Environmental Impact of Reading Literacy Development

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ABSTRACT

Reading literacy is a basic requirement in the process of teaching and learning. It is one of the important skills needed to be mastered, along with writing skills, speaking skills, and listening skills. The term literacy is not a foreign thing in today’s world of education. In this paper, researchers will focus on reading literacy and the relation of environmental factors based on Bronfenbrenner’s Ecological Theory and literacy development. This theory introduces five systems in the ecology of human development, which are microsystem, mesosystem, exosystem, macrosystem and chronosystem. Through this paper, the researcher will try to understand how the environment surrounding the students’ lives will affect their psychological, personality and intellectual development. A good relationship between students and individuals around their surrounding will also make them psychologically balanced human beings. It can also help students to improve their academic performance. In conclusion, a positive environment will help students to achieve excellence, while a negative environment will hamper all such efforts.

Contribution/Originality: This study contributes to the existing literature about student’s reading literacy based on Bronfenbrenner’s Ecological Theory. This study also identified how the environment factors will affect student’s especially in reading literacy development. This article hopefully can give information to other researchers who interested to figure out more about this issue.

1. Introduction

Language is an important element in the process of acquiring language skills, especially for mastery of reading literacy. Halliday (1993) argued that children who learn language will not only simply engage in one type of learning, but they are also learning the
foundations of learning itself. Vygotsky (1962) also described language from a sociocultural perspective as two tools that have different functions. First, language serves as a cultural tool to construct and knowledge sharing among community members. Second, language serves as a psychology tool used to organize the processes and content of individual thought. Simply put, it can be concluded that language is a liaison agent in the communication process that takes place among fellow human beings. Through language, humans can communicate and interact in society effectively. They can organize and express ideas and experiences during the communication process using every day spoken languages.

In the context of education, students’ language ability or competence is closely related to their abilities in mastering language skills. Language skills in general include four main aspects, which are listening, speaking, reading, and writing skills. Therefore, more emphasis needs to be given to students in primary school to ensure they can master all these skills in a planned manner. This is because these skills are very important in their lives, whether at the level of schooling, work, or during their daily life.

2. Reading Literacy

Reading literacy is a basic requirement in the teaching and learning process and it is an important skill next to writing skills, speaking skills, and listening skills. The term literacy is also not a foreign thing in today’s world of education. UNESCO (2019) also outlines literacy as a driver to sustainable development that opens greater opportunities in labour market, improves family health levels, reduces poverty rates, and increases opportunities in life. Literacy, also known as emphasizing literacy or literacy on students’ ability to read, write, listen, and speak as well as understand speech or writing (Mohd Asnorhisham & Abdul Rahim, 2018).

Moreover, Fong (2015) also agrees that literacy is a key foundation in the learning process during primary education to the next levels. Without these skills, it is almost impossible for a student to master an education and subsequently put themselves in society. Therefore, basic literacy skills need to be mastered by students since primary school. Skills that emphasize students’ ability to read, write and understand words, simple single sentences, and compound sentences (using conjunctions) can help students apply that knowledge in daily learning and communication. In conclusion, literacy skills are essential to develop fully an individual’s potential to enable them to live a better and rewarding life and in turn, contributing to the surrounding community.

3. Bronfenbrenner Ecological Theory

Ecological theory has been introduced by Urie Bronfenbrenner (Bronfenbrenner, 1973). This theory underwent several improvements until the bioecological theory was produced. The changes that took place were due to the criticisms of the ecological theory that were introduced initially. Although there are several phases of improvement that apply, this theory still emphasizes the influence of the environment on human development.

According to Bronfenbrenner (1979), children’s development results from their interactions with the environment. This theory is suitable to be used to understand how the environment that surrounds the life of a child or student can affect their psychological development. According to Bronfenbrenner (1979):
“The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are embedded.” (p. 21)

Children’s environment also comprise a single social system as a layered structure which involved the closest individual in the child’s life. They are made up of the mother, father, and those who will be directly involved in the child’s life or indirect. The environment that surrounds the child’s life will affect the development of their psychology, personality, and intellectual development. Good relationships with surrounding individuals will also make them psychologically balanced human beings and in turn help in improving mastery in academics. This theory has five systems, microsystem, mesosystem, exosystem, macrosystem and chronosystem that are interrelated with each other.

3.1. Microsystem

The microsystem is the first layer in this theory. Microsystems describe individuals who are always in direct contact in a child’s surroundings. In the life of a child, Microsystems involve the environment that children always interact in a small environment, such as interactions with parents, peers, and neighbors. Children also spend most of their time with parents, siblings, teachers and school friends and neighbors. Parents are the most important socialization agents in their children’s lives and also the biggest factor that influence the development of their children.

