Northeast Normal University), and Southwest (Sichuan University) were represented, and sixty instructors were selected from each university. After any surveys with inaccurate or missing data were eliminated, 1,479 of the 1,716 that the research had recovered remained intact. The sample is distributed as follows: 745 female and 734 male instructors make up the teaching staff; regarding job title, the largest group consists of 642 lecturers, while the lowest group comprises 105 assistant professors. The lowest percentages of teachers are master's degree holders (n = 919) and bachelor's degree holders (n = 76).

The instruments

This examination utilized the Perceived EA (Environment Aesthetics) Qualities Scale updated in 2017 as well as the AE Scale for Students developed by Chang (2017), and the Teaching and Learning International Survey acknowledged by OECD (2018). However, given that these scales were not designed with Chinese instructors in mind, they were adjusted further to their context. A pilot study

was conducted to assess the validity of the developed draft scale, to which eight pros and scholars from the aesthetics and education contributed.

The AE Qualities Scale was employed in the thesis, which measures the aesthetic aspects of educational environments. This comprised the physical layout of the environment, the feelings associated with the environment, and even the touch and perceived feel of the learning environment. Incorporating this scale provided a holistic view of how aesthetics impacted tutors' and students' learning, teaching, and development. Additionally, using the AE Qualities Scale, the study intended to investigate the effects of these factors in educational settings more broadly, with a particular emphasis on Chinese teachers. This approach focused on a cross-cultural perspective of the comparative study, emphasizing that although the existing scales for assessing aesthetics may be used globally, it has to be modified according to the cultural and contextual environment in China to increase the validity of the measure of the aesthetic affordances in educational settings for Chinese teachers.

Revision and evaluation of scales

Experts, scholars, and professionals assessed the items and structure of the scales after the study modified the measures of AE, environmental features, aesthetic perception, and career growth (Chang, 2017; Subiza-Pérez et al., 2019). Based on the suggestions of eight specialists in aesthetics and education, the scales were revised according to the following criteria.

(1) The items on the scales should be preserved as much as possible in their original arrangement.

(2) A question should be revised if three academics or experts think it needs to be.

(3) If the expert recommended asking more questions, they should be modified because their advice aligned with the other experts.

(4) A question should be dropped if more than four knowledgeable academics think it's wrong.

In the Environmental Aesthetic Scale of Perceived Schools, the five perceived aesthetic characteristics are Harmony (eight questions), Mystery (five questions), Multisensory & Nature (four questions), Visual Spaciousness & Visual Diversity (three questions), and Sublimity (three questions). Subiza-Pérez and associates developed the Environmental Aesthetic Qualities Scale for Perceived Schools in 2019. After the assessment, all the 23 questions and all the five components were still intact.

The AE Scale for Teachers was established by Chang in 2017. There are six questions related to the appreciation of aesthetics: five about attitudes toward aesthetics, five about the experience of aesthetics, and five about the appreciation of aesthetics. Experts and researchers assessed all the proposed questions, and all twenty-one questions from the four categories were selected for the survey. The Organisation for Economic Cooperation and Development (2018) used the three Teaching and Learning International Survey pillars for professional development: Teachers' Mood Towards Teaching, Teaching Beliefs, and Professional Attitude. After evaluation, thirty-three questions selected from the three pillars were retained.

Scale reliability test

The study started with an initial exploratory factor analysis, followed by a reliability analysis and a verification of the factor analysis using the PSEA scale. Item A18's factor loading, as calculated by the exploratory factor analysis, was found to be 0.465, which falls below the acceptable threshold of 0.5.

