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Management of a Conducive Classroom Environment: A Meta-synthesis

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Abstract
This paper reveals on a review of researches relating to management of a conducive classroom environment. Despite the volume of empirical studies, only 26 studies were relevant. The study utilized a meta-synthesis in order to establish a reliable evidence base for recommendation. To ensure that the review was systematic, the researcher carried out steps as recommended. A combination of coding and thematic analysis was used to analyze data. The researcher used the thematic analysis to understand the research questions in the present study on managing a conducive classroom environment. Structured course curriculum, empowered students, flexible classroom setting and enabled teachers are the themes that emerged in the study. Structured course curriculum tells about the organized instructional objectives, content, materials and process for evaluating learning. Empowered students are motivated to engaged in their education when their voices are heard and when they are seen as knowledgeable co-participants and decision makers capable of contributing related to their learning. Flexible classroom setting are space wherein learners can choose from different seating or standing options, locations within the learning space and the size group with which to work. Enabled Teachers are updated on ICT applications, language proficient, value-laden and constructivist educator that positively impacts student's academic success. As a result, the study was able to come up with the quadratic elements of a conducive classroom environment. With all these elements, the researcher can conclude that a conducive classroom environment of the 21st century is attained and can facilitate students learning.
Keywords: Conducive classroom environment, Classroom management, Structured course curriculum, Flexible classroom setting, Empowered Students, Engaged Teachers, Quadratic Elements.
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1. Introduction

The current world is ever-changing, unpredictable and has become more and more complex, ambiguous and even uncertain. As Organization for Economic Cooperation and Development (OECD) Education 2030 advanced, we are facing unprecedented challenges – social, economic and environmental – driven by accelerating globalization and a faster rate of technological developments. At the same time, those forces are providing us with myriad new opportunities for human advancement.

Such scenarios call for education that would equip every young person with the appropriate set of skills. Schools are challenged to prepare children for tomorrow's world. A child spends a large amount of time inside a school classroom where various skills necessary to thrive and prosper in a global society are learned and developed. It is where a learner will gain understanding of him/ herself, of others and of him/her place in the world. It is where students build dreams and imagine what they want their future to look like, develop mindsets and perceptions, as well as knowledge of the skills needed to reach their goals. As Scott (2017) posits, as schools hold the future within their classrooms, today's education system needs to set the foundations for young children to thrive in life and work in the coming years. In addition, with the Incheon Declaration and SDG4 – Education 2030 Framework for Action that targets, among others, to build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all, a rethinking of management of a classroom environment to make it conducive and flexible to change should be done.

A conducive classroom environment is a physical space, safe and stimulating, with good architectural facilities, designed for diverse teaching and learning programs, pedagogies and technologies, which follow a well-planned curriculum, aligned with content standards and uses instructional strategies that suit the needs of teachers and students. Ziwira (2015) defined a conducive classroom environment as a platform devoid of both physical intimidation and emotional frustration which allows for a free exchange of ideas. A classroom which functions as a community where everyone plays a part, with the teacher as the head; in control and commands respect.

As defined by Posner (1989); Smith, Smith, and De Lisi, (2001), classroom environment - also called classroom ecology - describes the overall climate or atmosphere of a classroom. This environment is created by the interplay of the physical dimensions of a classroom with the interpersonal interactions between students and teachers. As such, a classroom's environment can have a strong influence on the teaching and learning that occurs within it.

Creating a classroom environment which is conducive to learning is one of the most important things a teacher can do (Findley, 2006). Classroom environment is one of the most important factors affecting student learning.

Simply put, students learn better when they view the learning environment as positive and supportive (Dorman, Aldridge, & Fraser, 2006; as cited by Young, 2014). Positive learning environments, based on the physicality and culture of the classroom are a critical component for each student's success-- not just in the classroom - - but in society. According to the constructivist learning theory, students must be in an environment where they are able to explore, manipulate, experiment, and question (Devries & Zan, 2003; as cited by Rooney, 2017).

With the classroom being such an important place in the growth of a child it is important to understand the ways in which to affect this environment in order to receive maximum effectiveness in instruction. If schools really do play a large role in teaching the next generation how to be successful members of society then every precaution should be taken to make sure that the learning environment is one that helps students thrive (Hannah, 2013).

To make sure of a positive classroom condition, in this era of digital transformation, classrooms ought to be well-equipped with facilities. With the advent of big data, digital literacy and data literacy are becoming increasingly essential, as are physical health and mental well-being. Provision of physical digital facilities may be ensured because these are useful in helping learners navigate their lives which will redound to enhanced general school's performance.

In the Philippines, the educational system is undergoing a lot of changes especially in its physical aspect which demands schools to advance their facilities in order to produce globally competitive and quality graduates. The Department of Education is ensuring that learners are accommodated in a conducive, nurturing, safe, and motivating environment. Effective teaching and effective students learning have been the central focus of classroom environment.

In the Division of Antique, particularly in the District of Pandan, classrooms are considered as the centerpiece of education where one teacher and 35 to 40 pupils are engaging with one another. However, classroom management has been a challenging task for teachers for reasons, among others, that teachers have no focus due to the varying non instructional tasks assigned to them. Attending to problems on physical facilities like dilapidated classrooms, maintenance of mini parks and even attending to a number of administrative support and the likes also get more of their time that they cannot finish the competencies expected from them. As a result, is the increasing number of non- readers, non –numerates and classroom bullying cases.

Effective teaching and effective students learning have been a central focus of classroom environment in current educational situation. Hence, due to the volume of available studies on management of a conducive classroom environment, a meta-synthesis will be made so that new insights and understanding from researches can be culled out as inputs to come up with a proposed conducive classroom environment framework.

Whereas many researches on classroom management as well as on creating conducive classrooms have already been conducted, little information on management of a conducive classroom environment is available. Although the importance of managing a conducive classroom have been repeatedly voiced, identification of the management strategies teachers employ and the extent to which they lead to better students' performance are avenues open to research. Accordingly, the present study is intended to explore commonalities among published studies on managing a conducive classroom environment.

1.1 A-theoretical Stance

The study was not anchored to a theory since voluminous researches on conducive classroom environment are available. The studies collected was considered as the unit of analysis.

1.2 Domain of Inquiry

The study explored the commonalities among published studies on year 2007-2018 on managing a conducive classroom environment as basis for a proposed conducive environment framework, SY 2018-2019.

Specifically, it answered to the following questions:

1. What are the elements of the studies in management in terms of
   1.1. objective of the studies;
   1.2. profile of the participants;
   1.3. methodology used;
   1.4. findings and conclusions;
   1.5. recommendations and outputs?
2. What are the characteristic of a conducive classroom environment?
3. How a conducive classroom environment is managed based on the local and international studies?
4. Based on the findings, what conducive classroom environment framework can be crafted?

2. Research Methodology

The study used qualitative meta-synthesis utilizing systematic review in order to establish a reliable evidence based for recommendation (EPPI, 2007; Thomas & Harden; 2008 as cited by Davies et al., 2013). Dixon-Woods (2011) as cited by Davies et al., (2013) defined systematic review as a scientific process governed by a set of explicit and

demanding rules oriented towards demonstrating comprehensive, immunity from bias, and transparency and accountability of technique and execution.

A Qualitative meta-synthesis was used in this study. According to Patterson, Thorne, Canam and Jillings (2001), the main purpose of qualitative meta-synthesis design is to dig below the surface of what is currently understood regarding a phenomenon, to emerge with the kernel of a new truth, a better kind of understanding of something. Meta-synthesis, a systematic synthesis of findings across qualitative studies, seeks to generate new interpretations for which there is a consensus within a particular field of study. The meta-synthesis process employed in this study followed the approach developed by Walsh and Downe (2005). Walsh and Downe developed and proposed a seven-step approach for the qualitative meta-synthesis: (1) framing a meta-synthesis exercise, (2) locating relevant papers, (3) deciding what to include, (4) appraising studies, (5) comparing and contrasting exercise, (6) reciprocating translation, and (7) synthesizing translation.

To ensure that the review was systematic, the researcher carried out following steps as recommended by EPPI-Center (2007) as illustrated in the diagram.