Individuals that are involved in the formation of early stage socialization around childhood play a very important role in the development of a child’s mind, physically and emotionally. Children begin to place high trust in people around them. Relationships that take place in microsystems are also bidirectional. This means individuals in the system have the opportunity to influence each other. Children will be influenced by others in their surrounding and they will also be able to change the beliefs and actions of others too.

3.2. Mesosystem

Mesosystem is the second layer in this theory. Mesosystem describes the relationship between microsystems with other microsystems. Anything that happens in a microsystem will affect interaction between other microsystems. The reciprocal relationship between other microsystems will affect the student’s relationship with those microsystems and, will affect their development. In mesosystem, family relationships with friends, teachers and neighbors become the primary focus for identifying influences on students relationships with the environment. Bronfenbrenner (1979) said that:

“A mesosystem comprises the interrelations among two or more settings in which the developing person actively participates (such as, for a child, the relations among home, school, and neighborhood peer group; for an adult, among family, work, and social life)” (p. 25)
This clearly shows that the mesosystem is an interaction between family and the school, such as parental interaction with school and interactions between teachers, parents with peers. This existence of this interaction will affect the interactions in other microsystems.

### 3.3. Exosystem

Exosystems are the third layer in this environmental theory. This system describes how experience and environment do not directly involve students, but decisions taken in that environment will affect the child or adult who are involved with the student indirectly. In simple term, ecosystems explain how an individual’s experience will be influence by peoples around them.

### 3.4. Macrosystem

Macrosystems are the fourth layer in this theory. Macrosystems describe how the development of individuals will be affected by the norms, values, practices, and customs of society. For example, in the previous societies, education for girls was not emphasized. This is because they thought women will remain in the kitchen niche and will not be able to be leaders in society.

### 3.5. Chronosystem

Chronosystem is the fifth layer and the last layer in this theory. Chronosystem is related to the changing of circumstances over a period. This situation is in line with the changing and development of information technology achieved by a country. Chronosystem also refers to the socio-history of a student’s development. For example, students nowadays are mostly housed in day care centers such as in nurseries or nurtured in other people’s homes or cared for by domestic workers. In fact, they are also the first generation living in an age of globalization that is more game-focused, derived from electronic media such as computers and video games. This contrasts with children in ancient times who were more exposed to traditional games.

### 4. The Relationship Between Ecological Theory and Reading Literacy Development

A review of the literature in this paper will look at previous literature that revolves around Bronfenbrenner Ecological Theory. This paper is trying to see if there is any relationship between those theories with the development of language literacy.

There have been several past studies that examined the Bioecological Theory in the development of language literacy. Among them is Jaeger (2016) who stated that the application of the Bronfenbrenner theory can increase the likelihood that the development of literacy can be understood as a site of transaction between cognitive processes and social behavior. This theory also functions as a very beneficial framework for describing the development of literacy. It can provide a comprehensive explanation related to the literacy experience and demonstrating ways to improve the development of individuals to respond in their ecological environments. However, Jaeger (2016) also pointed out that applying this theory in the context of research related to literacy is very challenging.
So, researchers who wish to apply this theory in their study should follow the guidelines to ensure that the results of the study obtained are more beneficial.

Rojas-Drummond (2016) was supported Jaeger (2016) who provided a very useful meta-analysis about this study that can help readers who use Bronfenbrenner’s theoretical framework to understand well about the aspects of literacy development. This also can be used as a guide for future empirical studies because that research provided an accurate and inclusive explanation about the development of literacy. That happened because the exploration studies that have been conducted by Jaeger (2016) using strict and rigorous criteria can describe how Bronfenbrenner’s bioecological theory is well generalized and extrapolated can be used comprehensively and systematically in the development of literacy. Rojas-Drummond (2016) also explained that Jaeger (2016) had used several orders to explain how different levels of analysis, according to Bronfenbrenner’s opinion, translate into the domain of literacy. Among these are (a) the reader's personal characteristics of demand, resources, and strengths, (b) proximal processes occurring as the reader interacts in a school environment (c) the way some microsystems, such as home, friends, school and community interact at the literacy system level, and (d) how the strength of exosystems and macrosystems can affect the literacy system.

In addition to commenting on Jaeger in his study, Rojas-Drummond (2016) also gave his personal opinions about the relationship between the Bronfenbrenner ecological theory and the development of literacy. According to Rojas-Drummond (2016), although this theory considers language to be a contributing factor when explaining the Process/Person/Context/Time model, this theory placed less emphasis on other theoretical approaches such as systemic functional linguistic models and sociocultural theories introduced by Halliday (1985).

5. The Influence of Family, Teacher and School on The Development of Language Literacy

5.1. Family Influence

Family is defined as the smallest social institution where all the members of this family live in a building called a house comprising of various types and sizes (Sufriadi, 2016). The family is a major element that plays an important role in a child’s development, especially in education.