After finding out that the frequency of A14 was 0,342, below the recommended limit of 0. 4, we felt it appropriate to exclude these two items. Therefore, the second-factor analysis was conducted, and it was revealed that the scale can be split into two factors. The research generated an overall explanatory variance of 65. 038% and a KMO value of 0. 959. It was found that the scale has two

separate dimensions: Aesthetics and Harmony, which has seven questions, and Nature and Diversity, which has 13 out of the 20 questions that can be asked (Appendix 1). To measure the internal consistency of the questions, we used the most popular measure of reliability, i.e., Cronbach's α. The results showed that our measure was reliable, with all three variables (perceived aesthetics of schools: The reliability coefficients (α) were very high for the entire scale (α = 0. 967), aesthetics and harmony subscale (α = 0. 925), nature and diversity subscale (α = 0. 958).

According to the validity factor analysis, the results for the RMSEA value were 0. 075, over the 0. 05 cutoff. However, the p-value was less than 0. 00, indicating that the theoretical model and data are still considered reasonable.

It is also possible to have PNFI and PGFI levels higher than 0. 50 to 0. 816 and 0. 707, respectively; CFI and IFI are more significant than 0. 90 to 0. 938 and 0. Meanwhile, SRMR was 0. 039, below the 0. 05 limit. The GFI increased to 0. 879, near the 0. 90 benchmarks. Regarding the internal structure, Hair et al. (2009) identified that Harmony and Aesthetics had component reliability (CR) of 0. 908, and Nature and Diversity had a CR of 0. 954 for prospective variables. All the figures mentioned are more significant than zero. 70. Another strong scale match is demonstrated by the AVE values of Nature and Diversity, Aesthetics and Harmony, equal to 0. 613 and 0. 586, respectively. As Fornell and Larcker (1981) pointed out, these numbers should have a value of 0. 50 or above.

The following results from the preliminary factor analysis of the AE Scale for Educators. Considering the dimensions and items of the initial scale, the scale was classified into four sizes, with KMO being 0. 958 and a total explanatory variance of 78. 249%. A Cronbach's α of 0. 969 was found for the teachers' overall AEs, according to the reliability research (enjoyment in aesthetics:

Attitude towards the aroma: 0. 949; mood towards aesthetics: 0. 909; complete encounter: 0. 915. RMSEA = 0. 058, GFI = 0. 912, SRMR = 0. 038, CFI = 0. 951, IFI = 0. 952, PNFI = 0. 819, PGFI = 0. 829, and PGFI = 0. 952 were the outcomes of the verified factor analysis.

The values were appreciation of aesthetics (Cronbach's alpha = 0. 895), attitude towards aesthetics (Cronbach's alpha = 0. 879), total experience (Cronbach's alpha = 0. 864), and attitude towards aesthetics (Cronbach's alpha = 0. 859). Meanwhile, the AVE values for the whole experience (0. 561), attitude towards aesthetics (0. 548), and aesthetic enjoyment (0. 587) were calculated. This shows that there is a high level of compatibility between the scale and the data.

The following are the results of the Teaching and Learning International Survey exploratory factor analysis. Since the factor loading of Question 20 is 0. 478 was below the permitted maximum of 0. 5, it was eliminated. The total of the variance explained by the second-factor analysis was 65. 038%, and its KMO was 0. 959. Each of the three categories has a total of 32 questions concerning the tutoring practice (12 items), teaching beliefs (9 items), and professional attitude (11 items) (see Appendix 2). The reliability analysis yielded the following overall Cronbach's α values: Teaching beliefs: 0. 919; attitudes towards the professional development of teachers: 0. 971; attitudes towards teaching practice: 0. 944; and professional attitude: 0. 96. The following values were obtained from the verified factor analysis: PGFI = 0. 744, RMSEA = 0. 059, GFI = 0. 852, SRMR = 0. 0407, CFI = 0. 921, IFI = 0. 921, PNFI = 0. 819, and PGFI = 0. 921. The respective CRs for teaching practices, teaching beliefs, and professional attitude were 0. 929, 0. 899, and 0. 936, respectively. Finally, the AVE values of 0. 522, 0. 498, and 0. 571 of Professional Attitude, Tutor Practice, and Teaching Beliefs exhibited a high-scale match.

