APPLYING ECOLOGICAL SYSTEMS THEORY INTO ONLINE LEARNING AND THE SOCIAL DEVELOPMENT OF YOUNG CHILDREN IN EAST BANK, DEMERARA, GUYANA

Vashti Singh: Senior Lecturer & Head of Department, Research and Graduate Studies, Faculty of Education and Humanities, University of Guyana, Turkeyen, Greater Georgetown, Guyana

Nafeeza Ramdhan: Student, Postgraduate Diploma in Education- Administration, Faculty of Education and Humanities, University of Guyana, Turkeyen, Greater Georgetown, Guyana

Abstract : This paper is focused on the perspectives of teachers from a rural early childhood care and education (ECCE) school on the outskirts of the capital city, Georgetown, Guyana during the COVID-19 pandemic. More specifically, Bronfenbrenner's ecological systems theory is applied to challenges in the operationalisation of online learning and social development issues impacting children aged 3 to four 4 years old across multiple levels of surrounding environments (the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem) from immediate settings of family and school to broader cultural values. The study used a qualitative interpretive approach with focus group interviews and semi-structured questionnaires to obtain in-depth perspectives. Findings revealed that interventions to promote children's social development in early childhood online learning in the Covid-19 era require cohesive family -school interconnected relationships supported by the government's role in policy reforms initiatives.
Keywords: Ecological, online learning, social development.

1.0 INTRODUCTION

The Covid-19 pandemic adversely impacted the education of approximately 12 million learners in 29 Caribbean countries with the closure of education facilities from March 2020 onwards (Economic Commission for Latin America and the Caribbean (ELAC) 2022). In March 2020, the Ministry of Education, Guyana instructed that all schools stop face-to-face teaching and use internet platforms to deliver online instruction. It was not compulsory for preschoolers (3-4 years old) to be taught using online mode delivery. Guyana was one of the few countries that had long invested in national Early Childhood Care and Education (ECCE) (Roopnarine ·& Chiang, 2018). According to Taharally (1988), from its inception a national program of ECCE in Guyana endorsed this early stage as a definite learning period in the life of the child aimed at socialisation and cognitive-developmental functions. The accumulation of social experience facilitates school readiness skills. Hence, the preschool years represent a period during which the foundations for a child's social maturity are laid down (Garner & Parker, 2018). This preconditions his/her development path and helps in adaptation efforts (Zakharova, 2011). Social development is therefore a complex process during which the child appropriates the objectively set norms of behaviour and constantly discovers himself/herself as a social subject (Garner & Estep, 2001).

The Government of Guyana has been keen to advance the social dimension of an Early Childhood Education Project (ECEP) in collaboration with the Global Partnership for Education and the World Bank. This project was focused on improving emergent literacy and numeracy outcomes at the ECCE level and primary Grade 1 in hinterland regions and remote riverine areas. It was implemented from May 27, 2015- September 30, 2018 and included four components: (1) capacity building for nursery and Grade 1 teachers; (2) provision of ECE Resource Kits; (3) Parental/Caregiver

Education; and (4) Implementation Support. Under the description of the Teacher Capacity Building Component (ECD), approximately 440 nursery and Grade 1 teachers were trained in using the ECE resource kits which provided student-centered materials to develop literacy and numeracy skills through play-based activities, fine motor skills and social skills (Government of Guyana, 2014). Students began the project with a literacy rate of 36.63 per cent and 37.53 in numeracy. At the end of the three-year project, literacy among hinterland children improved by 139.78 per cent while numeracy improved by 133.67 (Department of Public Information, Guyana, 2018). The project attested to the fact that the quality of later schooling is critical: strong early learning encompassing cognitive and social-emotional skills which children develop in these early years have long-lasting impacts on their later success throughout schooling and higher education.

Even though during the Covid-19 pandemic 2020-2021, it was not mandatory for ECCE schools in Guyana to deliver online teaching, ECCE stakeholders including curriculum developers, administrators, educators and teachers were proactively engaged in designing digital curriculum resources, introducing educational apps and platforms or convenient interventions to guide parents about their children's learning and play at home. Practical responses to the challenge took effect such as: networking amongst the Ministry of Education, the National Centre for Educational Resource Development, the Faculty of Education and Humanities, University of Guyana, Cyril Potter's College of Education and expansion of the Guyana Learning Channel into rural and hinterland communities as well as distribution of worksheets and textbooks to children so that all could benefit from the educational content that was being created (Ragobeer,2021).

This study was concentrated on a rural public ECCE school in Guyana on the East Bank of the Demerara River, approximately seven miles from the capital city of Georgetown. The researchers adopted a qualitative design and the interpretivist method to examine how people construct their own ideas and an understanding of what is taking place (Creswell, 2013). This methodological approach provides strong evidence supported by Bronfenbrenner's ecological systems theory, published in 1979 with emphasis on the social context in which learning takes place.

2.0 NEED FOR THE STUDY

COVID-19 has threatened the precious opportunity for young children everywhere to develop social interaction and normal lives in classrooms. Given this unique circumstance, in this study social development in ECCE signifies improving the social well-being of all children so they can reach their full potential. Social development concerns the evolution of a child's social and emotional abilities that lays the groundwork for his/her future. It is about children learning the values, knowledge and skills that are needed to relate to others. Social development therefore means investing in education for young children. It requires the overcoming of challenges so that all children can journey toward primary and secondary education with self-confidence. It is about teachers refusing to accept that children who live in poverty cannot achieve higher education. It is about enabling children so they can move forward on their path as contributors to economic and social progress and sustainable development. The progress of any society is linked to the social well-being of each individual child. Hence, the purpose of this research is threefold as follows: (1) to capture the challenges teachers encounter in the implementation of online learning (2) to investigate the impact of online learning environment on pupil's social development and (3) to determine interventions for supporting children's' social development in the COVID-19 era (and post COVID-19 era).