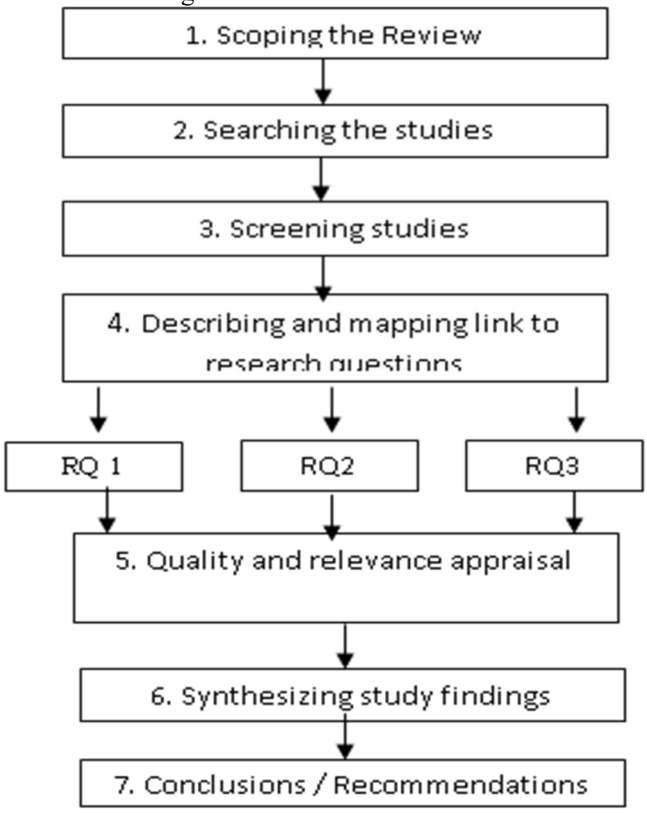

Figure 1. Flow chart showing systematic review process

Scoping the review. The researcher started by developing explicit criteria for specifying which studies was included in the review on managing a conducive classroom environment. Below are the inclusion criteria crafted by the researcher.

Criterion TypeInclusion Criteria

Criterion Type	Inclusion Criteria
Topic	Studies must relate directly to one of the research questions on managing a conducive classroom environment.
Recency	Studies should have been published between 2007-2018.
Geographical spread	Studies should relate to or with examples from other countries with similar educational systems or where the context of study is similar to Philippine educational system.
Research Base	Studies must based upon empirical research.
Reliability / Validity	The findings upon which the studies is based must be valid and reliable databases from retrieved journals.

Table 1 Inclusion Criteria for the Review

Searching for studies. The researcher identified 203 relevant studies in particular type of literature using a prescribe set of terms such as managing classroom, conducive classroom environment. Such studies were recorded on a grid with summary judgement made against each selection criteria.

Screening studies. Each piece of study was screened using the inclusion criteria for the review on managing a conducive classroom environment. After the first screening using the criteria for recency and geographical spread, only 95 studies were found relevant. Considering that the study utilized a meta-synthesis type of research design, only 26 research studies were analyzed including 3 studies utilizing a mixed-method design. This helped in avoiding hidden bias by having clear consistent rules about which studies was used to answer the questions in the domain of inquiry of this study. By evaluating each study against each criterion, the basis for this review's conclusion became transparent.

Describing and mapping. The researcher made an outline of the methodology and findings from each included study including variables such as objective of the study, profile of the participants, methodology used, findings and conclusions and recommendations and outputs. This was used to draw up a descriptive map providing a systematic description of research activity in relation to each question (Harden & Thomas, 2005).

Quality and relevance. The researcher evaluated each study in the descriptive map in terms of trustworthiness of the results judge by the quality of the study within accepted norms for undertaking the particular type of research design used in the study, appropriateness of the use of the study design for addressing research questions, appropriateness of focus of research for answering the research questions.

Synthesizing study findings. The researcher used the approach of Narrative Empirical Synthesis to bring together the results of the mapping exercise to provide an accessible combination of results from individual studies in structured summaries. This involved bringing together the summaries of research methodology, findings and weight of evidence from the mapping exercise together under thematic headings, as narrative paragraphs summarizing the key messages and their relative evidence bases.

Conclusion and Recommendation. The researcher included that from the synthesis of the study findings, conclusions will be drawn. Furthermore, the researcher had drawn a set of recommendations closely linked to the findings of the synthesis make transparent as the basis on which each recommendations will be made related to managing a conducive classroom environment.

Thematic Analysis

A combination of coding and thematic analysis and was used to analyze data. The researcher used the thematic analysis to understand the research questions in the present study on managing a conducive classroom environment.

According to Creswell (2012) coding is the process of segmenting and labeling text to form descriptions and broad themes in the data. This is to make sense out of text data, divide it into text or image segments, label the segments with codes, examine codes for overlap and redundancy, and collapse these codes into broad themes.

Although there is no definite procedure in coding data as indicated by Tesch (1990) and Creswell (2007) as cited by Creswell (2012) recommend the following steps: 1) Get a sense of the whole. Read all of the transcriptions carefully. Jot down in the margins some ideas as they come to mind. 2) Pick one document. Choose the most interesting, the shortest, or the one on the top of the pile. Go through it, asking the question "What is this person talking about?" Consider the underlying meaning and write it down in the margin in two or three words, drawing a box around it. 3) Begin the process of coding the document. This process involves identifying text segments, placing a bracket around them, and assigning a code word or phrase that accurately describes the meaning of the text segment. Sentences or paragraphs that all relate to a single code are called a text segment. Codes are labels used to describe a segment of text or an image. 4) After coding an entire text, make a list of all code words. Group similar codes and look for redundant codes. 5) Take this list and go back to the data. Try out this preliminary organizing scheme to see whether new codes emerge. Circle specific quotes from participants that support the codes. 6) Reduce the list of codes to get five to seven themes or descriptions of the setting or participants.

Thematic analysis is the process of identifying, analyzing and reporting pattern within the data (Braun & Clarke, 2013). According to Maguire and Delahunt (2017) the goal of thematic is to identify themes, patterns in the data that are important or interesting and use themes to address the research or say something about the issue. This is to summarize the data collected by the researcher to make a good and proper interpretation.

The researcher followed the steps in doing thematic analysis for systematic review of studies. First phase, the researcher determined significant findings. This involves transcribing data, reading and reading the data and noting down initial ideas from the studies gathered. Second phase, the researcher generated initial codes from the significant findings. In this phase, researcher coded meanings and interesting features of the data across the entire data set. Third phase, the researcher organized sub-themes. This was where the researcher collates all the codes into potential themes and gather all data relevant to each potential theme. And the last phase, the researcher defined and name themes. Researcher is ongoing analysis to refine the specifics of each theme and the overall story analysis tells. Moreover, the researcher generated clear definitions and names for each theme on managing a conducive classroom environment.

3. Findings

3.1. What are the elements of the studies in management in terms of objective of the studies; profile of the participants; methodology used; findings and conclusions; and Recommendations and outputs?

After an in depth review of 26 studies related to Management of a Conducive Classroom Environment, physical environment earned the greatest weight of evidence in the commonalities among the objectives of the studies. Physical environment is the way a classroom is being set up. It encompasses a mixture of various items i.e., temperature, spatial components, lighting, size of the room, ventilation, windows, walls, floor, seats, desks, mats, chalkboards, whiteboards, tack boards, gadgets, PCs and so on. Thus, physical environment is one of the elements of managing a conducive classroom environment that affects student's morale and learning.

Along with the objectives, this study revealed that internal stakeholders such as the teachers and students were the most numbered participant among the 30 studies reviewed by the researcher. This implies that the teacher and students are the main elements in the management of a conducive classroom environment. This notion was also indicated in the study of Suleman, & Hussain (2014) on the effects of classroom physical environment on students' academic achievement scores.

As with the design used in the studies reviewed, case study gained the highest number. This simply implies that case study is the design the best suits the study. Creswell (2014) defined case study as a strategy of inquiry in which the researcher explores in depth a program, event, activity, process, or one or more individuals. They are bound by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time.

Furthermore, it was found out that most of the findings and conclusions of the studies is about the structure course curriculum and livable physical environment. This implies that these two elements in management of a conducive classroom environment are the most significant among the others.

