

**ALIGNING CREATIVE ARTS CLASSROOM TO MAXIMISE PUPILS' ACHIEVEMENT**

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**ABSTRACT**

Children's improvement achievement is vital for our nation's competitiveness. Scientific research shows how the physical classroom environment influences student achievement. This study has the primary objective of aligning creative arts classroom to maximise pupils' achievement. Six basic Schools were selected for the study in the Komenda Edina Eguafo Abrem municipality. The study employed qualitative paradigm with descriptive design. A sample size of thirty (36) participants were used for the study comprising, sixteen (16) Creative Arts teachers, eighteen (18) headmasters and two (2) official from the municipal directorate in charge of infrastructural development. The study adopted interview, observation. Data collected were analysed using descriptive and simple illustrative examples. Classroom structure, lighting, auditory range, temperature, accessibility, classroom symbols, object and décor, and virtual classroom were found to having challenges. For children to learn to their full potential, scientific evidence suggests that the classroom environment must be of minimum structural quality and contain cues signaling that all children are valued learners. Of course, the redesign of classrooms must be considered within the context of a set of larger factors that promote educational attainment, such as curriculum development and teacher training. In this research, an outlined policy implication of the scientific finding, relevant policy and specified critical features of classroom design that can improve student achievement, especially for the most vulnerable children has been recommended.

**Key Words:** Classrooms, Schools, Physical Environments, Objects, Stereotypes, learning.

**1. INTRODUCTION**

The average hours spent by pupil in Ghana basic school building is 1,296, that is from kindergarten 1 to junior high school 3. This means children spend 36 hours a week in school with average daily hours of 6, from 8am to 2pm. their lives in a school building from kindergarten to 12th grade (Hull & Newport, 2011), and senior high school children typically spend at least another 48 classroom hours in secondary education buildings (Wellman & Ehrlich, 2003).it has been proved scientifically that the physical classroom environment's important—and sometimes surprising—effects on children' academic performance. Evidence demonstrates that classrooms' structural features (e.g., noise, lighting) and symbolic features (e.g., everyday objects that signal who belongs in the classroom) can facilitate or hinder student learning and achievement. In considering changes to classroom environments, policymakers may want to consider both the inadequate facilities of many Ghanaian schools, especially KEEA municipality as well as the symbolic aspects that may prevent children from achieving their full potential.

### **The Classroom's Structural Environment**

According to the Sabre Education, a partnership to linked education charities registered in the UK with Commission and in Ghana with the Department of Social Welfare report, (2018), more than half of public schools in 2012-2016 reported needing to spend money on their school buildings to bring them up to good condition. The most commonly reported structural inadequacies included windows, plumbing, and temperature regulation/ ventilation. Schools that serve a higher concentration of children under the school feeding program were likely to report structural inadequacies. Inadequate school facilities are related to worse test scores, even when taking into account the socioeconomic status and racial makeup of children (Crampton, 2009; Durán-Narucki, 2008; Lewis, 2001; Tanner, 2008). This condition affects the teaching of creative arts where the children cannot have the opportunity to exhibit their works for appreciation. A visit to the selected schools by the researcher revealed a significant number of classrooms which needs urgent attention in the structural environment. This includes uncemented rooms, broken doors and windows among other things. It has been suggested that assessing the structural conditions with the educational purpose in mind is a better predictor of student performance than engineering assessments of structural quality (Roberts, 2009).

### **Lighting**

Children exposed to more natural light (i.e., daylight) in their classrooms perform better than children exposed to less natural light (Edwards & Torcelli, 2002; Tanner, 2008). In a study with more than 2,000 classrooms in California, Washington, and Colorado, children who were exposed to a larger amount of daylight in their classroom had higher creative arts and reading test scores than children who were exposed to less daylight in their classroom (2%-26% higher, depending on school district), even after statistically controlling for student population characteristics such as socioeconomic status and race (Heschong Mahone Group, 1999). According to the National Center for Education Statistics (Alexander & Lewis, 2014), 16% of schools with permanent buildings and 28% of schools with temporary (i.e., portable) buildings have natural lighting that is unsatisfactory or very unsatisfactory. Although incorporating more daylight into classrooms may be beneficial, it should be done carefully, to avoid visual discomfort and temperature increases.