RESULTS

This work uses the single-factor method to assess technique variability issues. With KMO = 0. 987, an unrotated principal component factor analysis was computed for each question, and in total, six components with eigenvalues more than one were removed. There may not be meaningful

association research since the first component, 32, describes the variance. 218%, which is significantly less than Podsakoff et al. (2003)'s 50% reference value**.** The calculated correlation coefficients of the variables were positive and high, ranging from 0. 660 to 0. 821. Professional growth, the Perceived Schools Environmental Aesthetic Qualities scale, and the tutors' AE were 4. 106, 4. 135, and 4. 187, respectively. All these measurements showed a positive association coefficient direction ranging from 0. 453 to 0. 796.

Regarding this inquiry, the appropriateness test yielded the following results. Hair et al. (2009) explains that while assessing the model's applicability, three aspects should be considered: definite, progressive, and compact appropriateness. The findings of the compatibility analysis of the perception of schools as looking beautiful, the experience of educators as artists, and their professional growth are as follows.

"The metrics χ2/df=6.551 exceeded the recommended value of χ2/df<5. However, the SRMR = 0.022 met the condition of being less than 0.05. Additionally, GFI = 0.975 and AGFI = 0.952, both met the standard of 0.9. The RMSEA = 0.058, within the acceptable value of less than 0.08. According to Ullman (2001), these results indicate absolute accuracy. The noted results demonstrate the reliability and efficiency of the study methodology, which further supports the conclusions made." The text above clearly shows that it correctly presents the metrics and clarifies that while χ2/df (the degrees of freedom) did not meet the recommended threshold, the other metrics did, indicating overall good model fit and reliability of the study methodology.

The incremental suitability scores, which are 0. Nine hundred eighty-eight for the CFI, 0. 935 for the IFI, and 0. 980 for the NNFI are more significant than the 0.90 threshold. Compact appropriateness: For PNFI, PGFI, and PCFI, values are more important than the 0. 50 benchmark (Ullman, 2001) and signifying high relevance are 0. 657, 0. 520, and 0. 659.

The teachers' perceptions of the aesthetics of their learning environments were also a significant predictor of the AE and career advancement using path coefficients of 0. 745 (p = 0. 000) and 0. It was 453 (p = 0. 000) and 453 (p = 0. 000) respectively. An increase in AE was also seen to positively influence professional growth (p = 0. 000; path coefficient = 0. 576). These findings indicate that improving the aesthetics of learning spaces may support the professional development of teachers: implications for scholars and educators cannot be overstated. To increase the reliability of the mediation effect test estimations, the study adopted the bootstrapping method on the mediation model developed by Shrout and Bolger (2002). However, this step entailed bootstrapping the data to obtain the mean and 95% CI for the mediation effect. If the upper or lower limit of the 95% confidence interval was not equal to zero, the mediation effect was statistically significant at p < 0. 05.

Suitability indicators of the models

	Absolute suitability					Incremental suitability				Compact suitability		
Model	χ^2/df	**RMSEA**	**SRMR**	**GFI**	**AGFI**	**NFI**	**NNFI**	**IFI**	**CFI**	**PCFI**	**PNFI**	**PGFI**
Professional development	6.551	0.058	0.038	0.975	0.952	0.986	0.979	0.988	0.988	0.659	0.657	0.520
Attitudes toward teaching practice	3.350	0.040	0.027	0.964	0.954	0.964	0.959	0.975	0.975	0.841	0.832	0.744
Teaching beliefs	2.675	0.034	0.021	0.979	0.970	0.978	0.973	0.986	0.986	0.817	0.810	0.709
Professional attitude	2.413	0.031	0.020	0.977	0.970	0.977	0.973	0.986	0.986	0.841	0.833	0.741

Bootstrap (professional development)

Effect	Estimate	*p*-value	Confidence interval
Direct effect			
Environmental aesthetic perception→Aesthetic experience	0.745	0.000	[0.666, 0.806]
Environmental aesthetic perception→ Professional development	0.453	0.000	[0.365, 0.542]
Aesthetic experience→Professional development	0.576	0.000	[0.484, 0.663]
Indirect effect			
Environmental aesthetic perception→ Professional development	0.429	0.000	[0.352,0.503]
Overall effect			
Environmental aesthetic perception→ Professional development	0.882	0.000	[0.836, 0.915]

The route analysis of the entire model concerned teachers' professional growth, their perception of aesthetics in the school environment, and their AE. Professional growth SEM path analysis ***p < 0.001. EAP Aesthetic Experience AE, PD Environmental aesthetic perception Advancement of the profession.