The researcher found out that most of the studies recommended on the enhancement of practices. Several researchers consider the need of training for enhancement in order to manage a conducive classroom environment. It was revealed in this study that a number of recommendations from the studies gathered has limitations and recommends further researches. They pointed out to increase the number of participants to further enlightens the study. It was also indicated in the recommendations to include other groups or larger group in further researches. This implies that there are still qualifiers that express what is needed in the particular research topic. The authors of the studies gathered had identified gaps in the literature that should be addressed, and to which their study may or may not have contributed.

Having been thoroughly discussed, the studies derived a conclusion that structured course curriculum, physical environment, teachers and students plays a very important role in a conducive classroom environment.

3.2. What are the characteristic of a conducive classroom environment? How a conducive classroom environment is managed based on the local and international studies?

Using the thematic analysis, the themes were developed through constant comparison of similarities or differences of the contents of the studies and the abstract similarities generated are considered the themes. Structured course curriculum, empowered students, flexible classroom setting and enabled teachers were four themes emerged from the twenty-six studies related to management of a conducive classroom environment.

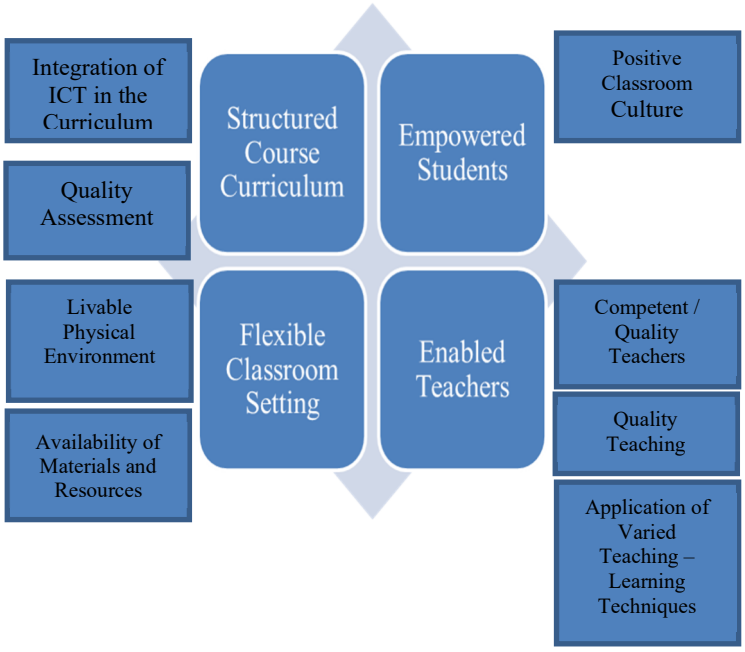

Figure 2. The Nucleus of Conducive Classroom Environment

Theme 1: Structured Course Curriculum

There is reasonable evidence across several studies that well-planned and structured course curriculum can foster a conducive classroom environment (Erdogan et. al.,2010), Saban (2013), Singh (2014). This indicates that a teacher must have planned out the course before the opening of a school year which will then be presented to the students and parents at the beginning of the school year. This was supported by the study of Bas (2013) which suggests that students should be informed about the objectives of the course before it will be started by teachers. Teachers should have a balance with academic support in the course offering (Schussler, 2009).

A structured course curriculum is an academic plan intended for a learning experience, for interaction with learners which involves instructional objectives, content, materials and process for evaluating learning. Content is organized in specific units/sessions and corresponds to objectives and evaluation strategies (Entelis, 2019). As noted from another study by Oliver et al. (2008), structuring a curriculum not only determines the sequence in which subjects are presented, but also determines the method of teaching that fits a subject best and how the time available should be devoted to the different activities students need to master. As the aim of education and training is to enable students to learn, teaching has to be considered as a series of activities that stimulate, facilitate and progressively guide the learning process.

Based on the findings of Bas (2013) concerning the views of students on the constructivist learning environment students should be informed about the objectives of the course(s) before the courses are started by the teachers. This implies that teachers have to set clear learning targets and objectives and share learning intentions of their lessons with students for the reason that by allowing students to know the purpose of a lesson or a task, they will be able to make better decisions about the ways and means to achieve what they are expected to learn.

Students need structure and clear guidelines in a subject area. The teacher should provide every student with a clear, well organized unit outline which indicates what will occur in the unit, when and, preferably, why. Inform students of assessment requirements and avoid changing assessment requirements or teaching arrangements once the semester has begun (Macquarie University Assessment Policy, Procedure and Code of Practice, 2019.).

Subtheme 1.1. Integration of ICT into the Curriculum

The studies of Erdogan et. al. (2010), Strayer (2012), Collins (2017), attested that Information and Communication Technologies (ICT) have become influential and in no doubt it is necessary to prepare new generation to be equipped with these ICT skills. Prososki, (2015) and Sun, et al (2017) provided strong evidence that the integration of technology into classrooms by educators can help prepare students for the 21st century and that Information and Communication Technology be implemented in the curriculum. This suggests that the implementation of Information and Communication Technology is must in the curriculum.

The study of Erdogan et. al. (2010) aimed to investigate classroom management and discipline problems of Information Technology teachers. It revealed that participants in the study related certain classroom management problems with place and structure of the course in the curriculum..

Dotong, et al (2016) explored on the extent of integrating educational technology in contemporary classroom

environment among the ASEAN Member States to determine the barriers for educational technology integration. Results showed that some of the identified probable causes of educational technology integration in most developing countries are: inadequate financial support and infrastructure, human capital, management support, as well as behavioral and environmental aspects.

Subtheme 1.2: Quality Classroom Assessment

There is strong evidence from three studies that quality assessment support student learning Hensley (2010), Bellamy (2016), Ericksson, (2018).

In the study of Hensley (2010), strong evidence is shown that in a constructivist classroom, assessment is viewed as a tool that is used to drive instruction rather than simply as a means to gauge children's current level of understanding. The use of activity-based assessments is the most accurate, effective, and enjoyable method of collecting data on a child. These types of assessments are more accurate than paper-based standardized tests because they include all developmental domains and knowledge areas.

In the study of Bellamy (2016), it was found out that questioning was also a focus in all the classrooms. The higher order questioning helped support student learning by requiring the students to reflect on their thinking and respond to questions using logical relevant evidence to back up their reasoning. The teachers required students to justify their answers and articulate their thoughts using logical reasoning.

The study of Ericksson (2018) showed how everyday practices of classroom assessment and classroom management overlapped, thus underlining the importance in teacher education of understanding classroom assessment, classroom management and the relationships between the two. The result analysis indicated that two main concerns emerged as regulating teachers' assessment practices. These addressed what the teachers perceived as (1) students' academic needs and (2) students' behavioural and emotional needs.

Theme 2: Empowered Students

In the study of Robson and Mastrangelo (2017), to create learning environments responsive to the 21st century, researchers and educators need to collaborate with students to ensure their needs are being met. Students feel empowered and motivated to engage in their education when their voices are heard and when they are seen as knowledgeable co-participants and decision makers capable of contributing to discussions related to their learning.

In a constructivist classroom, the content challenges children to operate above their present level of thinking. Constructivist teachers introduce students to concepts that are challenging along with materials that hold the capability to be manipulated and investigated, thus challenging students to conduct research, collect data, and analyze their findings. Reasoning is promoted by the teacher in a constructivist classroom. Encouraging students to become aware of their own thinking processes and to become problem-solvers by providing time for self-reflection and the revisiting of various concepts and ideas is a key component of an effective learning environment (Cunningham, 2006 as cited by Hensley, 2010).

The study of Avis (2017) attested the effectiveness of classroom- assigned tasks and responsibilities in middle school classrooms. The students exposed to the program exhibited a multitude of positive changes, whereas students not exposed to the program did not exude beneficial changes. This mixed methods research study focused on perceptions held by students and educational professionals, both classroom teachers and administrators, of the classroom-assigned tasks and responsibilities program in relation to overall classroom environment, overall school environment, and students' sense of connectedness to the school.

The study of DeMink-Carthew, et al, (2017) investigated the goal-setting approaches used by middle grades teachers in personalized learning environments and found out that Goal setting is an important instructional moment in personalized learning environments. Personalized learning has a potential to provide equal educational opportunities for all students.

In order to gain students' motivation and involvement in managing the classroom, Marzano (2011) as cited by Avis (2017) suggested, "students need to be invited" to assist in management strategies by "designing a class list of individual rights and responsibilities along with behaviors that support these responsibilities". Individual students would be more likely to adhere to classroom policies and procedures if they were an essential part of creating and carrying out those policies and procedures. Classroom behavior management was as much the students' responsibility as it was the teachers.'

