

School Environment and the Sustainable Development Goals (SDG) For Greater Performance among Staff and Students

Allison, B. R., Ph D and Dickay S A Ph D

Department of Sociology, Faculty of Humanities, Federal University Wukari Taraba State, Nigeria
Department of Educational Foundations, Faculty of Education, University of Port Harcourt.

Abstract: Education is the process of facilitating learning or the acquisition of knowledge, skills, values, beliefs and habits. Educational methods include discussion, teaching, training and directed research. The school is a formal and planned social institution with rules and regulations specifically charged with the responsibility of preserving, improving and extending the culture by showing appreciation to it and adherence to its norms. The basic function of the school in the socialization of the child is the development of cognitive abilities. The school environment is surrounded by disciplinary policies and practices which sets the stage for the external factors that affect students. Environment is everything that is around us. It can be living (biotic) or non-living (abiotic) things. It includes physical, chemical, and other natural forces. The new Sustainable Development Goals ensures that both genders (girls and boys) complete free primary and secondary schooling by the year 2030, emphasizes that global efforts in education must give central importance to quality and learning, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

Keywords: School, Environment, Sustainable, Development, Goals, Performance

Date of Submission: 10-02-2020

Date of Acceptance: 25-02-2020

I. INTRODUCTION

Achieving inclusive and quality education for all reaffirms the belief that education is one of the most powerful and proven vehicles for sustainable development. This goal ensures that all girls and boys complete free primary and secondary education by 2030. The new Sustainable Development Goals emphasizes that global efforts in education must give central importance to quality and learning. The aim of the Sustainable Development Goals is to end extreme poverty, achieve decent work for all, promote justice, peace and prosperity and protect the natural environment from human caused harms. (Holborn, 2014)

The school environment should be conducive for effective teaching and learning. The school environment is one of the most important factors affecting teachers and students performances. A positive environment provides relevant, content, clear learning goals and feedback, opportunities to build social skills and strategies to help students succeed (Weimer, 2009). School environment can be positive on the health of learning environment or a significant barrier to learning. It can affect many areas and people within schools. For instance, a positive school climate has been associated with fewer behavioral and emotional problems for students.

Amerald (2016) opined that an ideal school environment embraces the idea that all students can learn. It works to build safe learning spaces for students. It attracts teachers who are knowledgeable, care about students learning and adapt their instruction to meet the needs of their learners. It makes sense that students would do better when they learn in positive environment. Most people would agree that some environment are more conducive to learning and academic performance. This is significant because teacher's turnover has been linked to increased costs and poor student achievement. The physical environment of school buildings and school grounds are the overall health and safety of students, staff and visitors. School buildings and grounds must be designed and maintained to be free of health and safety hazards to promote learning. A healthy school environment entails good nutrition, physical activity, basic safety, clean air and water, access to care. In a healthy school students learn through lessons and by example. To value their own health and that of the environment. (Baas, 2013).

The school environment is one of the most important factors affecting learning goals and feedback, opportunities to build social skills and strategies to help students succeed (Lancer, 2013). It can be positive on the health of learning environment or a significant barrier to learning. It can affect many areas and people within schools, for instance the school climate can be associated with fewer behavioral and emotional problems for students. The school environment includes a variety of factors such as the physical environment, instructional environment, student wellness, and discipline practices.

As Martin (2002: 143) explains, ‘the hierarchy of design-ability is a construct that measures the degree of control of change that teachers have over the physical elements of the classroom setting. In examining teacher’s use of the classroom space, architectural elements have been classified in terms of hard (fixed features) and soft architecture (semi-fixed, semi-flexible and flexible features)’. Teachers generally manipulate the environment for their students in changing the arrangements of desks and chairs to improve their teaching and the students’ learning. Martin (2002) shows there is a strong relationship between the pedagogical ideas of the teachers and their dealing with the classroom conditions, but often the teachers have no ideas about how to change classrooms to improve their teaching. Higgins *et al.* (2005) point out that, despite the fact that we still find traditional classrooms in use, ‘at the same time our understanding of learning itself is changing.

Research on learning styles, formative assessment, multiple and emotional intelligences, constructivism and so on have combined with the rapid development of technology enabled, peer-to-peer and self-directed learning to facilitate very different approaches to the 30-students-in-rows model. But despite these changes, we do not yet have a robust research base for integrated and personalized learning environments’ (Higgins *et al.* 2005: 3). As a result, teachers have to deal with traditional room settings while at the same time they often want to teach in a modern and future-centered way.