The teachers' scores on the sense of environmental aesthetics and professional progress, which were 0.429 (0.745*0.576), and the confidence interval [0.352, 0.503] did not contain 0, verified the mediation impact of AE. Moreover, the study discovered that teachers' AEs had an overall effect of 0.882 and a direct effect of 0.576 on professional development, indicating that teachers' AEs mediate the relationship between professional development and environmental aesthetic perception to some extent.

The perception of aesthetics in schools, the experience of aesthetics, and the attitudes towards instructional methods

χ2/pdf = 3.350, IGFI = 0.975, NNFI = 0.959, PNFI = 0.832, PGFI = 0.744, PCFI = 0.841, SRMR = 0.0272, GFI = 0.964, AGFI = 0.954, and RMSEA = 0.040 are not merely numerical values obtained by the model suitability test. They indicate that our model is adequate and include you in comprehending our study methodology.

Perceived environmental aesthetics had a positive association with teaching methods and the arts, with path coefficients of 0. 464 (p = 0. 000) and 0. 74.5 (p =. 000) and 745 (p = 0. 000), respectively. Moreover, there was a correlation between AEs and instructors' perceptions of teaching methods (0. 498, p = 0. 000). Analysing the mediating role; it was found that through the mediating effects, the total indirect effect of AE on attitudes towards teaching practice and environmental, aesthetic perception is 0. 0. 75 * 0. 464 = 371 and the fact that there is no zero inside the confidence interval [0. 294, 0. 457]. This means that consuming art involves mediation.

Further, it was shown that, with a total impact of 0. 836, AE was found to have a direct effect of 0. 498 on attitudes towards teaching practice. This demonstrates that AE moderates' attitude toward teaching practice and apprehension of the aesthetic environment.

The instructional philosophies, AE, and environmental aesthetics perception in schools

The following outcomes were obtained from the model appropriateness test: Good appropriateness was indicated by χ2/df = 2.675, RMSEA = 0.034, GFI = 0.979, AGFI = 0.970, SRMR = 0.0213, CFI = 0.986, IFI = 0.986, NNFI = 0.973, PNFI = 0.810, PGFI = 0.709, and PCFI = 0.817.

The results of the route analysis revealed that teaching beliefs and AE were positively influenced by the teachers' opinions on environmental aesthetics in school with path coefficients of 0. 513 (p = 0. 000) and 0. 747 (p = 0. 000), respectively. This study also found a positive correlation between AEs and teaching views (r = 0. 492, p = 0. 000). The mediation effect study shows that AE has an indirect influence on instructional beliefs and environmental aesthetics perceptions (0. 368*0. 747*0. 492).

Since there is no zero in the confidence interval [0. 297, 0. 443] indicates that AE serves as a mediator. In addition, the association between environmental aesthetic perception and teaching beliefs was partially mediated by AE, as noted in the direct effect of ecological aesthetic perception on teaching beliefs (0.513) and the total effect (0.881).

Schools' perceptions of environmental aesthetics, AEs, and professional demeanor

χ2/df = 2.413, RMSEA = 0.031, GFI = 0.977, AGFI = 0.970, SRMR = 0.020, CFI = 0.986, IFI = 0.986, NNFI = 0.973, PNFI = 0.833, PGFI = 0.841, and PCFI = 0.741 are test findings that show good appropriateness.