There are several researchers who conducted studies on the influence of family, especially parents, on the development of language literacy. Among them is Nurulhusna (2017) who conducted a study about the involvement of parents in cognitive, social, emotional and language aspects. This study tries to figure out the language aspects as well as their relationship with personality, socioemotional and spiritual development such as language, communication, and early literacy, which is early mathematics and logical thinking of children. The study was conducted in the form of this survey that used a questionnaire involving 279 samples of parents and children selected from several Taska Permata Kemas in Perak and Selangor. The study data was descriptively analyzed to explain the level of parental involvement and a child’s development, while inference statistics explained the relationships and differences between the variables. The results of the study found that parental involvement in language aspects showed the highest mean value. The findings also showed that there is a significant relationship between
parental involvement in the aspect of reading language and language development, communication, and early literacy.

In addition, Ruslida (2005) also examined the relevance of parents’ influence on the development of reading literacy in their children. This study examined the involvement of parents in four aspects which is interaction, spending time reading and storytelling, providing material guidance and support to their children at home. To carry out this study, researchers used a sample of 125 preschoolers from five preschools under the Ministry of Education and 125 parents in Petaling Jaya, Selangor. This paper uses a set of questionnaires to be answered by parents of preschoolers and a basic reading skills test for children who are involved in this study. The results showed that there was a significant relationship between parental involvement and the achievement of basic reading skills of preschoolers. This study also supported by Nafiseh Zarei and Joseph (2019) which found that parents also play an important role in educating their children with good values and fostering good attitudes and habits such as reading habits. Parents need to provide a conducive learning environment and always strive to provide quality and attractive reading materials that are suitable for their children’s interests. The practice of reading storybooks to children before going to bed (Wijayanti, 2020) also a good practice that should be used as a routine in everyday life.

Based on the study, it can be concluded that parents who care and pay attention to the development of their children, indirectly will be able to help their children improve the emotional, personality, behavioral and academic development (Rohayati et al., 2018). This is because the academic success of children is not easily achieved. All of this involves a long process and needs to be started by the family, basically. Then, it will continue from preschool to the higher-level education stage, such as university. Sufriadi (2016) advised every parent to act wisely in guiding their children in the family because a harmonious family will be able to produce excellent academic and emotionally stable children.

5.2. Teacher Influence

When we talk about education, one of the most important components that acts as an executor is the teacher. Teachers are individuals who play an important role in developing the country and are the driving force in fulfilling the needs and aspirations of the National Education Philosophy. Therefore, teachers have the role and contribution to carry out everything that has been planned by the government as one of the efforts for education reformation. A competence and quality teacher should also have the necessary criteria to develop the potential and talents of students (Meng et al., 2017; Molla et al., 2020). According to Yenice (2009), teachers bear enormous responsibility in educating and producing a generation of heirs who not only have good academic achievements but also have commendable morals.

Besides, teacher should provide students with all the necessary teaching content to ensure that they are mastering reading literacy. According to Wan Nurzuliana (2019), the teaching and learning process in the 21st century is in dire need of teachers who are always ready and willing to endure any changes or transformations in the field of education. A quality teacher must also have abilities in the teaching and learning process, have a high level of trust in what is taught to their students, and have adequate knowledge of the contents in the field being taught. Teachers should always be aware and believe that each student has a different learning style according to their interests.
and abilities (Juwairiah et al., 2018). In addition, the conducive and quality teaching and learning environment will also indirectly influence the effective learning transfer process (Norhafizah, 2017).

Good interaction between teachers and students can also indirectly establish positive relationships in the classroom (Meng et al., 2017; Rohayati et al., 2018; Wan Nurzuliana, 2019; Wijayanti, 2020). Good teachers will also be able to assess the changes that have occurred to their students as well as know the needs of the students. The teacher's sensitivity to the condition of the classroom will also have a great impact on the teacher and the student. Meng et al. (2017) using “morality” as indicator to describe about teachers’ attention to their students in the classroom and outside the classroom. This is important because a good interaction between the teacher and the students will also indirectly create a positive relationship and conducive classroom. So, teachers need to shape the classroom environment to be comfortable and thus improve the ability of students to learn.

A conducive classroom environment will result when there is effective cooperation and interaction between the teachers and the students. When the learning situation becomes attractive, the student’s interest in learning can be improved. Students will find it fun to learn, as they can engage in a variety of active and encouraging learning activities. The active involvement of students in teaching and learning process will have a more positive impact on them and make it easier for them to master important skills, including reading skills. Teachers play an important role in providing significant and effective learning experiences for their students. This is because teachers are among the determining factors in the success and failure of students’ learning (Che Nidzam et al., 2016). So, teachers need to be more creative and innovative when applying their teaching and learning procedure to make sure students can learn and master knowledge better, especially in the aspect of reading literacy (Noor Zuhidayah & Siti Saniah, 2016).