One of the SDG and targets, we are setting out a supremely ambitious and transformational vision. We envisage a world free of poverty, hunger, disease and want, where all life can thrive. We envisage a world free of fear and violence. A world with universal literacy. A world with equitable and universal access to quality education at all levels, to health care and social protection, where physical, mental and social wellbeing are assured. A world where we reaffirm our commitments regarding the human right to safe drinking water and sanitation and where there is improved hygiene; and where food is sufficient, safe, affordable and nutritious. A world where human habitats are safe, resilient and sustainable and where there is universal access to affordable, reliable and sustainable energy.

The Concept of School

According to Nwama (2016), the school is a formal and planned social institution with rules and regulations specifically charged with the responsibility of preserving, improving and extending the culture by showing appreciation to it and adherence to its norms. The basic function of the school in the socialization of the child is the development of cognitive abilities. The school is designed to use its curriculum as a major instrument to transmit on to the child and possibly reinforce the skills, practical knowledge, important cultural values, norms, patriotism, and loyalty, lesson of obedience, ambition, concern for all and so on. Ajala (2014) added that it is in the school that the child extends the range of his human contacts and prepares himself to deal with a world infinitely more complex than his own family.

Teaching is necessarily interactive and people-centered. This interaction is frequently mediated by equipment and materials and teachers adapt their teaching to supplies and equipment available. In traditional classrooms, teachers have only limited space for their movement and their interaction with their students. As illustrated by Müller (2008), even within bad room conditions there exist some possibilities to activate and to motivate students; for instance, the teacher’s movement can produce interaction with and between the students.

The Concept of Environment

Environment is everything that is around us. It can be living (biotic) or non-living (abiotic) things. It includes physical, chemical, and other natural forces. In the environment, there are different interactions between animals, plants, water and other living and nonliving things. (Edelman *et al.* 2014).

From the above concepts, a school environment is broadly characterized by the facilities, classrooms, school based health supports, and disciplinary policies and practices. It sets the stage for the external factors that affect students. Whiteford *et al.* (2013) identified some ways teachers can create positive learning environment.

The importance of school buildings and classroom spaces for teachers’ and students’ practice had been ignored for many years (see Martin 2002): Most teachers do not think about their school and their classrooms as a built environment for teaching and learning. Rather, they focus on the restrictions of their school building and their classrooms (Walden 2009; Weinstein 2007, 2011). Students also see the bad conditions in their classrooms and their schools. However when asked in more detail – for example in the studies of Woolner *et al.* (2007, 2011, 2012, 2013) – teachers and students were able to communicate the school buildings and classrooms they desired. If we thought about better conditions for teaching and learning in our schools and classrooms, we would realize that a focus on the constructed environment and its possibilities would support teaching and learning.

Henry Sanoff (1994, 1996) discusses school design and the possibilities of designing a responsive school and shows that the school building is an important factor for successful schools. Rotraut Walden (2009: 75), in writing about schools for the future, outlines the main aspects for ‘a positive educational quality of the learning environment’, such as, color scheme, form design, lighting, heating, cooling and ventilation, acoustics

and noise, furniture, and equipment. Her work also corresponds to Steele's (1973) findings which state that physical settings serve a number of basic functions.

As outlined by Gislason (2011), there are many studies on building quality and academic outcomes, which focus on indoor air quality, lighting, noise and acoustics, occupant density and thermal comfort. The importance of these environmental factors is recognized by architects and building engineers. However, these empirical studies have only considered the surroundings as important factors for well-being in schools, and do not provide any detailed evidence of their importance for teaching and learning. Research has also shown that the quality of facilities influences the citizens' perceptions of schools and thus can serve as a point of community pride and increased support for public education (Uline *et al.* 2008).

School design influences school culture and changes the way of teaching and learning. Or is it the other way round – have the changes in teaching and learning over the past two hundred years changed the school design and school culture? Most of the research in this field postulates changes in teaching and learning which have influenced the school building and classroom design (Gislason 2011). Both for Europe and for the United States, Gislason finds two developments in school history which have a strong effect on school design and school culture: first, 'the single-grade classroom replaced the multi-grade school-room' (Gislason, 2011: 1) and second, 'a growing interest in non-traditional educational practices has prompted architects to develop a variety of experimental design solutions' (Gislason, 2011: 1).

Pamela Woolner (2010) describes three principles for understanding how schools are judged over time: the value of community recognition, the importance of good design and the importance of evaluation continuing over time.