Path analysis showed that, with path coefficients of 0.747 (p = 0.000) and 0.323 (p = 0.000), respectively, teachers' perceptions of the aesthetics of their surroundings had a beneficial impact on both their professional manner and AE.

Bootstrap (Attitudes toward teaching practice)

Effect	Estimate	*p*-value	Confidence interval
Direct effect			
Environmental aesthetic perception→Aesthetic experience	0.745	0.000	[0.667, 0.807]
Environmental aesthetic perception→Attitudes toward teaching practice	0.464	0.000	[0.364, 0.557]
Aesthetic experience→Attitudes toward teaching practice	0.498	0.000	[0.401, 0.595]
Indirect effect			
Environmental aesthetic perception→Attitudes toward teaching practice	0.371	0.000	[0.294, 0.457]
Overall effect			
Environmental aesthetic perception→Attitudes toward teaching practice	0.836	0.000	[0.781, 0.879]

Path	Coefficient	Significance
EAP → AE	0.745	***
EAP → TP	0.464	***
AE → TP	0.498	***
EAP Indicators		
EA1	0.88	-
EA2	0.90	-
AE Indicators		
AE1	0.78	-
AE2	0.82	-
AE3	0.86	--
AE4	0.83	-
TP Indicators		
B1	0.59	-
B2	0.60	-
B3	0.62	-
B4	0.60	-
B5	0.57	-
B6	0.63	-
B7	0.61	-
B8	0.60	-
B9	0.68	-
B10	0.60	-
B11	0.61	-
B12	0.61	-

The general model's path analysis examined how instructors' attitudes toward their teaching practices and their perceptions of the aesthetics of their surroundings in schools. Teaching practice: SEM path analysis ***p 0.001. TP attitudes on teaching practice, Aesthetic Experience AE, and EAP environmental aesthetic perception.

Bootstrap (teaching beliefs)

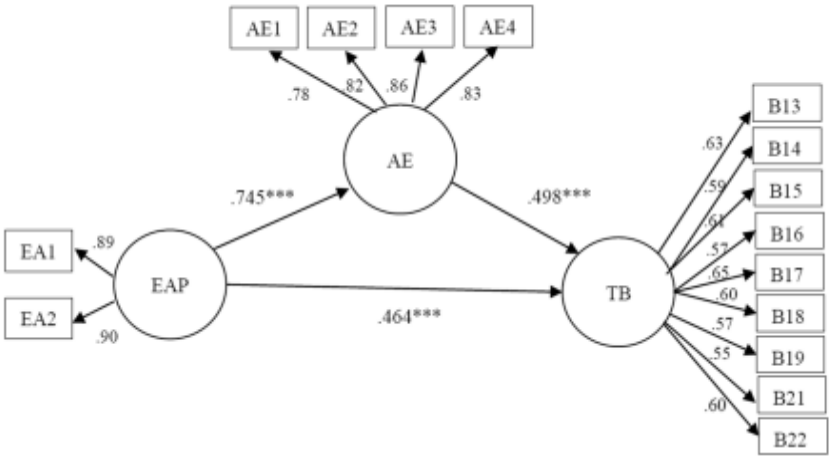
Effect	Estimate	*p*-value	Confidence interval
Direct effect			
Environmental aesthetic perception→Aesthetic experience	0.747	0.000	[0.670, 0.808]
Environmental aesthetic perception→Teaching beliefs	0.513	0.000	[0.423, 0.602]
Aesthetic experience→Teaching beliefs	0.498	0.000	[0.400, 0.578]
Indirect effect			
Environmental aesthetic perception→Teaching beliefs	0.368	0.000	[0.297, 0.443]
Overall effect			
Environmental aesthetic perception→Teaching beliefs	0.881	0.000	[0.462, 0.915]

AE positively impacted professional attitude (p = 0.000; path coefficient = 0.646). The mediation effect analysis shows that AE indirectly affects 0.483 (0.747*,0.646) environmental, aesthetic perception, and professional attitude, with a confidence level of [0.367.581]. This suggests that AE plays a function in mediation. Furthermore, the study found that, with an overall impact of 0.805 and a direct effect of 0.323 between ambient aesthetic perception and professional attitude, AE partially mediated the relationship between the two.