Research Questions

This study seeks to answer the following three research questions:

1. What were the most critical challenges teachers encountered in the implementation of online learning?

2. In what ways has the online learning environment impacted upon the social development of pupils?

3. What interventions can be used to promote social development of early childhood pupils in online learning?

3.0 THEORETICAL FRAMEWORK
ECOLOGICAL SYSTEMS THEORY

Ludwig von Bertalanffy introduced what is now known as General Systems Theory (GST) in 1934. This theory had developed from a primarily engineering and computer technology theory to a social sciences theory as a way to describe how humans interact. Most scientific studies sought to reduce systems to the smallest units of measure and investigate them independently of each other. However, GST posited that whole systems should be examined intact in interaction with each other. The approach to examine the individual within the environmental systems of influence is rooted in the

concepts of General Systems theory (Bertalanffy,1968]. Through the ecology of human development, social scientists endeavoured to study, explain and understand the ways in which an individual interacts with the interrelated systems within that individual's environment. American psychologist Urie Bronfenbrenner (1917-2005) sought to establish a theory of human development that would consider the influences of all of the systems that play a role in impacting the lived experiences of an individual no matter how remote the influence (Bronfenbrenner, 1994).

The Ecological Systems Theory (EST) developed from Bronfenbrenner's work on childhood and friendship patterns during the 1940s (Bronfenbrenner, 1995). Bronfenbrenner's theory is grounded within specific ecological systems to illustrate how a child grows, develops meaningful relationships with others and is influenced by the surrounding emotional support network. Bronfenbrenner studied the work of eminent learning theorists such as Freud, Erikson, Piaget. He believed that all their theories could be enhanced by adding the critical dimension of social context. His ecological systems theory thus represents a convergence of the biological, psychological, and social sciences (Crawford, 2020). For illustration, while Freud described the process of development in stages; Bronfenbrenner's ecological systems theory viewed it as something that is continuous. Freud's model is focused on the first five years of development, while Bronfenbrenner's sought to craft an expanded view of human development that moved beyond individual deficits. Freud's argued that sex drive is the main driver of development, whereas Bronfenbrenner's underscored the importance of ecological agents such as parents, teachers, schools, and the wider society. EST situates the social development of children within a complex system of relationships affected by multiple levels of the surrounding environment, from immediate settings of the family and school to broad socio-economic and cultural values.

Bronfenbrenner's ecological model consists of five systems of interaction that the child is nested in at the core. The core comprises variables such as his age, gender, health, feelings, origin, his psychological state and intellectual abilities. The five systems are known as the (1) Microsystem (2) Mesosystem (3) Exosystem (4) Macrosystem and (5) Chronosystem. Microsystem is the innermost circle, a "pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics" (Bronfenbrenner, 1979, p. 22). Bronfenbrenner defined the mesosystem simply as "a system of microsystems (Ibid: 40) meaning it is made up of linkages and interactions between the different microsystems in a person's life. The exosystem includes "other specific social structures, both formal and informal, that do not themselves contain the developing person but impinge upon or encompass the immediate macrosystem settings in which that person is found, and thereby influence" (Bronfenbrenner 1977, p.515). The macrosystem is "the overarching institutional patterns of the culture or subculture, such as the economic, social, educational, legal, and political systems, of which micro-, meso-, and exo-systems are the concrete manifestations" (Ibid). The chronosystem represents the impact of time on this system of nested relationships; all of the sub-systems are situated in time and can change over time (Bronfenbrenner, 1992). The time period in which people live and the gravity of changes influence their approach and reaction to their environment.

This concept of open system and interconnectedness underpins EST given that systems thrive off and grow from their interaction with each other. An open system can be changed by the environment around it and can also affect change in the environment. An open system must also not exist inside a vacuum as it requires the interactions with other systems to sustain itself (Germain,1978). Family is considered the most influential microsystem in the social development of a child. In the mesosystem, interactions with teachers and friends play a critical role in early childhood pupils-parent support networks and can exert meaningful impacts on their experiences. Taking very much a sociological approach, Bronfenbrenner described the influences of environmental factors on social development of children and encouraged researchers to interrogate what learning means for a child at his/her level; how micro and meso systems interact with each other and in turn, with the greater systems: namely the exosystem which contains factors beyond the immediate environment of the child and the macro systems which encompasses larger societal factors such as cultural values and economic conditions. Bronfenbrenner documented that "the erosion of the social fabric isolates not only the child but also his or her family" (1975a, p.460) and furthermore a major concern for child development is "the failure of the young person to be integrated into his society" (1975b, p.485). It then follows that researchers must understand pupils' life transitions within the chronosystem, their exposure to prior and new educational environments and other challenging life changing events, as well as turning points, producing new conditions that affect social development.