Little is known about how teachers and students deal with the school and classroom environment for their teaching and learning (Stadler-Altman 2013). To describe ideal learning environments, this section will illustrate some relationships between the constructed environment of the classroom and the educational processes that take place within them. Most of the educational research is based on the work of Steele (1973), who illustrated the function of various classroom settings. He states that the physical environment can influence the way teachers and students feel, think and behave. Following his considerations, Weinstein (2007, 2011) argues that five of Steele's functions – security and shelter, pleasure, symbolic identification, task instrumentality, and social contact – are especially important for teaching and learning in classes:

Security and shelter: These are the most fundamental functions of all built environments. Physical security is a precondition that must be satisfied, at least to some extent, before the environment can serve students' and teachers' other, higher-level needs. Additionally, psychological security is also an important precondition; that is, the feeling that school and classrooms are safe and good, comfortable places to be.

Pleasure: Equally important is the fact that teachers and students find their classrooms attractive and pleasing. Some educational studies demonstrate that an aesthetically pleasing environment can influence behavior: attractive classrooms have a positive effect on attendance and feeling of group cohesion (Horowitz and Otto 1973) and on participation in class discussions (Sommer and Olson 1980).

Symbolic identification: This is the so called personality of classrooms and schools, when they are designed by teachers and students in a daily routine.

Task instrumentality: This function describes the ways in which the environment helps us to carry out the tasks teachers want to accomplish.

Social contact: The arrangements of desks, for example, promote social contact or give space for individual work. So teachers could plan clusters for student interaction. The way students are arranged can also affect the interaction between teachers and students.

A number of studies have found that in classrooms where desks are arranged in rows, the teacher interacts mostly with students seated in front and in the center of the classroom. Students in this 'action zone' participate more in class discussions and initiate more question and comments. These functions of the classroom settings discussed above provide the background theory for many studies and research projects.

Other studies concern the design of classroom environments and the effect of these environments on the practice of teachers (Martin 2002).

There is little on the use of the classroom in the empirical educational research. Where it has been considered, one focus has been on the questions of how teachers deal with room conditions, how they position themselves in the classroom, how they move through the classroom and how the teacher's body language, expressed therein, influences lessons. A second focus has been whether changes in classroom architecture (Buddensiek 2008; Rittelmeyer 2010) affect the level of classroom activity (Steele 1973; Weinstein 2007; Weinstein *et al.* 2011). The following discussion examines whether teachers change their teaching in school or classroom spaces that have been changed according to their wishes, on the basis that the classroom, as a constructed environment, influences both well-being and classroom activities (Forster 1997; Rittelmeyer 2010).

However, before crucial aspects of teacher's practice and students' response are outlined, consider the environmental situation in German and English. Most of the European and American classrooms are planned in

the same way. As a consequence of the fact that most of our schools are planned and built in the nineteenth century (Buddensiek 2008; Tanner and Lackney 2006), the governmental guidelines for school architecture are still often based on these traditions (see Rittelmeyer 2010). As Tanner and Lackney (2006) have shown in their *History of Education Architecture*, there was and still is a relevant discussion and critique on school building and classroom design. The progressive movement of the late nineteenth century has had a strong influence on school architecture, with new forms of school buildings being designed. These schools are often private schools; for example the Laboratory School of John Dewey, the Waldorf School of Rudolf Steiner and the schools in the tradition of Maria Montessori. One can also find influences of the progressive movement in public schools (Tanner and Lackney 2006). In general, though, traditional classrooms and traditional furniture still prevails, in that most of these traditional classrooms were planned as rooms for teaching in front of the class and for teacher-centered instruction (Buddensiek 2008; Montag Stiftung 2011).

Methods by which Teachers Can Create Positive Learning Environment.

1. Address student's needs.
2. Create a sense of order
3. Let students get to know you
4. Get to know your students
5. Provide feedback
6. Avoid judging
7. Employ class building games and activities
8. Be vulnerable
9. Establish a supportive learning culture
10. Celebrate success

Address student's needs; Students like adults have not only physical needs but also important psychological needs for the security and order, love and belonging, personal power and competence, freedom and novelty, fun. Students are driven to meet all of these needs all the time. When teachers internally address these needs in the classrooms, students are happier to be there.

Create a sense of order; Students need structure and want to know that their teacher not only knows his content area but also knows how to manage his classroom. It is the teacher's responsibility to provide clear behavioral and academic expectations.