DISCUSSION

Consistent with studies by Brady and Prior (2020) and Berleant (1997), the results indicate that instructors' assessments of environmental aesthetics positively influenced students' AEs. Bernleant (1997) defined environmental aesthetics as the study of how people interact and perceive their surroundings to create an attractive experience. People's daily activities in their surroundings lead to interactions between persons and their surroundings, providing such an experience (Dewey, 2005). Environmental aesthetics is an inherent, impartial, and constructive concept, much like the sense of aesthetics (Rolston, 1988). Moreover, Brady and Prior (2020) claim that essential elements of the AE for the environment include creative, affective, and multisensory reactions. Consequently, instructors' opinions about the general aesthetics of schools may provide them with a visual experience.

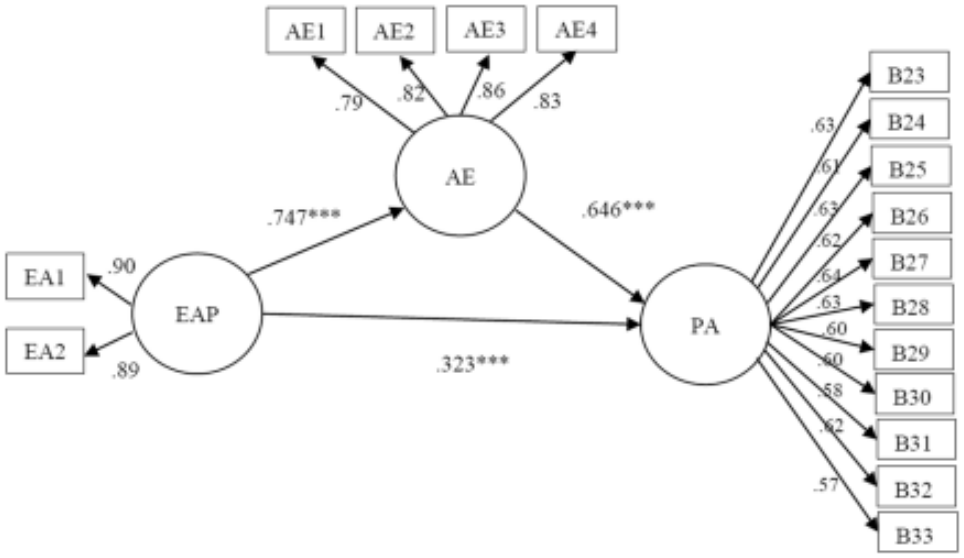
How teachers view their learning environment's aesthetics positively impacts their professional growth



The route analysis of the entire model concerned instructors' teaching ideas, their appraisal of the aesthetics of the school environment, and their AE. Teaching beliefs: SEM path analysis ***p < 0.001. TB teaching ideas, Aesthetic Experience AE, and EAP environmental, aesthetic perception

Bootstrap (professional attitude)

Effect	Estimate	*p*-value	Confidence interval
Direct effect			
Environmental aesthetic perception→Aesthetic experience	0.747	0.000	[0.670, 0.808]
Environmental aesthetic perception→ Professional attitude	0.323	0.000	[0.209, 0.461]
Aesthetic experience→Professional attitude	0.646	0.000	[0.501, 0.756]
Direct effect			
Environmental aesthetic perception→ Professional attitude	0.483	0.000	[0.367, 0.581]
Overall effect			
Environmental aesthetic perception→Professional attitude	0.805	0.000	[0.737, 0.854]



The route analysis of the entire model concerned teachers' professional attitudes, their appraisal of the aesthetics of the school environment, and their own AE. Professional Attitude SEM Path Analysis ***p < 0.001. Perception of aesthetics in the environment (EAP), Aesthetic Experience (AE), and professional attitude (PA).