The interpretation of Bronfenbrenner's "bio-ecological model" is analysed in accordance with the theory's four primary components - "Person-Process-Context-Time". Person" refers to aspects of human personality that can influence social development. "Process" describes the "progressively more complex reciprocal interaction" between a person and his/her environment. The most influential aspects of these interactions are called "proximal processes" seen as the primary mechanisms for an individual's development. The power of proximal processes depends on the characteristics of the developing "person", their environmental context and the time periods over which these processes unfold. Bronfenbrenner explained proximal processes, as the "developmental outcomes" being either the promotion of competence or the reduction of what he termed "dysfunction" (that is, by helping individuals do better than would be expected given the situation that they find themselves in)" (Tudge, Merçon-Vargas & Liang 2017:48). "Context," brings together all the systems that make up one's environment. Finally, time and the way that people conceive of time, is an important factor. Bronfenbrenner's theory examined not only "the forces that have shaped human development in the past, but . . . those that may already be operating today to influence what human beings may become tomorrow" (Bronfenbrenner & Evans, 2000, p. 117).

4.0 RESEARCH METHODOLOGY

This qualitative study relied on an interpretive approach to understand early childhood teachers' perspectives on challenges in the implementation of online teaching during the COVID-19 pandemic, ways in which the online learning environment has impacted the social development of pupils and necessary interventions In designing this qualitative study, the authors considered that it is the teacher on the front-line who implements policies, who best understands the challenges of continuing education during times of crises and social developmental needs of pupils. When teachers become change agents, they can cultivate powerful cultures to work with communities and make a difference in learning (Fullan,1996). Qualitative inquiry is distinguished by holistic treatment of phenomena and has moved social research away from the emphasis of cause-and-effect explanation toward personal interpretation (Stake, 2010). Stake unraveled the epistemology of qualitative research based on the principle that phenomena are intricately related to many unanticipated actions and that understanding them requires an array of sweeping contexts: temporal and spatial, historical, political, economic, cultural, social, personal" (Ibid). The qualitative method is generally used on purpose in research (Creswell, 2013) and more specifically to explain complex phenomena and problematic moments in individuals' lives where little information is known.

4.1. Population and Sample

The selection of participants was based on purposive sampling. Patton (2015) explicitly stated: "The logic and power of purposeful sampling lie in selecting information-rich cases for in-depth study. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry…Studying information-rich cases yields insights and in-depth understanding" (p. 264).

The schools' population consisted of 1 principal, 12 teachers, and 169 children. Each class has 25 pupils. All the new Year 1 pupils who had never entered a classroom for face to face learning were selected to participate in the study. There were 82 of them (52 boys and 30 girls) enrolled in 6 classes. Generally, pupils belonged to the two main ethnic groups of Guyana- East Indians and Africans and a minority were Mixed. A majority came from lower middle-class families and others whose parents were in low paying jobs with meager or no economic security. It should be reiterated that the intent of this paper is to systematically review how the online environment impacts pupils' social development at the contextual level rather than at a group or individual level.

Congruently, the main participants for this study consisted of all 6 Year 1 female class teachers between the ages of 20 to 45 years from school "X" who have built collaboration as a solid foundation for mentoring relationships. The teachers were predominantly Afro-Guyanese from the Georgetown area. Teacher qualification levels ranged from Caribbean Secondary Examination Certificate (CSEC) to a university undergraduate degree in Education. Among the 6 teachers, 4 attained the status of being a senior teacher, of whom 2 were university graduates. For the remaining 2 teachers, one was a junior trained teacher and the other was an untrained teacher. The majority of the teachers had over ten years teaching experience in ECCE with the exception of the junior teacher and the untrained teacher. Each teacher conducted online classes four days per week over ten weeks of the final term of the academic school year 2020-21. Fridays were used for individual feedback sessions with parents.

4.2. Instrumentation

Data collection was done in two stages using focus group interviews and a semi-structured questionnaire. Due to mitigation of risks and social distancing requirements during the pandemic, 4 online interviews were convened via Zoom meetings. Interviews were conducted between June, 28 and July 7, 2021; each was audio-recorded and transcribed. The total duration of the interviews was 3 hours and 48 minutes. The questionnaire was mailed to each participant on June 25, 2021. The completed questionnaires were returned by July 7, 2021.

Focus group interviews usually follow semi-structured, guided, open-ended formats for the researcher to probe and pursue new topics of keen interest while continuing to add, clarify and validate responses within the group experience (Marshall and Rossman, 2011). Accordingly, the researchers were able to collect open-ended data through an interrogation of participants' thoughts, feelings and beliefs related to the following three broad themes: teachers' challenges faced in the implementation of online learning during the pandemic, impact of the learning environment on pupils' social development and interventions to promote their social development in the present and post pandemic era. The following are sample questions used in the focus group interviews:

(1) Do you feel that you were prepared for an online class? Why or why not?

(2) Was online learning helpful to pupils or did this present any challenges? If so, why/how? Identify the challenges.

(3) What is your understanding of social development in early childhood pupils?

(4) What has been your experience concerning pupils' social development during online learning?

(5) What about some of the class activities/ assignments or interactions via discussion board and chats? Were these helpful or were there any challenges with these?

(6) What about parents 'personal commitments and obligations (e.g., work and family)? Did any of these prevent children from successfully completing the class? If so, why/how? In what ways were pupils' social development affected?

(7) How has online learning affected pupils' social development in terms of peer interaction?

(8) What social and emotional developmental skills were pupils lacking during online learning?

(9) How were you able to facilitate social development in pupils during online learning?

(10) What supportive measures do parents need in the transition to online learning aimed at pupils' social developmental needs?

(11) What specific interventions can be used to foster social development of pupils in online learning?