Theme 2.1. Positive Classroom Culture

There is reasonable evidence from five studies (Smith, 2009; Hensley, 2010; Erdogan, 2010; Singh, 2014; Booker, 2015; Bellamy, 2016) that the climate of a classroom has a major impact on a student's academic success and is needed to attain a conducive classroom environment.

Smith (2009) pronounced in her study that school culture has strong effect on the classroom environment. This only shows that if a classroom environment is supported by the school district and the school, a conducive classroom environment is attainable.

Based on the study of Hensley (2010), one can conclude that a classroom environment based on principles of the 21st Century Model for Teaching and Learning and Educational Change enhances teacher attitude in relation

to role of the environment in the teaching and learning process. It was pointed out (Evanshen, 2010 as cited by Hensley, 2010) that the 21st Century Model for Teaching and Learning and Educational Change focuses on the transformation of the environment, the engagement of the learner, and the academic enhancement of the learner. This change requires a great deal of dedication on the part of the leaders, teachers, and families involved.

Singh's, (2014) study attested that education to be effective in schools, the environment needs to be conducive to learning, allowing the pupils space and time to interact within the learning and teaching process. Classrooms must have available play spaces. Providing separate rooms for different activities could facilitate simultaneous activities to take place. Maintaining stimulating learning environments can be achieved through effective classroom organization, interactive and whole school displays and a climate of innovation.

In the study of Bellamy (2016), it was attested that the climate of a classroom can have major impact on a student's academic success. It was made clear (Sergiovanni, 1994 as cited by Bellamy, 2016) that the teacher should build teacher-student relationships at the beginning of the school year by communicating classroom expectations and making the student feel welcome the moment he or she walks through the door.

Bellamy (2016) also reported that including cooperative groups in the classroom will enhance the culture of the classroom by motivating the students into doing their personal best.

Another three studies indicated that supportive linkages becomes of the characteristics of a conducive classroom environment. Erdogan (2010) suggested in his study that a conducive classroom environment should be supported by linkages. Moreover, Booker (2015) attested that the presence of supportive climate for student engagement and community is needed to attain a conducive classroom environment. While Davies (2011) and Davies (2013) reported that to give children's imagination greater freedom, children and their parents should be involved as much as possible in planning and resourcing for play and props spaces.

Theme 3: Flexible Classroom Setting

There is reasonable evidence across studies that flexible learning environments allow learners to have opportunities to make choices, options, or to be in locations where he or she learns best (Patterson, 2009, Study C; Davies, 2013; Limpert, 2017; Kent, 2017). Flexible learning environments are spaces wherein learners can choose from different seating or standing options, locations within the learning space, and the size group with which to work (Limpert, 2017).

The study of Limpert (2017) sought to understand if flexible learning environments and the autonomy to choose from the aforementioned criteria improved student attitudes about reading. This indicates that designing flexible learning environments where children have opportunities to make choices, succeed or fail, and problem solve will motivate and inspire children to become involved in their learning and could better prepare them for their futures.

Kent's (2017) study implies that classroom designs must be flexible and to accommodate different kinds of engagement activities just like team-based problem solving and collaborative projects, as it is questionable whether these skills are, or can be, supported and developed in the typical college classroom environment containing traditional rows of desks and computers with a remote professor front and center.

In the context of utilization of seating arrangement and physical environment to meet individualized student goals Kinahan (2017) explored the perceptions that teachers have on seating assignments and arrangements to gain a better understanding of how they make design considerations which impact their students. However, in the result of the study, discrepancies existed between the literature and the study. The review of the literature concluded that the physical environment, including seating arrangements and assignments, acted as a "silent curriculum" and could support student learning (Taylor & Vlastos, 2009, as cited by Kinahan, 2017). It put emphasis on the academic implications of seating assignments within the arrangements.

There is reasonable evidence in the study of Davies et. al. (2013) that the space within a classroom or workshop should be capable of being used flexibly to promote pupils' creativity (Addison, Burgess, Steers, & Trowell, 2010; Bancroft, Fawcett, & Hay, 2008; Jeffrey, 2006). There should be a general sense of openness and spaciousness (Bancroft et al., 2008, Davies et.al., 2013), removing as much furniture as possible to enable pupils to move around the space, making use of different areas to support the growth of ideas (Gandini, Hill, Cadwell, & Schwall, 2005, Davies et. al, 2013).

Patterson's (2009) study showed that students are physically engaged, develop a sense of place and learn skills in the field that reinforce concepts learned in the classroom. This information will help teachers in developing quality and meaningful experiences for all students and consider in the curriculum that students prefer the classroom for investigation and prefer the field environment for enjoyment of science

Sub-Theme 3.1: Livable Physical Environment

There is reasonable evidence across a number of studies that the physical environment of the classroom impacts teachers and students and for education to be effective in schools, the environment needs to be stimulating, friendly, with good architectural facilities, well-structured, organized, safe, secure and engaging, conducive to learning, allowing the pupils space and time to interact within the learning and teaching process. (Hensley, 2010; Jones,

2012; Strayer, 2012; Singh, 2014; and Bellamy, 2016). The study of Kinahan, (2017) has also proven clearly that that seating assignments and arrangements play an important role in shaping the experiences of students in the classroom.

Hensley (2003) asserts that a homelike, welcoming environment is more conducive to learning because children feel safe and free to take risks when exploring and interacting with the individuals and materials within the classroom (Brooks & Brooks, 1999). This was supported by a number of research studies and by Piaget's (1953) Constructivist theory that holds learners develop knowledge through interactions within a well-designed environment.

In the study of Jones (2012) Montessori's, (1967) beliefs that have inspired educators around the globe, and are evident in Montessori schools are spelled out. At the core of these beliefs is Montessori's ideal that children be free to express themselves and to reveal their personal needs and desires (Montessori, 1967). The teacher's role is to act as observer, to discover what children are trying to "say" with their play and work, to learn more about the child in order to act as guide and facilitator of learning and discovery. While the child is about discovering the world of learning, the teacher is focused on discovering the child. The environment can either permit this process of illumination or restrict or repress it (Montessori, 1967; Turner, 1992; Jones, 2012).

The classroom environment is such a potent determinant of student outcomes that it should not be ignored by those wishing to improve the effectiveness of schools (Fraser, 1986, as cited by Jones, 2012.). While education continues to be transformed by issues such as student demographics, reform movements, and technology, a thorough understanding of the physical plant of the school and individual classrooms should not be neglected.

Theme 3.2. Availability of Materials and Resources

There is strong evidence across a number of studies that children learn better in classrooms where teaching-learning materials and resources are available as learning is directly linked to stimulants available in school. (Davies et al, 2013; Matusiak, 2013); Prososki, 2015, Robson & Mastrangelo, 2017).

Davies et al (2013) pronounced that the context of learning activities involving the making of artifacts (for example during art and design or design and technology) there is strong evidence across a number of studies that providing a wide range of appropriate materials, tools and other resources can stimulate creativity (Addison et al., 2010; Bancroft et al., 2008; Gandini et al., 2005; Gkolia, Brundett, & Switzer, 2009; Grainger, Craft, & Burnard, 2007; Halsey et al., 2006; Robson & Jaaniste, 2010).

A case study of Matusiak (2013, Study L) found out that, the class which took place in a resource-rich, multimodal environment, was perceived by students as a positive learning experience. The distribution of resources and their role in teaching and learning varied and depended on the context of use. There was interaction with a variety of digital resources in multiple modes including visual, textual, and multimedia. The use of PowerPoint presentations helped students recall the material covered in lectures.

In the study of Prososki (2015), it was strongly evident that one –to- one computing devise provision across schools in the United States have led to the establishment of Learning Management System with which students could submit activity outputs on line, increased access to learning resources and information, avail e-mail as a valuable communication tool and improved communication equipment. One-to-one computing devices has sparked a variety of new movements in education. One new approach that has occurred with the overall changes in the traditional classroom is the new method known as blended learning. The term blended learning means the combination of learning methods, including face-to-face instruction coupled with asynchronous or synchronous computer technology (Vernadakis et al., 2012, Prososki, 2015).