5.3. School Influence

A peaceful and comfortable atmosphere in schools is a very important element to students and teachers in ensuring that learning and teaching takes place effectively. This is important because students spend almost half of their time at school. Therefore, classrooms should always be conducive and able to support the process of education and learning. The physical design of the classroom, including laboratories, libraries, screening rooms and other indoor environments, will have an impact on students’ learning performance and will influence teachers’ assessment too (Mohamad Isa et al., 2019; Wijayanti, 2020). The physical perspective of the classroom can be seen in terms of size and shape, space, interior light, colors, themes, noise level, furniture and seating arrangement options as well as modern technological facilities provided (Che Nidzam et al., 2016).

Additionally, crowded classroom conditions will be an obstacle to access the process of teaching and learning in the classroom. Therefore, the classroom environment must also fulfill the needs of teachers, students, and the learning activities. Equipment, classroom layout should also be able to stimulate learning, encourage active involvement of students and thus facilitate teachers’ affairs. The use of equipment, classroom management, and a conducive environment will indirectly increase learning productivity and give comfort to students. Students will be able to understand the
contents of the lessons and engage actively during the teaching and learning process if they are in a conducive and calming environment.

The discomfort inherent in the classroom will also affect the motivation of the student to learn better. That happens because the learning environment plays an important role in ensuring effectiveness of teaching and learning. Physical environment also functioning as the third teacher who will play a role in guiding classroom learning. All students will be able to focus more on learning if they are in a safe and comfortable situation.

Therefore, all schools should provide a conducive learning environment both physically and psychosocially towards their students. According to Zalika et al. (2009), lack of infrastructure and learning facilities, uncomfortable and safe learning environment and conducive, especially in rural areas (Mohammadpour & Shekarchizadeh, 2013; Muhammad Faizal et al., 2014), were among the factors that influenced low academic achievement among students. A study by Khadijah and Azimin Samsul (2013) also founded that most of the classrooms do not provide comfortable environmental to fulfill the needs of both teachers and students.

Students nowadays also look forward to a classroom which is equipped with modern technological equipment such as adequate computers and fast internet access to meet their learning needs. These technological equipment’s need to be improved and upgraded from time to time in order to fulfill the needs of students in the learning process. This is because the use of technology is one of the most effective and potential sources of pedagogy in helping teachers and students when teaching and learning are implemented in the classroom (Rawlins & Kehrwald, 2014).

Hence, learning environments that are provided in schools should be in line with the development of technology to help students achieve better, especially in language literacy. This is because, today, sources of knowledge are no longer solely depending on teachers. Students should be given the opportunity to gain more knowledge from diverse sources. Hence, to create a conducive environmental in classrooms, a student-centered learning environment will be more satisfying to the satisfaction of teachers and students. It is appropriate that the classroom environment be reassessed and improved, especially in the aspect of technological facilities, to further enhance the effectiveness of learning in the classroom. Schools must play an important role in this matter to ensure that their students get the best possible benefits, and thus produce students who master a variety of essential skills.

6. Conclusion

Family is the closest environmental system that plays an important role in creating a balanced environment for children. However, teachers and schools also indirectly influence the development of children. This is because all the individuals who surround the child’s life will have a large impact either positively or negatively on a child’s development. Such forms of contact will have varying effects on the children’s development. For example, negative relationships will affect the child’s emotions and thus affect the child’s education and daily life.

This coincides with what Bronfenbrenner (1977) said that:
“The experience of a child in daycare, in the classroom, or in the informal peer group may change his pattern of activities and interaction with parents or siblings in the home, or vice versa, with consequent implications for learning and development” (p. 523)

This verified that the relationship between parents, teachers and schools plays an important role in the development of children, either in the aspect of academic achievement, morals, psychology, or personality. If the cooperative relationship is successful, then students will feel that the school is a safe place and gives them joy and comfort (Chavkin & William, 1998). A conducive learning environment will also be able to establish a good teacher-student relationships as well as increase motivation for students. This will indirectly encourage students to learn and thus increase the achievement of students from time to time (Che Nidzam et al., 2016). Good relationships between students and individuals around them will make them psychologically balanced human beings and in turn help them to improve their mastery in academics, especially in reading literacy.

The findings coincide with what Bronfenbrenner (1994) said that “the effects of family and school processes were greater than those attributable to socioeconomic status or race” (p. 40). That happened because, relationship between all the ecological systems play a great role in the development of children. The relationships in children’s lives, such as families, teachers and schools, are an important influence on children’s psychological development that also affects their academic achievements. Parents, teachers and schools are important individuals involved in shaping children’s development to become academically excellent individuals and thus have good personalities. In conclusion, a positive environment will help students achieve excellence, while a negative environment will hinder all such efforts.

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