(12) How can the school and/or Ministry of Education support the transition from face to face learning to online learning?

(13) What additional support can be provided to you who faced the challenges we've discussed today? Any final thoughts?

All teacher participants were asked the same type of content generated and broad open-ended questions in the same order in an Open-ended questionnaire sent via Google Forms. According to Franzen and Lazarsfeld (1945), "answers to some questions given in a mail questionnaire are more informative and freely given than the answers the same people give to the same questions when face to face with the interviewer (p.293). The questionnaires added more 'qualitative-ness' to data for richer and more meaningful results particularly as the research involved personal beliefs and opinions. Data triangulation helped to establish the credibility and validity of this research study.

4.3. Data Analysis

The qualitative data was analysed through the process of manual thematic analysis of coding following six well established phases: familiarization with data, generating initial codes, searching for themes among codes, reviewing themes, defining and naming themes, and producing the final report (Dawadi, 2020). There were certain questions the researchers kept in mind when undertaking thematic analysis, for example: "How do people make sense of their experiences?", "What assumptions do individuals make while interpreting their experiences?" and "What does their interpretation tell us?" From the perspective of learning and teaching, a distinct advantage is that thematic analysis is a method rather than a methodology (Clarke & Braun, 2013). This means that unlike many qualitative methodologies, it is not tied to a particular epistemological or theoretical perspective. Rather it is a very flexible method considering the diversity of work experiences in learning and teaching. Hence, thematic analysis is "a useful method for examining the perspectives of different research participants, highlighting similarities and differences, and generating unanticipated insights (Nowell, Norris, White and Moules 2017, p. 2). The goal was to produce a comprehensive account of data, rich in depth and information of systematic analysis.

The findings of this study were analysed using Bronfendbrenner ecological model based on his systems theory. The child or learner with unique characteristics is at the center of aforementioned categories of systems that are identified below (See Figure 1).
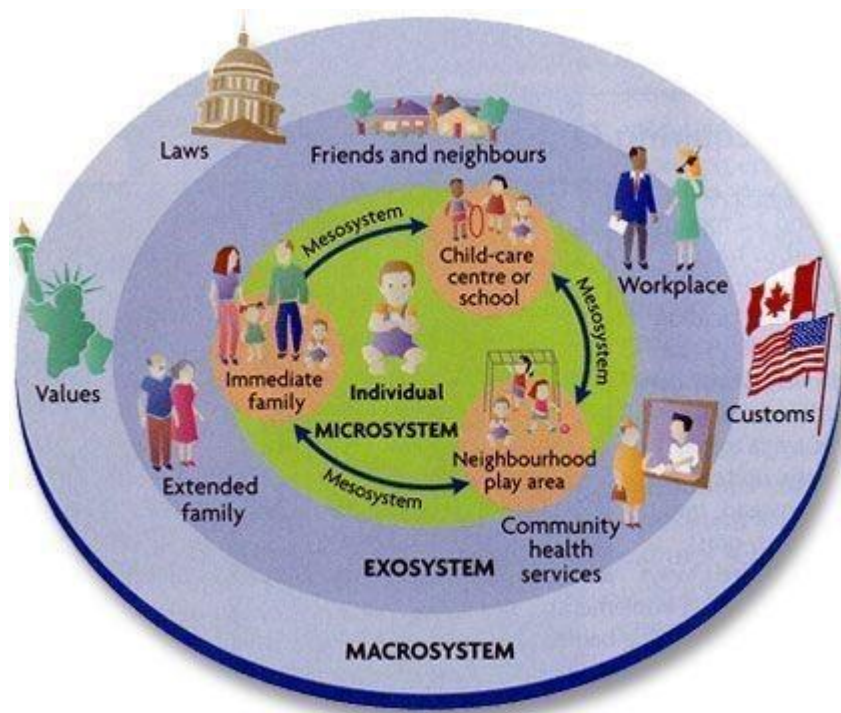

figure 1. bronfenbrenner's ecological systems theory (in berk & roberts, 2009,p.28).

5.0 FINDINGS

One overarching theme which clearly emerged from the findings of the study was the interrelatedness of ecological systems impacting pupils' social development. Key representations of themes and subthemes with supporting quotes from the data, specifically in response to each research question were identified and presented below. Pseudonyms (K, N, R, V, X, Y) were used to conceal the identities of the six (6) teachers who were the research participants.

Research question 1: What were the most critical challenges teachers encountered in the implementation of online learning?

Theme 1: **Barriers to Instruction faced by teachers**
This theme entails three sub- themes (a) Lack of devices (b) Technical difficulties and (c) Limited parental support.

Lack of devices

During the pandemic, approximately twenty percent (20 %) of children from very impoverished homes did not have computers or other devices to access online learning. According to a majority of the teachers, in several instances, within families where there was more than one school-aged child, parents instructed siblings to share the same device. This resulted in children not being able to attend classes regularly and on time since some of their classes may have clashed with those of their siblings. Teacher V stated: *Priority is given to the older siblings to use the device since parents feel that their schooling is more important.* All six (6) teachers opted to shift class time to facilitate learning outcomes at this early childhood stage. Moreover, the teachers did not have access to a computer to teach at all times and used their cellphones to deliver lessons via WhatsApp video calls. They accommodated questions and concerns of both pupils and parents. All the teachers prepared worksheets for children in order to bridge the learning loss gap. A statement from Teacher X deserves particular attention as follows: *Children and young people from the poorer households, rural regions and lower income areas must not be left further behind their peers and we must make every effort to reach them for social inclusion in education.* Teachers concurred that early childhood education is an important social foundation for success at consecutive levels of education and hence access to technology at this initial level is deemed imperative.