Bellamy (2016) found out that incorporation of technology allowed the students to engage in creative and technology based projects that they used to collaborate, create, and enhance their ideas and thoughts. The use of this technology also is important for building real world connections and for teaching students how to become ready for college and career. Drew and Rankin (2004) as cited by Bellamy (2016) also support the idea of materials enhancing children's learning; they explain that children extend and deepen their understanding through multiple, hands-on experiences with diverse materials. The light center was another area in the room where the children identified different materials that helped them learn, such as a light table, x-rays, magnetics, and jewels. In addition to these are open-ended materials such as tools, art materials, and blocks in the room that enhance learning because they have no predetermined use (Drew, Ohlsen, & Pichierri, 2000, Bellamy, 2016).

Robson and Mastrangelo (2017) made a review of the literature on the Reggio Emilia approach to education with a focus on the principle of the environment as the third teacher. The Reggio Emilia approach to education supports the idea of children constructing their own knowledge while interacting with their environment through a socio-constructivist view of learning (Dodd-Nufrio, 2011). When constructing an environment that acts as the third teacher it is important to consider who will be using the space to ensure one is providing an environment with rich learning possibilities (Carter, 2007, Robson & Mastrangelo, 2017). When exploring the eight principles of creating an environment that acts as a third teacher it is essential to understand their interconnectedness within the classroom setting (Fraser, 2012, Robson & Mastrangelo, 2017). The effectiveness of the environment's ability to act as a third teacher relies on the support of each of the principles as a whole, not individually.

Davies et al, (2013) In the context of learning activities involving the making of artifacts there is strong evidence across a number of studies that providing a wide range of appropriate materials, tools and other resources can stimulate creativity (Addison et al., 2010; Bancroft et al., 2008; Gandini et al., 2005; Gkolia, Brundett, & Switzer, 2009; Grainger, Craft, & Burnard, 2007; Halsey et al., 2006; Robson & Jaaniste, 2010).

Drew and Rankin (2004 as cited by Robson & Mastrangelo, 2017) also support the idea of materials enhancing children's learning; they explain that "children extend and deepen their understanding through multiple, hands-on experiences with diverse materials" The light center was another area in the room where the children identified different materials that helped them to learn, such as a light table, x-rays, magnetics, and jewels. The children described how they manipulated the materials to build different "decorations" and "light things."

The addition of open-ended materials such as tools, art materials, and blocks in the room enhances learning because they have no predetermined use (Drew, Ohlsen, & Pichierri, 2000, Drew & Rankin, 2004, Robson & Mastrangelo 2017). Drew and Rankin (2004 as cited by Robson & Mastrangelo 2017) averred that "we can learn a lot from children who show a natural affinity for materials, gravitating to them without fear or intimidation"

Theme 4: Enabled Teachers

There is strong evidence from three studies (Bellamy, 2016, Erdogan et.al. ,2010, Study F, & Saban ,2013) that teachers should have improved qualification and competencies, be updated on ICT applications for classroom / laboratory activities, be language proficient, strong community linkages, possess skills in handling classroom behavior problems and have potential knowledge in creating classroom environment that can positively impact students' academic success. The studies of Smith (2009) and Sundarsingh (2015), attested that a conducive classroom environment needs to have focused, collaborative teachers to work on together. Where teachers' intention for the physical environment of the classrooms will be influenced by personal experience and educational beliefs (Jones, 2012, Study 2012).

The studies of Prososki, (2015) and Sun, et al (2017) stressed that it is important to provide teachers training on how to plan lessons that include laptops as a learning component. The interviews in the study revealed benefits associated with increased student engagement and laptops allowed teachers to share and obtain information with students. Other studies have examined promoting 21st-century skills by implementing laptops for educators. Raulston (2009 as cited by Prososki 2015), in his particular study provided evidence that if educators are given proper technology coupled with proper training, their overall attitudes and classroom pedagogy change.

Bacolod, et al, (2009) attested that the bridging between pedagogical theories and classroom practices depends mainly on teacher's ability to provide theoretical justification to instructional practices. It found out that the main problem faced by the teacher are the absence of awareness as to the use of theories and the difficulty in recalling and using them which can be solved by regularly reviewing the theories and constantly applying them to actual classroom setting. The study found out that the most frequently used theories by the teacher and the researchers are the social cognitive theory, operant conditioning, connectionism and conditions of learning which explain the classroom practices that proved to be effective in facilitating student learning .These practices are the use of quiz bee in reviewing the students, the use of recall, practice, objectives, helps, and feedbacks in the whole lesson, the teachers' explanation of correct answers and giving of rewards and immediate feedback, and use of cheers in the game.

The study of An, Bakker, Eggen (2016), presented opportunities and considerations that may inform the design and development of classroom technologies which are to become part of teachers' routines. Peripheral interaction is a human-computer interaction style that aims to enable interaction to take place both in the center and periphery of users' attention and naturally shift between the two. This can reduce attentional resources required for teachers to interact with the technologies, and thus make technologies seamlessly blend into teachers' routines. The results of two qualitative content analyses reveal an overview of teachers' routine tasks in their classrooms, as well as rich and vivid contextual information about how teachers allocated their attention in their routines and how teachers experience their routines.

There were two studies indicated that supportive linkages becomes of the characteristics of a conducive classroom environment. Erdogan (2010) suggested in his study that a conducive classroom environment should be supported by linkages. Therefore, teachers should establish good linkages with the PTA, NGO's and other establishment. Moreover, Booker (2015) attested that the presence of supportive climate for student engagement and community is needed to attain a conducive classroom environment.

Subtheme 4.1: Competent / Quality Teachers

There is strong evidence from four studies that teachers should be quality and competent in managing a conducive classroom. Singh, (2014); Prososki, (2015,) and Sun, et al (2017); Bellamy (2016).

Bellamy (2016) noted that motivation is a fundamental element of students learning; teachers can assist in increasing and developing motivation for optimal achievement in the classroom. Through the facilitation of a supportive classroom environment, engaging learning experiences, goal setting, and teacher enthusiasm teachers can empower students to find joy and excitement in their learning. Motivating and engaging students daily are a

challenge that most teachers face. Valerio also stated that motivation is a key element to not only keeping students engaged but in keeping classroom behavior issues to a minimum. If students are engaged and motivated in their work and are challenged, there is less time for distractions and behavioral issues Valerio (2012 as cited by Bellamy, 2016).

For most teachers the beginning of the year is the best time to establish classroom rules and procedures. Because classroom management is crucial to establishing control, consistency, communication, and respect amongst the students and teachers, it is important to make sure that rules and guidelines are created starting the first days of school. Wong and Wong (1998) as cited by Bellamy (2016) stated that effective teachers introduce rules, procedures, and routines on the very first day of school and continue to teach them the first week of school. Effective teachers teach responsibility. The success of students and the classroom during the school year will be determined by what a teacher does on the first days of school.

Another suggestion to be most effective a teacher should establish class norms and procedures early on and make sure that those rules and norms are clearly stated and easily understood by the students. Establishing stability and structure in the classroom will allow the students to feel comfortable in their surroundings and be able to navigate confidently while actively engaging in their leaving. Buchong and Sheffer (2009) as cited by Bellamy (2016) explained that creating a warm and inclusive classroom environment while planning for all children to feel welcome and using a number of methods could help educators create a learning environment that encourages and supports all types of learners.

Competent teachers demonstrate knowledge and understanding of content, teach effectively, and help all students learn successfully. Nessipbayeva (2016) as cited by Darling-Hammond & Snyder (2000), in her study, defined 21st century competencies as the knowledge, skills and attitudes necessary to be competitive in the 21st century workforce. The 21st century teacher should know how to provide technologically supported learning opportunities for students and know how technology can support student learning.

Subtheme 4.2: Quality Teaching

There is strong evidence from three studies that quality teaching is a crucial factor in promoting effective learning in schools. (Hensley, 2003; Saban, 2013; Singh, 2014; Bellamy, 2016). As confirmed on the findings of Hensley (2010) one can conclude that a classroom environment based on principles of the 21st Century Model for Teaching and Learning and Educational Change (Evanshen, 2010) enhances teacher attitude in relation to role of the environment in the teaching and learning process. However, when making a transformation from a traditional approach to teaching and learning to a practice based on principles of constructivism, Evanshen (2010 as cited by Hensley, 2010) advises educators to be aware that change is ongoing and requires a shift in thinking addition to changes in the classroom environment. Educators must develop an appreciation for the natural curiosities of children and build upon this curiosity in order to elicit engagement throughout the learning process (Evanshen, 2010 as cited by Hensley, 2010).