### **Auditory range**

Excessive external noise hinders learning (Klatte, Bergstroem, & Lachmann, 2013). The source of classroom noise can vary from school to school depending on the location. For instance, school closer car parks may be disturbed by the activities of the parks which may include, noise from exhaust pipes, sudden sirens etc. Unsatisfactory or very unsatisfactory acoustics were reported for 14% of KEEA public schools with permanent buildings and 21% of public schools with temporary buildings (Alexander & Lewis, 2014). This condition affects the children in their creative activities when they are working with wet media as the media can easily pour away due to sudden noise which may give shock to the child. This sudden shocking noise turn to disrupt the attention of the child while teaching is in progress, Classroom noise is an even more serious concern for children with hearing loss or attention deficits (U.S. Architectural Transportation Barriers Compliance Board, 2002).

### **Temperature**

The optimal temperature range for learning appears to be between 68° and 74° (Earthman, 2004; see also Huffman et al., 2003; McGuffey, 1982). In an experiment on effects of temperature on learning, male undergraduates performed best on a test of word associations when they had learned those associations in a 72° room, and performed significantly worse as temperatures became more extreme in either direction (Allen & Fischer, 1978). Heating is reported as unsatisfactory or very unsatisfactory for 14% of KEEA. public schools with permanent buildings and 12% of public schools with temporary buildings (Alexander & Lewis, 2014). A classroom visited in Komenda showed classrooms of about 85 pupils with only two windows. When the head teacher was interviewed, he revealed that that building used to be the ware house for the then sugar factory but because of the increasing enrollment, they converted it to a classroom. This condition compels pupil and teachers to sit outside when there is an excessive heat.

## **Accessibility**

Ensuring adequate structural quality is important for all children and is particularly so for children with disabilities. In addition to these structural features, an absence of ramps for easy climbing to the classroom, as well as desks, chairs, and other objects that are suitable for children with physical disabilities restricts their ability to participate in class activities (Hemmingson & Borell, 2002). Structural barriers and lack of assistive technologies impede accessibility and inclusion for children with physical disabilities in our basic, second cycle and in the kindergarten settings (Dudgeon, Massagli, & Ross, 1997; West et al., 1993). In a survey conducted in the Komenda Edina Eguafu Abrem municipality by the researchers, parents of basic and secondary school children with disabilities were more likely to report that features of the school's environment (including physical layout) were a barrier to their children's participation than the parents of children without disabilities. The creative arts classroom should be that one which allows children to create without immediate limitation. A visit to some selected basic schools revealed a very limited use of displayed teaching learning materials in the classroom in terms of chart, pictures etc. an interview with some class teachers indicated that the parents are supposed to provide crayon, colours, drawing papers, brushes for their kids. And because most of parents cannot afford especially parents of public schools, they were seen not taken part in creative arts class.

## **The Classroom's Symbolic Environment**

Once schools have achieved minimum structural conditions, do children in the creative arts classroom have what they need to succeed? Work in psychology and education has demonstrated the importance of environmental features that we term the symbolic classroom. These symbols include wall décor and objects that are displayed in classrooms. Far from being trivial details, these features powerfully affect classroom culture. The objects present in a classroom influence performance and shape student aspirations (Fisher, Godwin, & Seltman, 2014), which is partly why teachers have displayed pictures of presidents, inventors, and thought leaders in classrooms for many years and sometimes ask the children to look at those pictures draw and appreciate them. These "safe" classroom contexts can be created even with limited resources. A basic 4 classroom intervention reveals the importance of the symbolic classroom (Guardino & Fullerton, 2011). The authors rearranged desks to create distinct areas for individual and group work, added inspirational posters, colours, and reorganized materials to make them more easily accessible and asked the children to use any materials of their choice to draw their homes. Making these changes took only

a few hours, but following this intervention, children showed sustained improvements in engagement and reduced disruptive behavior.

### **Objects and Décor**

Everyday objects displayed in a school or classroom can be detrimental when they distract from learning especially in the creative arts classroom. In one school, kindergartners were randomly assigned to learn introductory creative arts lessons in a classroom that had many wall displays, assorted art media and materials or no wall displays and limited art media and materials. Children in the classroom with wall displays and assorted art media and materials were more distracted and performed worse on lesson worksheets than children in the bare classroom (Fisher et al., 2014). Adding symbolic objects to a classroom can positively affect student performance especially in the creative class. In a study by the researchers, children in the basic 6 were randomly assigned to give a persuasive speech on importance of creative arts in front of an audience in a virtual-reality classroom that had either a photograph of the various creative arts forms or no photograph displayed on the back wall. When the room featured either a photograph of any creative arts form or no picture, the children were not able to relate their speech to creative arts artifacts but rather talked mainly about themselves and what they want to become. This was attributed to the facts that children were not exposed to the various creative arts forms and their importance. This implies that objects in the environment can also influence students' educational interests and choices. More research can help to understand optimal amounts of wall adornment, assorted art media and materials and the degree to which it positively facilitates learning of creative art.