Technical Difficulties

The school under study was located in a rural area where the internet signal is poor and many pupils were severely impacted. Teacher R indicated: *Parents are using data plans and sometimes the data finishes in the middle of a lesson, power outages are unpredictable causing children to lose valuable contact hours.* As a result, additional sessions had to be done using voice messages, video calls and video recordings. However, during the video calls teachers

endeavoured to increase social skills by encouraging children to take turns to answer questions or share ideas; and appreciate each other by clapping and sending virtual symbols of praise. During some of the video calls and zoom lessons pupils were disconnected due to low connectivity which caused them to lose focus of the lesson. Thus, all teachers ended up doing offline learning through live feedback sessions. Teachers were mindful that this abrupt transition to online learning and inadequate technology provisions have brought insurmountable challenges. Teacher K underscored: *Online schooling requires undisrupted access to the internet and electricity which in most cases is not available to many parents.* Teacher X added: *Not having access to these basic necessities has made it unrealistic for teachers to reach all pupils.* The group of teachers conveyed that online learning conditions require improvement to attend to the necessity of equity in the social well-being of pupils similar to that achieved in the face-to-face classroom.

Limited parental support

The online learning environment at impoverished homes negatively impacted pupils' social well-being due to inadequate parental support. Teachers identified that forms of social deprivation already existed on account of variables such as: place of residence (depressed communities), family socioeconomic status; cultural background influencing parents' beliefs that traditional learning is superior to online learning and parents' preference for face-to-face classrooms. Teacher X made a significant comparison thus: *A few children had no computers; but among those who owned devices, social deprivation exacerbated in instances where parents lacked knowledge of online learning to assist their children with online play activities.* There were also times when parents were overworked and too tired to even assist or supervise their children with online learning. Teacher Y stated: *"Parents are willing to be involved in helping the children at home but their jobs constrain them."* To alleviate economic hardship, both parents in several families worked strenuously to provide basic needs for their children. Teacher R stated: *Both mother and father were preoccupied with earning and had no time to devote to online learning at home*. Teacher N indicated: *The child-friendly environment at school does not exist in those homes.* Teacher K emphasised: *Parents fail to set up a suitable area at home for the children to work from.* In other instances, children were left in the care of elder siblings who were unable to support online learning. Generally, the online learning environment of impoverished homes lacked parental support for the child's readiness to utilize and benefit from digital technology and learning materials. This environment encompasses not only cognitive aspects of the child's development but also social-emotional aspects.

Research Question 2: In what ways has the online learning environment impacted upon the social development of pupils?

This theme entails three sub-themes (a) Disruption to daily routine (b) Inadequate peer interaction and (c) Signs of social development deficiencies.

Disruption to daily routine

The sudden shift to online teaching disrupted the school's daily routine. Teachers explained that the school had a structured timetable incorporating activities that were routinely followed to help children understand the importance of time, a sense of order and social skills through interaction. Teachers were proud that routines were an important part of the day in their preschool classrooms and included essential aspects such as arrival time, bathroom time, play time, clean-up time, naptime, and departure time. Teacher N stated: *Routines, such as meals or group time, are necessary and helpful to building a classroom community.* Teacher K pointed out that, *Pupils were to be inculcated with a beginning sense of routine responsibility within a community context.* Teachers further expanded on the relevance of community context. They felt that these young children would be more eager to learn through consistent routine and guidance at school, interacting, cooperating, playing and learning with their peers. Teacher Y reiterated*: There is a lack of adult supervision at home. Some sessions are not done. Children are not able to interact and develop even social skills such as even taking turns.* Teacher V stated: *Children are not attending online classes on time and cannot fully participate in activities to increase their social developmental skills. Teacher* R stated: *"Children needed the social aspect of the routine and the transitioning from one activity to the next."* Thus, teachers felt it is the responsibility of the home to join with the school and the wider community. The intention is to strengthen routines in online learning through which children can become engaged in the transition process to develop social skills to fit into society.

Inadequate peer interaction

The group of teachers reinforced that closure of schools have severely impacted new pupils' interaction with peers. Teacher N stated: *These Year 1 pupils never had the opportunity to enter a live classroom setting where they can actually meet and play with their peers.* Prior to the COVID-19 pandemic, teachers reflected that pupils were engaged in many different social settings at school such as play-based pedagogy, outdoor play, and interaction in small group activities. Teacher V stated: 'Not *being able to have physical contact with the children has resulted in children not being able to socialise with peers."* Teachers were in favor of interactive social settings, through which pupils can participate in group activities which help them to form a relationship with peers, working together in completing class projects and developing social interaction skills. Teacher Y stated: *"Children are unable to be social beings who form friendships with peers and build relationships.* Teacher R stated: *Although activities are prepared for the children online, they ask for tasks to be completed with peers.* Teacher K stated "A *few pupils repeatedly ask questions about coming to school*

to play with friends". Teacher N added; *Considering the children's age, it could be harder for them to adjust socially without close friendships and accept the current pandemic situation that we are facing.* According to the teachers, school-based, social-emotional learning programs are essential to provide a strong foundation for building positive peer cultures. In sum, every child should be able to engage in and benefit from healthy relationships attached to their home, school, peer group, and community.