The teaching philosophies, approaches, and conduct as a professional (Attwood, 2020; Jurik et al., 2014; Yang, 2021).

According to Yuan et al. (2017), professional competency, teaching philosophies, and professional development efficacy are all improved when instructors are aware of and care for the environment. Attwood (2020) and Yang (2021) emphasize how important environmental aesthetics are in determining the meaning of education and its position within its environment. Since they are so important in this area, educators should concentrate on developing their artistic abilities. On the other hand, environmental aesthetics help teachers seem and feel more elegant and professional. Therefore, it is essential to encourage teachers' professional development to understand their perspectives on the ecological aesthetics of schools. Notably, teachers' favorable attitudes towards teaching and professional development are positively impacted by their involvement with art.

This result is in line with the research findings of Attwood (2020), Wiebe et al. (2013), and Frawley (2013). Experienced beauty practitioners must possess aesthetic competence, as stated by Cohen (2012) and Rolston (1988). They are growing and fostering aesthetic integration, resulting in more palpable, flexible, and creative pedagogies that enhance teachers' professional development (Wiebe et al., 2007). Teachers might experiment with different methods to improve their lessons, apply their AEs and perceptions to the real world, and draw inspiration from historical events and future developments. Before and during their teaching careers, educators should get training in aesthetic education to enhance professional growth and acquire AE (Attwood, 2020; Frawley, 2013; Oreck, 2004). This is because creative ability has the potential to elevate professionalism. Teachers' AEs mediate between their perceptions of the environmental aesthetics of schools and their beliefs about professional development, instructional practices, pedagogy, and professional attitudes. Ecosystems view the natural world as having objective and reassuring aesthetic aspects produced by "integrity, stability, and beauty" (Rolston, 1988, 2002), much like an AE. Additionally, the aesthetics of one's environment might serve as a source of creative inspiration (Williams and Harvey, 2001). Environmental aesthetics is the sense of engaging with and enjoying one's surroundings, according

to Berleant (1997), who also claims that sensory awareness produces an AE in nature (Berleant, 2010; Saito, 1998).

By enabling individuals to interpret symbols, challenge accepted norms and conventions, and discover new possibilities, AE has the potential to serve as a bridge between educators and students. Teachers may also add their viewpoints on AE to the curriculum, which will help students meet their learning goals and improve their teaching abilities. As a result, educators' professional and practice-related attitudes toward teaching are shaped by the AEs they have in schools, thanks to the ambient aesthetics.

CONCLUSION

This study raises awareness of the significance of school ambient aesthetics for teachers' professional development and their approach to teaching. Consequently, it establishes that instructors' attitudes to education and skilled growth are improved within visually pleasing learning spaces. In this position, AEs act as a filter and stress the importance of incorporating aesthetics in the design and management of learning settings. These findings lay a sound empirical background for educational policymakers and administrators to prioritize aesthetic enhancements in schools to facilitate teachers' professional learning.

The implications of this study for school ambient aesthetics and their relation to teachers' professional development and teaching practices are discussed. In light of these findings, perceptions of teaching and the actual appeal of professional educational settings have improved. In this relationship, AEs are crucial as the intermediaries, which stresses the importance of incorporating aesthetic aspects into designing and organizing learning spaces.

Apart from enhancing professional efficiency, environmental appearance enhances a friendly learning environment. These advances are compatible with more liberal conceptions of education that promote environments that benefit the students and instructors' growth and development.

Hence, it is advised that administrators and other educational officials pay attention to the aesthetic enhancement of schools. They are critical to creating learning environments that are productive and engaging rather than mere frivolities. Schools can improve happiness and productivity by appreciating the aesthetic aspects, which will benefit both teachers and students.

Further research should also establish other potential mediators of the association between professional development and school aesthetics and how such dynamics manifest in different school environments. Increasing our knowledge of the broader concerns of environmental aesthetics will allow for enhancing the learning environment for lasting professional and instructional development.