Moreover, Hensley (2010) asserts that a child-centered approach to teaching and learning has taken the place of the traditional method. The use of small group and individual instruction indicates a shift from a traditional teaching style (e.g., whole group direct instruction) to a more child-centered approach (e.g., one-on-one interactions) or nontraditional style, incorporating principles of constructivist practice. This was confirmed by Singh (2014) that all the teachers were aware of the constructivism approach as they stated learning is a process of construction of knowledge. This deemed it imperative to look into the curriculum and instruction to bring about changes in the way educational programs are conceptualized, organized and taught

The study of Singh (2014) also attests that the quality of teaching is a crucial factor in promoting effective learning in schools. Effective teaching requires individual who are academically able and who care about the well-being of children and youth Singh (2014).

Saban (2013, Study M) identified learning needs of students in a multicultural classroom which include culturally responsive teaching, teacher immediacy behaviors, differentiated instruction, teacher language competence and instructional clarity. While Singh (2014) found out that conducting activities was considered to be the best teaching method by students followed by discussion method as even teachers also liked to conduct activities in the classroom to make the class more participatory. His other findings pointed to educational trips which was said to be preferred by the students because of retention and understanding of the subject and to teachers' use of discussion method to maintain the discipline in the classroom rest related the content to daily lives.

Bellamy (2016) reported that multiple intelligences were also incorporated into the classrooms. The teacher incorporated all types of learners such as using technology for the visual learners, hands on projects and materials for tactile learner, and music for the audio learner. This integration of lessons that incorporated all types of leaners helped to promote the academic success of all types of students found in the classroom. This is similar to the recommendations of Peters (2010) as cited by Bellamy (2016) who stated that according to the multiple intelligence theory, identifying each student's intelligences has strong ramifications in the classroom. Creating classrooms where all types of learning styles are incorporated will allow for each style to grow and prosper academically, socially, and intellectually.

Subtheme 4.3: Application of Varied Teaching-Learning Techniques

The increased availability of the internet and computer applications posed a persistent challenge of how best to use technology when helping students learn. A mixed-methods research study by Strayer (2012) investigated on blended learning, a strategy that relies on technology to introduce students to course content outside of the classroom so that students can engage that content at a deeper level inside the classroom. (Baker 2000; Collins et al. 2001; Gannod et al. 2008; Lage et al. 2000; Strayer 2009). It used a blended learning classrooms which is as an inverted (or flipped) classroom with a specific type of blended learning design that uses technology to move lectures outside the classroom and uses learning activities to move practice with concepts inside the classroom. In this study, Strayer (2012) compared the learning environments of an inverted introductory statistics class with a traditional introductory statistics class at the same university. The result explained that students in the inverted classroom were less satisfied with how the classroom structure oriented them to the learning tasks in the course, but they became more open to cooperative learning and innovative teaching methods.

Saban (2013) identified learning needs of students in a multicultural classroom which include culturally responsive teaching, teacher immediacy behaviors, differentiated instruction, teacher language competence and instructional clarity. In the study, Saban (2013) all the teachers were aware of the constructivism approach as they stated learning is a process of construction of knowledge.

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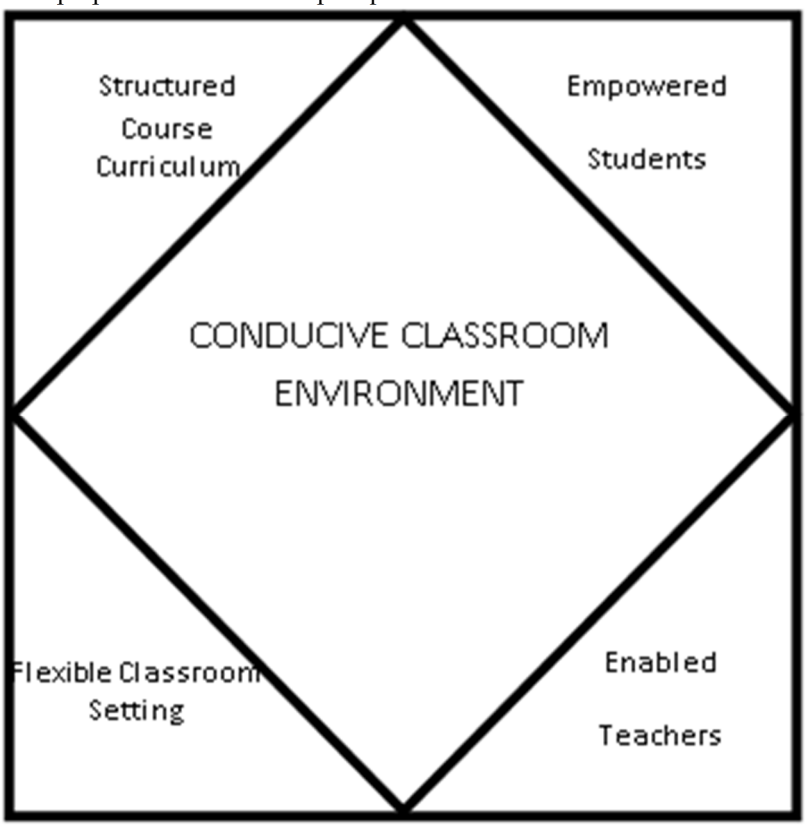
The study of Bas (2013) was aimed at determining students' qualitative views on the constructivist learning environment in elementary schools. One of the findings is that, students were not very active in the teaching-learning process and their critical thinking skills are not promoted and reinforced in the classroom. On the other hand, the social interaction and collaborative studies in the classroom were seen to be very limited according to the students' views obtained in the research. Approaches based on constructivism stress the importance of mechanisms for mutual planning, diagnosis of learner needs and interests, sequential activities for achieving the objectives, formulation of learning objectives based on the diagnosed needs and interests (Brooks & Brooks, 1999, Bas, 2013). However, in Turkey, the learning atmosphere is usually teacher-oriented and follows a traditional route, where learners are usually passive receivers of knowledge and the teacher is the purveyor of it. In contrast to this view, constructivist instructional design involves purposeful knowledge construction, multiple representations of reality, and case-based learning environments rather than predetermined instructional sequences (Altun & Büyükduman, 2007 as cited by Bas, 2013). So, it can possibly be stated that the teacher-centered structure of the Turkish Education System is effective on the result obtained in the study.

Schussler (2009), in her article report, provided numerous quotes from students attending an alternative high school designed for disengaged students who possess academic potential. The study explored how teachers manage classrooms to facilitate the intellectual engagement of disengaged students. Schussler (2009) argued that it is not that the instructional techniques are unimportant; rather, it is that the attitude with which the teacher employs the techniques is more important. Knowing how to structure instruction entails knowing the students, specifically, knowing how to challenge and support students, as well as how to tap into their interests and demonstrate the relevance of the content. The author proposes then that teachers create an environment conducive to intellectual engagement when students perceive: (a) that there are opportunities for them to succeed, (b) that flexible avenues exist through which learning can occur, and (c) that they are respected as learners because teachers convey the belief that students are capable of learning. When teachers purposefully manage classrooms so that these elements intersect optimally, students perceive that they are known and valued. Moreover, opportunities for success, flexibility, and respect generally are present when teachers challenge their students at appropriate levels, provide academic support, use instructional techniques that convey excitement for the content, and make learning relevant.

5. Conclusion

The Quadratic Elements of a Conducive Classroom Environment

Following is the proposed diamond – shaped quadratic framework of four themes.



The diagram tells of the framework that explains the emergence of the quadratic elements of a conducive classroom environment model. Much researches have been done that could describe a conducive classroom but no study has come up with a model that encapsulates the elements that comprise a conducive classroom environment. The elements are themes that have emerged from twenty-six studies that relate to the 21st century classroom environment.

Based on the findings of the study themes that emerged are the following: structured course curriculum, empowered students, flexible classroom setting and enabled teachers.