Signs of social development deficiencies

Teachers indicated that some of the Year One (1) ECCE pupils exhibited signs of weak social and emotional development such as: low self-esteem; poor learning and communication skills; lack of interactivity and participation; and delayed or insubstantial amount of feedback in response to questions. Teacher Y stated: *Children from low income or unstable households are more likely to be affected by weak learning environments, low self-esteem, social isolation from their peers, and emotional instability.* In contrast, Teacher N stated: *Children with 'healthy' friends have higher self-esteem, better social interaction, can cope with stresses and changes, and are also less negatively affected by peers.* Teachers agreed that it was difficult to promote classroom interaction that fosters empathy, tolerance and acceptance through a sudden transition to online learning. Teacher K stated: *Children will lack leadership skills and will not be able to maintain and form friendships easily later in life and engage in conflict resolution.* Teacher X observed: *Children have become clingy to parents displaying anxiety during online learning.* Teachers believed that early friendships were vital to provide young children with a sense of belonging, security and development of social skills, such as: being sensitive to others' viewpoints, learning the rules of conversation, and age-appropriate behaviors. using eye contact, following directions, practice of manners, understanding personal space, taking turns, sharing, cooperating, caring and showing empathy. All teachers felt that failure to promote social development during online learning can result in low self-esteem and academically weak children with a dislike for school.

Research Question3: What interventions can be used to promote social development of early childhood pupils in online learning?

Theme 3: Interventions to promote social development.

This theme entails three sub-themes (a) Instructional Strategies (b) Individual feedback sessions; and (c) Policy reforms to support teachers.
These sub themes are intended to bridge the barriers encountered in research question one and address concerns of social development as identified in research question two.

Instructional Strategies

Teachers played a significant role in attending to social developmental needs of pupils. Each teacher ultiised different technological instructional mediums to deliver the curriculum via Zoom classes, video recorded lessons, individual video calls in addition to WhatsApp Chat groups to teach the pupils. Notably, teacher N stated: *It is important that teachers establish a good relationship with their pupils so that learning can be optimal.* Teacher V: *I am more comfortable teaching face to face because this direct interaction helps me to bond with the children, which enables them to trust and learn with me more freely. Technology has its drawbacks when complex skills are to be integrated in lessons.* However, a majority of teachers agreed that due to the sudden transition the focus of lessons should not be advanced technology skills. Teacher R reinforced that technology is welcomed in this pandemic situation to ensure that learning takes place. However, she made a salient point thus: *Technology is a useful means of delivery but not the actual lesson or activity being taught.* Teachers expanded the discussion to embrace clear standards, objectives, and assessments as integral components of instruction. The following were some of the simple online instructional strategies the teachers recommended to enable pupils to discover, learn, and grow in the online learning environment; developmentally age appropriate materials, differentiated instruction, play-based pedagogy using games accompanied by music and singing, use of Hand Signals – thumbs up, thumbs down, emojis and short written responses using a virtual white board or paper and pencil, and scheduling of children's virtual time in small interactive groups. All teachers agreed that ECCE lessons should be adjusted to the social needs and well-being of young minds keen to learn.

Individual feedback session

Each of the six (6) teachers attended school every Friday for a duration of 4 hours to provide parents or elder siblings with individual feedback sessions on pupils' performance. These sessions were imperative for social interaction and enhancing learning outcomes taking into consideration that the Year 1 pupils never had physical school and face to face contact with their teachers. On a weekly basis, each teacher prepared individual worksheets with specific guidelines, printed and labeled sequentially and distributed to parents. Teacher K said, *Creating the learning packages suited to the child's learning needs were well appreciated by a majority of parents, especially those who had no internet access.* Teachers concurred that the packages facilitated the continuity of a child's right to access education in extreme cases of poverty. During the feedback sessions, the lessons taught during the week and graded worksheets were discussed. Children were asked questions to see how much of the content and concepts were learnt. During these live sessions,

Teacher X again observed: "*Some children displayed separation tendencies and anxiety, they cling to the parents and have to be prompted by their parent or older sibling to communicate with the teacher.*" Through the weekly feedback sessions, all of the six (6) teachers recognised that the closure of schools during the pandemic had a significant impact on the social development of many Year 1 ECCE children who had never been to school. Hence, the teachers gave materials and pointers to parents and elder siblings as follows: speak with children to build on their language skills, provide a place with limited distractions for online learning, find time to assist with daily activities and maintain a collaborative working relationship with the school to support pupils' social developmental needs.

Policy reforms to support teachers

The abrupt transition to online learning could be summed up as a change that propelled teachers out of their face-to face comfort zone. Critical issues encountered were limited access to technological devices for teachers; and the need for both teacher training programmes in online learning and performance management appraisal systems. Since teachers were also not trained professionally and assessed to teach online, the selected ECCE school under study arranged in-house staff development sessions conducted by a learnt staff member. Teacher Y specified: *Parents needed more information and support from teachers even though the teachers had not had an upgrade in skill sets to provide professional support.* Teacher R underscored: *The change was rapid and involved an increase in the teachers' workload to meet new pedagogical requirements and parent demands.* All teachers indicated they require appropriate training and additional resources to meet children's needs in online learning more effectively. Teacher V documented: *Training is an important consideration which would have increased teacher confidence and capability for online delivery and support to children and parents.* In sum, teachers advocated for children's right to quality education suited to their social wellbeing and developmental needs beginning at the ECCE level. Furthermore, teachers identified that in the current and post-pandemic era the Ministry of Education has a critical role in policy reform initiatives to ensure that ECCE teachers receive the necessary collaboration for high quality pedagogy in online learning environments. Together with educational technologists, principals, parents and external stakeholders from government institutions, teachers believed future online learning in ECCE can provide for rich, authentic learning that supports interdependence between very young learners and their social developmental needs.