In conclusion, enhancing professional experience and forming perceptions regarding environmental issues require the inclusion of eco-aesthetic culture into the education framework. Besides improving the education process, this strategy contributes to developing sustainable and resistant communities. The increase in the investigation of creative ways of incorporating the aesthetics of the environment into various forms of education will prepare future generations of educators for the challenges they are likely to encounter in practice.

REFERENCES

Andersson, Torbjörn. *Aesthetic Flexibility*. Linköping University Electronic Press, 9 Mar. 2021.

Annetta, Leonard A, et al. Connecting Science and Engineering Education Practices in Meaningful Ways: Building Bridges. Cham, Springer International Publishing, 2016.

Bellocchi, Alberto, et al. *Exploring Emotions, Aesthetics and Wellbeing in Science Education Research*. Cham, Springer International Publishing, 2017.

Deborah Rigling Gallagher. *Environmental Leadership: A Reference Handbook*. Thousand Oaks, Calif., Sage Publications, Inc, 2012.

Elizabeth, Anna, and SpringerLink (Online Service. Professional Support beyond Initial Teacher Education: Pedagogical Discernment and the Influence of Out-of-Field Teaching Practices. Singapore, Springer Singapore, 2019.

Felipe, Juan. *Problems in Problem-Based Design Engineering Education*. Linköping University Electronic Press, 23 Apr. 2024.

Glynn, D., & Mikkelsen, O. (2024). Concrete constructions or messy mangroves? How modeling contextual effects on constructional alternations reflect theoretical assumptions of language structure. *Linguistics Vanguard*, (0).

Henderson, Joseph, et al. *Neoliberalism and Environmental Education*. Routledge, 8 Oct. 2018.

Lang, Peter J, et al. *Attention and Orienting*. Psychology Press, 15 Apr. 2013.

Lau, Sunny Man Chu. "Language, Identity, and Emotionality: Exploring the Potential of Language Portraits in Preparing Teachers for Diverse Learners." *The New Educator*, vol. 12, no. 2, 2 Apr. 2016, pp. 147–170, https://doi.org/10.1080/1547688x.2015.1062583. Accessed 21 Jan. 2020.

Liuhto, Kari, et al. *The Russian Economy and Foreign Direct Investment*. Abingdon, Oxon, Routledge, 2017.

Nasar, Jack L. *Environmental Aesthetics: Theory, Research and Applications*. Cambridge England, Cambridge University Press, 1992.

Neema-Abooki, Peter. Quality Assessment and Enhancement in Higher Education in Africa. Taylor & Francis, 16 Dec. 2022.

Petty, Teresa, et al. Handbook of Research on Professional Development for Quality Teaching and Learning. IGI Global, 16 June 2016.

Richardson, Paul W, et al. *Teacher Motivation*. Routledge, 30 May 2014.

Ryan, Richard M., and Edward L. Deci. "Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Wellbeing." *American Psychologist*, vol. 55, no. 1, 2000, pp. 68–78, https://doi.org/10.1037/0003-066X.55.1.68.

Sahu, Saura C. *Toxicogenomic*. John Wiley & Sons, 20 Nov. 2008.

Sandeep Nema, and John D Ludwig. *Pharmaceutical Dosage Forms - Parenteral Medications*. CRC Press, 19 Apr. 2016.

Shahzad, Umer, et al. Export Product Quality, Renewable Energy, and Sustainable Production. Frontiers Media SA, 12 Sept. 2023.

Tareq Ahram et al. Human Interaction, Emerging Technologies, and Future Systems v: Proceedings of the 5th International Virtual Conference on Human Interaction and Emerging Technologies, IHIET 2021, August 27-29, 2021, and the 6th IHIET: Future Systems (IHIET-FS 2021), October 28-30, 2021, France. Cham, Springer International Publishing, Imprint Springer, 2022.

Tomáš Janík. The Power of Video Studies in Investigating Teaching and Learning in the Classroom. Münster New York, Ny München Berlin Waxmann, 2009.