### **Virtual Classrooms Creative Arts Classroom**

As the popularity of online education continues to increase, especially in face of Covid 19, (Lederman, 2014), greater attention is being paid to the design of virtual learning environments. Although we have focused on the effects of objects that are physically present in a space, objects matter in virtual environments as well in the creative arts classroom as well as other classrooms. (Latu et al., 2013). Virtual computerised creative arts classrooms with stereotypical computerised cartoon and animations reduced children interest and sense of "belonging" in computerised just as stereotypical objects in real classrooms do. Replacing stereotypical objects with non-stereotypical ones effectively increased interest and belonging among children and boosted their interest, (Cheryan, Meltzoff, & Kim, 2011). As the use of virtual classroom environments continues to grow, care should be taken in how these spaces are designed to create a virtual classroom culture that is welcoming to all children especially in the creative arts classroom.

## **2. CONCLUSION**

The evidence presented here has direct policy implications. The work could be useful for developing and implementing education policy for stakeholders, local school boards, school and program administrators, and teachers. Organizations that promote standards for certification and accreditation might encourage training on classroom environments. Professional development programs might consider adopting research findings into their curricula. School administrators might provide venues for teachers to share information on school environments. 0203833597 0249751098

Many schools in the Komenda Edina Eguafo Abrem Municipality continue to describe aspects of their school facilities as unsatisfactory (e.g., lighting, auditory range, air quality), and these structural inadequacies can hinder learning. The municipality might avail themselves of research on structural inadequacies and their potential impact, and weigh these among other budgetary priorities. In addition, policymakers might incorporate scientific findings when updating building standards. Legal requirements do not always cover the spectrum of physical conditions that can facilitate achievement for all or certain groups (e.g., voluntary standards for auditory range that can help children with hearing impairment or attention deficit disorder, Symbolic decisions often reside with individual teachers, who might value access to information about such research in their training and professional development. Teacher training programs in colleges of education could consider incorporating guidelines on symbolic aspects of the classroom, school, district officials and heads could consider the symbolic classroom in selecting professional development resources.

For children to learn to their full potential, scientific evidence suggests that the classroom environment must be of minimum structural quality and contain cues signaling that all children are valued learners. Of course, the redesign of classrooms must be considered within the context of a set of larger factors that promote educational attainment, such as curriculum development and teacher training. Nonetheless, a plethora of scientific evidence suggests that student learning and achievement is deeply affected by the environment in which this learning occurs. Improving student learning, achievement, and motivation requires attending to both the structural and symbolic features in the classroom

## REFERENCES

- Alexander, D., & Lewis, L. (2014). *Condition of America's public school facilities: 2012-13* (NCES 2014-022). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Allen, M. A., & Fischer, G. J. (1978). Ambient temperature effects on paired associate learning. *Ergonomics*, 21, 95-101.
- Benya, J. R. (2001). *Lighting for schools*. Washington, DC: National Clearinghouse for Educational Facilities. Retrieved from <http://www.ncef.org/pubs/lighting.pdf>
- Cheryan, S., Meltzoff, A. N., & Kim, S. (2011). Classrooms matter: The design of virtual classrooms influences gender disparities in computer science classes. *Computers & Education*, 57, 1825-1835. doi:10.1016/j.compedu.2011.02.004
- Cheryan, S., Plaut, V. C., Davies, P. G., & Steele, C. M. (2009). Ambient belonging: How stereotypical cues impact gender participation in computer science. *Journal of Personality and Social Psychology*, 97, 1045-1060. doi:10.1037/a0016239
- Coster, W., Law, M., Bedell, G., Liljenquist, K., Kao, Y.-C., Khetani, M., & Teplicky, R. (2013). School participation, supports and barriers of students with and without disabilities. *Child: Care, Health and Development*, 39, 535-543. doi:10.1111/cch.12046
- Crampton, F. E. (2009). Spending on school infrastructure: Does money matter? *Journal of Educational Administration*, 47, 305-322. doi:10.1108/09578230910955755
- Dudgeon, B. J., Massagli, T. L., & Ross, B. W. (1997). Educational participation of children with spinal cord injury. *American Journal of Occupational Therapy*, 51, 553-561. doi:10.5014/ajot.51.7.553