Structured course curriculum tells about the organized instructional objectives, content, materials and process for evaluating learning. Content is organized in specific units/sessions and corresponds to objectives and evaluation strategies. This implies that teachers have to set clear learning targets and objectives and share learning intentions of their lessons with students for the reason that by allowing students to know the purpose of a lesson or a task, they will be able to make better decisions about the ways and means to achieve what they are expected to learn. Students need structure and clear guidelines in a subject area. The teacher should provide every student with a clear, well organized unit outline which indicates what will occur in the unit, when and, preferably, why. Inform students of assessment requirements and avoid changing assessment requirements or teaching arrangements once the semester has begun.

Empowered students - Students feel empowered and motivated to engage in their education when their voices are heard and when they are seen as knowledgeable co-participants and decision makers capable of contributing to discussions related to their learning. This implies students need encouragement so they become aware of their own thinking processes and to become problem-solvers by providing time for self-reflection as the revisiting of various concepts and ideas is a key component of an effective learning environment. Students should take increased responsibility for their learning. They must be able to identify their own interests, passions, and strengths and translate them, in partnership with educators, into meaningful learning experiences with clear goals to guide and inform the learning process.

Flexible classroom setting are spaces wherein learners can choose from different seating or standing options, locations within the learning space, and the size group with which to work. This suggests that learners should be allowed to have opportunities to make choices, options, or to be in locations where he or she learns best.

Enabled teachers. - should have improved qualification and competencies, be updated on ICT applications for classroom / laboratory activities, language proficient, value- laden, possess skills in handling classroom

behavior problems and have potential knowledge in creating classroom environment that can positively impact students' academic success. This implies that teachers must have ability to provide theoretical justification to instructional practices and is effective in facilitating student learning. Teachers must possess the knowledge, skills and attitudes of the 21st century teacher.

In a mathematical figure, if these four triangles are put together, it will form a perfect square which means that no element is above the other. With all these elements, the researcher can conclude that a conducive classroom environment of the 21st century is attained and can facilitate students learning.

References

An, P., Bakker, S., & Eggen, B. (2017). *Understanding teachers' routines to inform classroom technology design. Education and Information Technologies*, 22(4), 1347–1376. Retrieved February 25, 2019 from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1145849&site=ehost-live

Avis, H. F. (2017). *Effects of the classroom-assigned tasks and responsibilities program in middle schools* (Order No. 10270480). Available from ProQuest Central; ProQuest Dissertations & Theses Global. (1889560461). Retrieved February 20, 2019 from https://search.proquest.com/docview/1889560461?accountid=173015

Bacolod, J. , Padilla, A. , Palangdao, E. & Domingo, R. . (2009). *Bridging pedagogical theories and classroom practices: A case study*. Ang Pantas, 1(1). Retrieved from February 25, 2019 from http://ejournals.ph/form/cite.php?id=754

Bas, G. (2013). *Students' views on the constructivist learning environment in elementary schools: a qualitative inquiry.Çukurova University*.Faculty of Education Journal, 42(2), 64-86. Retrieved January 25, 2019 from https://search.proquest.com/docview/1459136358?accountid=173015

Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university* (4th ed.). England: McGraw Hill Education McGraw Hill House.

Booker, K., & Campbell-Whatley, G. D. (2015). *A study of multicultural course change: an analysis of syllabi and classroom dynamics*. Journal of Research in Education, 25(1), 20–31. Retrieved February 20, 2019 from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1097971&site=ehost-live

Bellamy, L. (2016). *Classroom environment: Content analysis examining characteristics of classroom environments that affect students' academic achievement* (Order No. 10290005). Available from ProQuest Central; ProQuest Dissertations & Theses Global. (1844393348). Retrieved February 25, 2019 from https://search.proquest.com/docview/1844393348?accountid=173015

Braun, V., & Clarke, V. (2006). *Using Thematic Analysis in Psychology*. Qualitative Research in Psychology. Retrieved January 25, 2019 from
http://eprints.uwe.ac.uk/11735/2/thematic_analysis_revised_-_final.pdf

Chambers, E. (2006). *Work-load and the quality of student learning.* Retrieved from https://srhe.tandfonline.com/doi/abs/10.1080/03075079212331382627#.XKyc0pgzbIU

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA, US: Sage Publications, Inc. Retrieved January 24, 2019 from https://mycourses.aalto.fi/mod/resource/view.php?id=311987

Creswell, J. W. (2012). *Educational research : planning, conducting, and evaluating quantitative and qualitative research* / John W. Creswell. — 4th ed.

Collins, S. C. (2017). *Linking classroom environment with at-risk engagement in science: a mixed method approach(Doctoral dissertation*, University of Alabama Libraries). Retrieved February 25, 2019 from Google Scholar

Darling-Hammond, L., & Snyder, J. (2000). *Authentic assessment of teaching in context. Teaching and teacher education*, 16(5-6), 523-545. Retrieved February 16, 2019 from GoogleScholar

Davies, D., Snappe, D., Collier, C., Digby, R., Hay, P., & Howe, A. (2013). *Creating learning environments in education - A systematic review*. Retrieved October 30, 2018 from https://www.sciencedirect.com/science/article/pii/S187118711200051X

DeMink-Carthew, J., Olofson, M. W., LeGeros, L., Netcoh, S., & Hennessey, S. (2017). *An Analysis of Approaches to Goal Setting in Middle Grades Personalized Learning Environments*. Research in Middle Level Education Online, 40(10), 1–11. https://doi.org/10.1080/19404476.2017.1392689

Dotong, C. I., De Castro, E. L., Dolot, J. A., & Prenda, M. (2016). *Barriers for educational technology integration in contemporary classroom environment.* Asia Pacific Journal of Education, Arts and Sciences, 3(2), 13-20. Retrieved February 25, 2019 from Google Scholar

Erdogan, M., Kursun, E., Sisman, G. T., Saltan, F., Gok, A., & Yildiz, I. (2010). *A Qualitative Study on Classroom Management and Classroom Discipline Problems, Reasons, and Solutions: A Case of Information Technologies Class.* Educational Sciences: Theory and Practice, 10(2), 881–891. Retrieved February 24, 2019 from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ889196&site=ehost-live

Eriksson, E., Boistrup, L. B., & Thornberg, R. (2018). *A qualitative study of primary teachers' classroom feedback*

rationales. Educational Research, 60(2), 189–205. https://doi.org/10.1080/00131881.2018.1451759

Hannah, R. (2013). *The effect of classroom environment to student learning*. Honors Theses. Retrieved October 30, 2018 from https://scholarworks.wmich.edu/cgi/viewcontent.cgi?article=3380&context

Harden, A., Thomas, J. 2005. *Methodological issues in combining diverse study types in systematic reviews*. International Journal of Social Research Methodology. Retrieved October 30,2018 from https://canvas.vt.edu/files/2577709/download?download_frd=1

Hensley, C. G. (2010). *Project 3rd grade environment: Descriptive phenomenological study of the physical and learning environment in a transformed 3rd grade classroom* (Order No. 1484812). Available from ProQuest Dissertations & Theses Global. (365732848). Retrieved February 20, 2019 from https://search.proquest.com/docview/365732848?accountid=173015

Hildenbrand, S. M., & Arndt, K. (2016). *Student teachers' management practices in elementary classrooms: A qualitative study.* Teacher Development, 20(2), 147–161. Retrieved February 24, 2019 from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1094764&site=ehost-live

How to Make Your Classroom Conducive for Learning. (2014). Retrieved from http://www.istanz.org.nz/teaching/make-your-classroom-conducive-to-learning/

Incheon Declaration and Framework for Action. Http://uis.unesco.org/sites/default/files/documents/education-2030-incheon-framework-for-action-implementation-of-sdg4-2016-en_2.pdf. (n.d.). Retrieved December 20, 2019

Jones, S. B. (2012). *Places of purpose, purposeful places: An exploration of the physical environment of primary level classrooms* (Order No. 3541401). Available from ProQuest Dissertations & Theses Global. (1112850689). Retrieved February 20, 2019 from https://search.proquest.com/docview/1112850689?accountid=173015

Kaur, H. (2012). *Role commitment among science teachers in relation to personality make-up and attitude towards teaching.* Retrieved March 20, 2019 from Google Scholar

Kent, K. (2009). *The coffee house classroom: The difference between student and faculty perceptions of classroom spatial design in a community college environment* (Order No. 3374717). Available from ProQuest Dissertations & Theses Global. (304900508). Retrieved February 25, 2019 from https://search.proquest.com/docview/304900508?accountid=173015