Your students should know you; there is nothing wrong for your students to know and communicate with their teachers. This creates a healthy school environment.

Get to know them; educate yourself about their culture, talk to them, assign journal prompts, read and respond to them, attend extra-curriculum events, have student's complete learning style and personality assessments, hold regular class meetings.

Provide feedback; this is the great way to connect with learners and to set their learning efforts in the right direction. Feedback is important for learners as it helps them in tracking their progress and in changing their learning strategies accordingly. It helps them recognize their weak areas while improving the developed skills.

Avoid judging; the human brain has its own reward system. When students succeed at a challenging task, be it academic or not, praise them, talk to them on how it feels to achieve proficiency, strategies and processes that led them to successes. Then talk about what they learned this time that will help them achieve their next successes.

Employ class building games and activities; this can be done by using the best way of encouraging group activities. Introduction of non-competitive games and active breakdown the cliques within a learning environment, this also assists the new and shy students to have a sense of belonging.

Be vulnerable; always be vulnerable

Establish a supportive learning culture; each member of the learning community should have the feeling of connectedness, they must feel that they are contributing to the environment while being a bigger and important part of a supportive learning culture.

Celebrate success; when learner's achievements are recognized and shared by the instructors with other learners, it creates a sense of achievement and fosters healthy learning behavior.

Improving the School Environment.

We can improve the school environment by;

1. Making it a collaborative atmosphere. If teachers were to sit behind their classroom doors, all day teaching by themselves, this would make for a terrible place to work.
2. Getting social with your colleagues
3. Taking on a leadership role.
4. Keeping focused

5. Staying positive

Sustainable Development Goals

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote wellbeing for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development

4. a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

4. b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

4. c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States

II. CONCLUSION AND RECOMMENDATION

The school environment should be healthy. A healthy school environment brings about good nutrition, physical activity, basic safety, clean air and water, access to care and education about making healthy choices allow students to thrive. In this environment students learn through lessons and by examples, to value their own health and that of the environment. Schools should provide students with a safe environment in which they can

be nurture and grow emotionally, behaviorally, and academically and developing relationships with others. The school as well as the environment is important because it provides exposure to activities, ideas and fields of knowledge that one might never encounter. It is a tool to help prepare one for life. Not only can one learn the basic skills to read and write, but also learn about people, places, and nature.