6.0 DISCUSSION

The findings of this study revealed that the socioeconomic status and sociocultural background of the family are strong variables that could influence the functioning of the micro- and meso- systems interconnected with both the exo- and macro systems. Within Bronfenbrenner's open systems perspective, existing deficiencies are not the focus within the child as he or she endeavors to attain learning outcomes. Personal characteristics, such as the child's social needs, emotions, temperament and psychological deficiencies can profoundly influence the home environment and its cultural impact. First and foremost, teachers were in a unique position to assist in children's social development during the pandemic crisis. In the face of challenges, teacher participants in the study mobilised social, economic and cultural resources (meso-level) to help children, especially those who belong to socio-economically deprived homes (micro-level) with respect to the following: technology and its unavailability, teacher organisational skills, adaptation of pedagogical strategies, strengthening of school–family relationships, parental support and guidance, individual feedback sessions at the school, developing a professional culture in support of peer interaction, teacher-pupil interaction and advancement of online learning environments conducive to children's social well-being and social development.

The meso-system relationship involving parent-school communication plays an important role in the lives of children at the tender age of 3-4 years. During a crisis, the links between schools and homes (meso-level) and key organisations (exo-level) such as parents' workplaces, community health services and the Ministry of Education are deemed imperative to lend support measures in the transition to online learning. In fact, workplace health programmes can offer a coordinated and comprehensive set of strategies to cover policies, benefits and support for parents' mental and social well-being. The Ministry of Education has an instrumental role in policy reform initiatives to provide greater access to technology for pupils as well as teachers, teacher training programmes and performance management appraisal, and collaboration among all stakeholders. The exo-system can be entrusted to ensure that mechanisms for social inclusion and social well-being beginning at the early childhood level are regulated more equitably. What is represented by policymakers as a unitary education system (macro-level) embracing cultural values to inform decisions and actions can profoundly influence a child's social development; in reality the education system is an ensemble of those segments and units where the tangible school and home experience may have very specific needs.

The "Person-Process-Context-Time" framework facilitates the systemic explanation of the complex reciprocal interactions and proximal processes between the individual and the layers of systems involved in diverse education. The time factor depicted as chronosystem in Bronfenbrenner's eco-systems model allows an explanation for major changes that influence the person over time in both a socio-historical and personal sense. Change is not just related to the characteristics of a person but can also incorporate social processes in specific contexts related to others during critical times in the lives of children and families. What becomes important is an analysis of the transitions that take

place early in children's lives. The chronosystem consists of all the environmental changes that manifest over a lifetime which impact social development, including major life transitions and historical events. In this research paper, unanticipated life events such as the Covid-19 pandemic can provide an impetus for adaptation from old to new methods of online learning taking into consideration the socioeconomic status of families, the socio-cultural environment of the home, home -school –community linkages and education as an institution responsible for policies and provisions.

The findings of this study can be viewed through the lens of culture. Culture has the role of defining and organising microsystems and therefore becomes part of the central processes of social development. Culture is an ever-changing system composed of the daily practices within homes and school communities. Culture in the form of cultural knowledge and understanding offered high incentive for teachers to address challenges in online learning. A major finding of the study is that for those children who live in the culture of poverty, a number of ecosystem challenges have a negative impact on their social well-being and early development. The notion of culture within the microsystem, as a separate entity of everyday practices, is problematic. Hence, a new paradigm is needed to promote new cultural thinking. Applying Bronfenbrenner's model of human development to online learning can promote a holistic approach that facilitates effective teaching and desired learning outcomes. Through the cultural lens of Bronfenbrenner's model, the study revealed that culture impacts the child at every system level, and teachers must respond in a manner that supports children in online learning towards upliftment of their social well-being and social development.

7.0 CONCLUSION

Midgley (1995) defined social development at the macro level as follows: "A process of planned social change designed to promote the well-being of the population as a whole in conjunction with a dynamic process of economic development" (p.25). While Midgley's definition is noteworthy, social development *as a process of planned social change* should not be envisioned as a linear process of ascending stages like the rungs of a ladder. The application of Bronfenbrenner eco-systems theory has demonstrated that the sudden transition to online learning during the Covid-19 crisis required interrelated open systems across the micro-meso-exo-macro and chrono systems aimed at social development in Year One (1) Early Childhood pupils at a selected nursery school in East Bank, Demerara, Guyana. EST lends itself to socio-cultural factors in the development of human ecology and ideas of cultural competence, whole person approaches, and policy action in research and practice for sustainable development. This approach signals the importance of ECCE as a foundation stage and the need for collaboration among all stakeholders. In the conduct of this study, the disposition of teachers displayed towards the social development of young children in online learning was highly appreciated and reflective of their school's motto which is "To Know, To Love and To Serve." ECCE Teachers have a pivotal role to connect the micro and meso systems to broader systems which have profound external influence for online learning in alignment with Guyana's sustainable development agenda.

REFERENCES

[1] Berk, L. E. & Roberts, W. L . 2009. *Child Development* (3rd Canadian ed.). Canada: Pearson Education.

[2] Bertalanffy, L. von. 1968. *General Systems theory: Foundations, development, applications*. New York: George Braziller, Inc.