- Durán-Narucki, V. (2008). School building condition, school attendance, and academic achievement in New York City public schools: A mediation model. *Journal of Environmental Psychology*, 28, 278-286. doi:10.1016/j.jenvp.2008.02.008
- Earthman, G. I. (2004). *Prioritization of 31 criteria for school building adequacy*. Baltimore, MD: American Civil Liberties Union Foundation of Maryland.
- Edwards, L., & Torcelli, P. (2002). *A literature review of the effects of natural light on building occupants*. Golden, CO: National Renewable Energy Laboratory.
- Fisher, A., Godwin, K., & Seltman, H. (2014). Visual environment, attention allocation, and learning in young children: When too much of a good thing may be bad. *Psychological Science*, 25, 1362-1370. doi:10.1177/0956797614533801
- Guardino, C., & Antia, S. D. (2012). Modifying the classroom environment to increase engagement and decrease disruption with students who are deaf or hard of hearing. *Journal of Deaf Studies and Deaf Education*, 17, 518-533. doi:10.1093/deafed/ens026
- Guardino, C., & Fullerton, E. (2011). Changing behaviors by changing the classroom environment. *TEACHING Exceptional Children*, 42, 8-13.
- Hastings, N., & Schwieso, J. (1995). Tasks and tables: The effects of seating arrangements on task engagement in primary classrooms. *Educational Research*, 37, 279-291. doi:10.1080/0013188950370306
- Hemmingson, H., & Borell, L. (2002). Environmental barriers in mainstream schools. *Child: Care, Health and Development*, 28, 57-63. doi:10.1046/j.1365-2214.2002.00240.x
- Heschong Mahone Group. (1999). *Daylighting in schools: An investigation into the relationship between daylighting and human performance*. San Francisco, CA: Author.
- Huffman, H. B., Jernstedt, G. C., Reed, V. A., Reber, E. S., Burns, M. B., Oostenink, R. J., & Williams, M. T. (2003). Optimizing the design of computer classrooms: The physical environment. *Educational Technology*, 43, 9-13.
- Klatte, M., Bergstroem, K., & Lachmann, T. (2013). Does noise affect learning? A short review on noise effects on cognitive performance in children. *Frontiers in Psychology*, 4, 1-6. doi:10.3389/fpsyg.2013.00578
- Latu, I. M., Mast, M. S., Lammers, J., & Bombari, D. (2013). Successful female leaders empower women's behavior in leadership tasks. *Journal of Experimental Social Psychology*, 49, 444-448. doi:10.1016/j.jesp.2013.01.003
- Lewis, M. (2001). *Facility conditions and student test performance in Milwaukee public schools*. Scottsdale, AZ: Council of Educational Facility Planners.
- Martin, S. H. (2002). The classroom environment and its effects on the practice of teachers. *Journal of Environmental Psychology*, 22, 139-156. doi:10.1006/jevp.2001.0239
- McGuffey, C. (1982). Facilities. In H. Walberg (Ed.), *Improving educational standards and productivity: The research basis for policy* (pp. 237-288). Berkeley, CA: McCutchan.
- Picus, L. O., Marion, S. F., Calvo, N., & Glenn, W. J. (2005). Understanding the relationship between student achievement and the quality of educational facilities: Evidence from Wyoming. *Peabody Journal of Education*, 80, 71-95. doi:10.1207/s15327930pje8003\_5
- Rivlin, L. G., & Weinstein, C. S. (1984). Educational issues, school settings, and environmental psychology. *Journal of Environmental Psychology*, 4, 347-364. doi:10.1016/s0272-4944(84)80005-5

- Roberts, L. W. (2009). Measuring school facility conditions: An illustration of the importance of purpose. *Journal of Educational Administration*, 47, 368-380. doi:10.1108/09578230910955791
- Wannarka, R., & Ruhl, K. (2008). Seating arrangements that promote positive academic and behavioural outcomes: A review of empirical research. *Support for Learning*, 23, 89-93. doi:10.1111/j.1467-9604.2008.00375.x
- Weinstein, C. S., & Woolfolk, A. E. (1981). Classroom design and impression formation: A new area for research. *Contemporary Educational Psychology*, 6, 383-386. doi:10.1016/0361-476x(81)90020-5
- Wellman, J. V., & Ehrlich, T. (2003, September). Re-examining the sacrosanct credit hour. *The Chronicle of Higher Education*, 50, B16.
- Williams, L. J., & Downing, J. E. (1998). Membership and belonging in inclusive classrooms: What do middle school