REFERENCES

- [1]. Ajala, O.S (2014) Effect of socio-emotional climate of the school on the adjustment of students, *psycho-lingua* 36.
- [2]. Amerald M.S.(2016). School climate. Measuring, improving and sustaining healthy learning environment. Philadelphia, P.A. Falmer Press.
- [3]. Buddensiek, W. (2008) 'Lernräume als gesundheits- & kommunikationsfördernde Lebensräume gestalten. Auf dem Weg zu einer neuen Lernkultur' [Schoolrooms supporting health and communication. A Way to a new Learning-Culture], in: G.
- [4]. Brägger, N. Posse and G. Israel (eds), *Bildung und Gesundheit – Argumente für eine gute und gesunde Schule* (pp. 1–28), Bern: h.e.p. Verlag.
- [5]. Clark, J., Laing, K., Tiplady, L. and Woolner, P. (2013) *Making Connections: Theory and Practise of Using Visual Methods to Aid Participation in Research*, Newcastle, UK: Research Centre for Learning and Teaching, Newcastle University.
- [6]. Edelman, P.H., Booth, M.L (2014) *Promoting physical activity among children and adolescents. The strengths and limitations of school based approaches*; Holborn, H.A. (2014) *The school environment and society*. 7th edition.
- [7]. Higgins, S., Hall, E., Wall, K., Woolner, P. and McCaughey, C. (2005) *The Impact of School Environments: A Literature Review*, London: Design Council; Gislason, N. (2011) *Building Innovation. History, Cases, and Perspectives on School Design*, Big Tancook Island, Canada: Backalong Books.
- [8]. Horowitz, P. and Otto, D. (1973) *The Teaching Effectiveness of an Alternative Teaching Facility*, Alberta, Canada: University of Alberta.
- [9]. Lancer, J.K. (2013) *School climate*. Bloomington, Phi. Delta Kappa; Martin, S.H. (2002) 'The classroom environment and its effects on the practice of teachers', *Journal of Environmental Psychology* 22: 139-156.
- [10]. Montag Stiftung Urbane Räume, Montag Stiftung Jugend und Gesellschaft (2011) (eds) *Vergleich ausgewählter Richtlinien zum Schulbau – Kurzfassung [Comparison of selected guidelines for School Buildings]*, Heft 1, Reihe: Rahmen und Richtlinien für einen leistungsfähigen Schulbau in Deutschland.
- [11]. Müller, W. (2008) 'Der Lehrer auf der Bühne des Klassenraums. Wirkungen der Raumregie' [Teacher on Stage of the Classroom. Effects of the Stage Directions], *Pädagogik*, 60: 26-30.
- [12]. Nwama, T (2016) *Principles and practice of Education*. Tenth impression Singapore, Longman.
- [13]. Rittelmeyer, C. (2010) 'Wie wirkt Schularchitektur auf Schülerinnen und Schüler? Ein Einblick in Ergebnisse der internationalen Schulbauforschung' [Do School Buildings Affect Students? Results of the International Research on School Buildings], in *Gestaltung von Schulbauten*.
- [14]. Ein Diskussionsbeitrag aus *erziehungswissenschaftlicher*, Zürich: Stadt Zürich, Schulamt.
- [15]. Sommer, R. and Olson, H. (1980) 'The soft classroom', *Environment and Behavior*, 12: 3-16.
- [16]. Stadler-Altman, U. (2010) *Das Schülerelbstkonzept. Eine empirische Annäherung [Students Self-Concept. An empirical Approach]*, Bad Heilbrunn: Klinkhardt.
- [17]. Stadler-Altman, U. (2013) 'Lehren und Lernen in gebauter Umgebung. Anmerkungen zur medialen Nutzung des Klassenraums' [Teaching and Learning in a Constructed Environment], in K. Westphal and B. Jörissen (eds) *Vom Straßenkind zum Medienkind*.
- [18]. *Raum- und Medienforschung im 21. Jahrhundert* (pp. 176–196), Jahrhundert: Juventa.
- [19]. Steele, F. I. (1973) *Physical Settings and Organisation Development*, Reading MA: Addison-Wesley.
- [20]. Tanner, C. K. and Lackney, J. A. (2006) *Educational Facilities Planning. Leadership, Architecture, and Management*, Boston, New York, San Francisco: Pearson.
- [21]. Uline, C. L., Tschannen-Moran, M. and DeVere Wolsey, T. (2007) 'the walls still speak: The stories occupants tell', paper presented at the annual meeting of the American Educational Research Association, Chicago.
- [22]. United Nations: *Transforming Our World: the 2030 Agenda for Sustainable Development*. sustainabledevelopment.un.org
- [23]. Walden, R. (2009) *Schools for the Future. Design Proposals from Architectural Psychology*, Cambridge, Göttingen: Hogrefe & Huber.
- [24]. Weimer, M (2009) *Teacher effectiveness in the school*, *Journal of Teacher Education* 30 (52)
- [25]. Weinstein, C.S. (2007) *Middle and Secondary Classroom Management. Lessons from Research and Practice*, New York: McGraw-Hill.

- [28]. Weinstein, C. S. and Romano Mignano, A. J. (2011) *Elementary Classroom Management. Lessons from Research and Practice*, New York: McGraw-Hill.
- [29]. Whiteford, G.S., ChiChi, B. (2013) *Issues and Perspectives in Sociology*. Ibadan. Sam bookman.
- [30]. Woolner, P. (2010) *The Design of Learning Spaces*, London, New York: continuumbooks.com.
- [31]. Woolner, P., Clark, J., Hall, E., Tiplady, L., Thomas, U. and Wall, K. (2010) 'Pictures are necessary but not sufficient: using a range of visual methods to engage users about school design', *Learning Environments Research*, 13: 1-22.
- [32]. Woolner, P., Clark, J., Laing, K., Thomas, U. and Tiplady, L. (2012), 'Changing spaces: preparing students and teachers for a new learning environment', *Children, Youth and Environments*, 22: 52-74.
- [33]. Woolner, P., Clark, J., Laing, K., Tiplady, L. and Thomas, U. (2013) 'Teachers preparing for changes to learning environment and practices in a UK secondary school', paper presented at the European Conference on Educational Research conference, Istanbul.
- [34]. Woolner, P., Hall, E., Wall, K. and Dennison, D. (2007) 'Getting together to improve the school environment: user consultation, participatory design and student voice',

Allison, B. R, etal. "School Environment and the Sustainable Development Goals (SDG) For Greater Performance among Staff and Students." *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 25(2), 2020, pp. 33-39.