[3] Bronfenbrenner, U., & Evans, G. W. 2000. Developmental science in the 21st century: Emerging theoretical models, research designs, and empirical findings. *Social Development*, 9, 115– 125.

[4] Bronfenbrenner, U. 1975a. Reality and research in the ecology of human development. *Proceedings of the American philosophical society,* 119 (6): 439-469.

[5] Bronfenbrenner, U. 1975b. The origins of alienation. In U. Bronfenbrenner & M. Mahoney (Eds.). *Influences on human development* (2nd ed. pp. 485-501). The Dryden Press.

[6] Bronfenbrenner, U. 1977. Toward an experimental ecology of human development. *American Psychologist*, 32(7): 513-531.

[7] Bronfenbrenner, U. 1979. *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

[8] Bronfenbrenner, U. 1992. Ecological systems theory. In R. Vasta (Ed.), *Annals of child development. Six theories of child development: revised formulations and current issues* (pp. 187–249). London: Jessica Kingsley.

[9] Bronfenbrenner, U. 1994. Ecological models of human development. In T. Husen & T. Postlethwaite (Eds.). *The International Encyclopedia of Education* (2nd Ed., Vol. 3, pp. 1643-1647). Pergamon.

[10] Bronfenbrenner, U. 1995. The bioecological model from a life course perspective: Reflections of a participant observer. In P. Moen, H. Glenn, Jr. Elder, K. Luscher (Eds.). *Examining lives in context: Perspectives on the ecology of human development* (pp. 599-618). Washington, DC: American Psychological Association.

[11] Clarke, V. & Braun, V. 2013. Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist*, 26(2):120-123.

[12] Crawford, M. 2020. Ecological Systems Theory: Exploring the Development of the Theoretical Framework as Conceived by Bronfenbrenner. *Journal of Public Health Issues and Practices* 4(2):170 Retrieved from https://doi.org/10.33790/jphip1100170

[13] Creswell, J. W. 2013. *Qualitative Inquiry & Research Design: Choosing among Five Approaches* (3rd ed.). Thousand Oaks, CA: SAGE Publications.

[14] ELAC 2022. *Education during the Covid-19 pandemic. Access,inclusion and psychological support.* United Nations Caribbean: ELAC Subregional Headquarters for the Caribbean.

[15] Dawadi, S. 2020. Thematic Analysis Approach: A Step by Step Guide for ELT Research Practitioners. *Journal of NELTA* 25(1-2): 62-71.

[16] Department of Public Education, Guyana 2018. 8000 hinterland children saw improvement in emergent literacy, numeracy. Retrieved from https://dpi.gov.gy/8000-hinterland-children-saw-improvement-in-emergent-literacy-numeracy/

[17] Franzen, R. & Lazarsfeld, P. 1945. "Mail questionnaire as a research problem," *Journal of Psychology*, 20: 293-320.

[18] Fullan, M. 1996. Professional Culture and Educational Change. *School Psychology Review*, 25 (4): 496-500.

[19] Garner, P. W., & Estep, K. M. 2001. Emotional competence, emotion socialization, and young children's peer-related social competence. *Early Education and Development*, 12(1): 29–48.

[20] Garner, P. W., & Parker, T. S. (2018). Young children's picture-books as a forum for the socialization of emotion. *Journal of Early Childhood Research*, 16(3): 291–304.

[21] Germain, C. 1978. General-Systems theory and ego psychology: An ecological perspective. *Social Service Review*, 52 (4): 535-550.

[22] Government of Guyana . 2014. *Amerindian People's Plan (APP) for Guyana's Early Childhood Education ECCE*. Ministry of Education, Guyana.

[23] Marshall, C. and Rossman, G. 2011. *Designing Qualitative Research* (5th ed.). London: Sage.

[24] Midgley, J. 1995. *Social Development: The Developmental Perspective in Social Welfare*. London, Thousand Oaks, CA & New Delhi: Sage Publications.

[25] Nowell, L.S, Norris, J.M., White, D. E, &. Moules N. J. 2017. *International Journal of Qualitative Methods*. 16:1–13. Sage Publications.

[26] Patton, M. Q. 2015. *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA: Sage.

[27] Ragobeer, V. 2021, September 5th. Protecting against further learning losses caused by the pandemic. *Guyana Chronicle. The Nation's Paper*. Retrieved from https://guyanachronicle.com

[28] Roopnarine, J. L., & Chiang, J. 2018. Early childhood education in English-speaking Caribbean cultural communities. In C. Pascal, T. Bertram, M. Veisson, M. (Eds.). *Early Childhood Education and Change in Diverse Cultural Contexts* (pp. 22-33). Routledge.

[29] Stake R.E. 2010. *Qualitative Research: Studying How Things Work*, New York: Guilford Press.

[30] Taharally, L. C. 1988. Early childhood education in Guyana. *Day Care &Amp; Early Education*, 15(3): 28–30.

[31] Tudge, J. R. H., Merçon-Vargas, E. A., Liang, Y., & Payir, A. 2017. The importance of Urie Bronfenbrenner's bioecological theory for early childhood educators and early childhood education. In L. Cohen & S. Stupiansky (Eds.), *Theories of early childhood education: Developmental, behaviorist, and critical* (pp. 45–57). New York: Routledge.

[32] Zakharova, T. N. 2011. Mechanisms and conditions for the social competence formation in preschool children. *Yaroslavl Q11 Pedagogical Bulletin*, 2(2).