Kinahan, M. P. (2017). *Teachers and seating arrangements and assignments: A qualitative study* (Doctoral dissertation, Northeastern University). Retrieved Fenruary 25, 2019 from Google Scholar

Limpert, S. M. (2017). *A qualitative study of learning spaces at a midwest elementary school and its relationship to student attitudes about reading* (Order No. 10680861). Available from ProQuest Central; ProQuest Dissertations & Theses Global. (1969256221). Retrieved February 25, 2019 from https://search.proquest.com/docview/1969256221?accountid=173015

Londsdale, M. & Anderson M. (2012). *Preparing 21st century learners: The case for school-community collaborations. Australian Council for Educational Research*. Retrieved November 3, 2018 from https://www.acer.org/occasional-essays/preparing-21st-century-learners-the-case-for-school-community-collaboration

Maguire, M. & Delahunt, B. (2017). *Doing a Thematic Analysis: A Practical, Step-by-Step Guide for Learning and Teaching Scholars*. Retrieved January 25, 2019 from http://ojs.aishe.org/index.php/aishe-j/article/viewFile/335/553

Matusiak, K. K. (2013). *Image and multimedia resources in an academic environment: A qualitative study of students' experiences and literacy practices*. Journal of the American Society for Information Science & Technology, 64(8), 1577–1589. https://doi.org/10.1002/asi.22870

Oliver, R., Kersten, H., Vinkka-Puhakka, H., Alpasan, G., Bearn, D., Cema, I., ... & Jeniati, E. (2008). *Curriculum structure: principles and strategy*. European Journal of Dental Education, 12, 74-84. Retrieved February 16, 2019 from scholar.google.com

Parr, E. S. (2017). *A qualitative study investigating facility managers' perceptions of the classroom learning environment* (Order No. 10680808). Available from ProQuest Dissertations & Theses Global. (1969256222). Retrieved January 27, 2019 from http://simsrad.net.ocs.mq.edu.au/login?url=https://search-proquest-com.simsrad.net.ocs.mq.edu.au/docview/1969256222?accountid=12219

Paterson BL, Thorne SE, Canam C, Jillings C. (2001). *Meta study of Qualitative Health Research: A Practical Guide to Meta-Analysis and Meta- Synthesis*. Thousand Oaks. California. Sage Publications 2001. Retrieved October 28, 2018 from http://books.google. com/books?id=CAW-g4DrVgwC&q=Meta-Synthesis

Patterson, B. E. (2009). *Field experience in science for fifth grade students—a mixed methods study of learning environments* (Order No. 3400994). Available from ProQuest Central; ProQuest Dissertations & Theses Global. (304862354). Retrieved from January 8. 2019 https://search.proquest.com/docview/304862354?accountid=173015

Prososki, C. R. (2015). *One-to-one computing: A mixed-methods study designed to uncover the perceived effects*

on the overall classroom environment (Order No. 3718859). Available from ProQuest Central; ProQuest Dissertations & Theses Global. (1713694118). Retrieved February 24, 2019 from https://search.proquest.com/docview/1713694118?accountid=173015

Posner, G. J. (1974). *The Extensiveness of Curriculum Structure: A Conceptual Scheme*. Review of Educational Research, 44(4), 401–407. https://doi.org/10.3102/00346543044004401

Quality education. (2018). Retrieved December 2, 2018 from http://www.right-to-education.org/quality-education

Quality teaching - what is it? - Macquarie University. (2019). Retrieved February 19, 2019 from https://staff.mq.edu.au/teaching/evaluation/resources_evaluation/quality_teaching/

Robson, K., & Mastrangelo, S. (2017*). Children's views of the learning environment: A study exploring the reggio emilia principle of the environment as the third teacher*. Journal of Childhood Studies, 42(4), 1-16. doi:http://dx.doi.org/10.18357/jcs.v42i4.18100

Saayman, J. (2007). *The influence of the philosophical stance of the narrative pastoral therapist in group therapy.* Retrieved January 24, 2019, from http://uir.unisa.ac.za/bitstream/handle/10500/1675/dissertation.pdf

Saban, G. A. S. (2013). *Learning needs in the muliticultural classroom: implications to equitable teaching*. Catalyst, 8(1), 7–24. Retrieved February 25, 2019 from http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=93726626&site=ehost-live

Schussler, D. (2009). *Beyond content: How teachers manage classrooms to facilitate intellectual engagement for disengaged students*. Theory Into Practice,48(2), 114-121. Retrieved January 3, 2019 from Macquarie University Multisearch https://www-tandfonline-com.simsrad.net.ocs.mq.edu.au/doi/pdf/10.1080/00405840902776376?needAccess=true

Scott, M. (2017). *Preparing today's students for tomorrow's world*. Retrieved January 7, 2019, from https://education.nsw.gov.au/our-priorities/innovate-for-the-future/education-for-a-changing-world/thoughts-on-the-future/preparing-todays-students-for-tomorrows-world

Singh, A. (2014). *Conducive classroom environment in schools*. International Journal of Science and Research (IJSR), 3(1), 387-392. Retrieved February 25, 2019 from Google Scholar

Smith, C. L. (2009). *Creating the classroom environment: Perceptions of first year teachers* (Order No. 3400187). Available from ProQuest Dissertations & Theses Global. (304927139). Retrieved February 24, 2019 from https://search.proquest.com/docview/304927139?accountid=173015

Smith, Smith, & De Lisi, (2001). *Classroom environment*. Research StarterseNotes.com, Inc. eNotes.com Retrieved November 15, 2018 from http://www.enotes.com/research-starters/classroom-environment#research-starter-research-starter

Strayer, J. F. (2012). *How learning in an inverted classroom influences cooperation, innovation and task orientation.* Learning Environments Research, 15(2), 171-193. Retrieved February 16, 2019 from doi:http://dx.doi.org/10.1007/s10984-012-9108-4

Structured curriculum. ENTELIS. (2019). Retrieved February 16, 2019 from https://www.entelis.net/en/taxonomy/term/126

Subramanian, J., & Thomson, W. M. (2017). *The learning environment in professional doctorate and postgraduate dental education: a qualitative study*. European Journal of Dental Education, 21(4), 261–271. https://doi.org/10.1111/eje.12209

Sun, D., Looi, C.-K., & Xie, W. (2017). *Learning with collaborative inquiry: a science learning environment for secondary students*. Technology, Pedagogy & Education, 26(3), 241–263. https://doi.org/10.1080/1475939X.2016.1205509

Sundarsingh, J. (2015). *Team teaching strategy for conducive classroom learning*. IUP Journal of English Studies, 10(2), 64-72. Retrieved February 25, 2019 from https://search.proquest.com/docview/1700066698?accountid=173015

Right to education (2018). Retrieved December 2, 2018 from http://www.right-to-education.org/

Robina, A. (2014). *Students' perception of the condition of their classroom physical learning environment and its impact on their learning and motivation.* College Student Journal, Retrieved March 22, 2019 from https://www.questia.com/read/1G1-398073361/students-perception-of-the-condition-of-their-classroom

Robson, K., & Mastrangelo, S. (2017). *Children's views of the learning environment: A study exploring the reggio emilia principle of the environment as the third teacher*. Journal of Childhood Studies, 42(4), 1-16. doi:http://dx.doi.org/10.18357/jcs.v42i4.18100

Rooney, M. (2017). *Educational learning environments. Honors Research Projects*. Retrieved November 15, 2018 from http://ideaexchange.uakron.edu/honors_research_projects/440

The future of education and skills. Education 2030. Retrieved December 2, 2018 from https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf

Walsh, D., & Downe, S. (2005). *Meta-synthesis method for qualitative research: A literature review*. Journal of Advanced Nursing, 50(2), 204-211 Retrieved October 28, 2018 from https://onlinelibrary-wiley-

com.simsrad.net.ocs.mq.edu.au/doi/pdf/10.1111/j.1365-2648.2005.03380.x

World bank group education strategy 2020, *learning for all: investing in people's knowledge and skills to promote development* (n.d.) Retrieved December 2, 2018 from www.worldbank.org/educationstrategy2020

Young, J. (2014). *Encouragement in the classroom*. Retrieved November 17, 2018 from http://www.ascd.org/publications/books/sf114049/chapters/The-Importance-of-a-Positive-Classroom.aspx [2]