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Early Childhood Education: A Curriculum Review and Critical Analysis

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Abstract

Early childhood education (ECE) is a branch of education theory which relates to the teaching of young children (formally and informally) up until the age of about eight. The quality of the early childhood education a child receives has a direct impact on positive child development. Many different “curricula” or teaching approaches can create an enriched learning environment for children. A curriculum should reflect current research on child development and it should include specific learning goals for children. Well-planned learning activities can also be embodied in a particular philosophy or approach to early childhood education such as Montessori, Reggio Emilia or Waldorf Schools.

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Based on a child's developmental needs, activities, materials and schedules should be appropriate to a child's ages and support all three key developmental domains: cognitive (language development and problem-solving skills), physical (gross/fine motor development) and social-emotional (interactions with others in a group). Further, a good curriculum provides a balance of play and structured activities, teacher-initiated and child-initiated exploration. Early childhood education often focuses on learning through play, based on the research and philosophy of Jean Piaget, which posits that play meets the physical, intellectual, language, emotional and social needs (PILES) of children. Children's natural curiosity and imagination naturally evoke learning when unfettered. Thus, children learn more efficiently and gain more knowledge through activities such as dramatic play, art, and social games.

In a more contemporary approach, the National Association of the Education of Young Children (NAEYC) promotes child-guided learning experiences, individualized learning, and developmentally appropriate learning as tenets of early childhood education. In recent decades, studies have shown that early childhood education is critical in preparing children to enter and succeed in the (grade school) classroom, diminishing their risk of social-emotional mental health problems and increasing their self-sufficiency as adults. In other words, the child needs to be thought to rationalize everything and to be open to interpretations and critical thinking. The review of various curriculum development models provides valuable insights and ideas on the development of a model for developing curriculum standards for preschool education. All the curriculum development models are based on curriculum researches and are on certain theories of curriculum. Each model is unique depending on the curriculum theory advocated by the proponents. This study attempted to examine the practices behind the effectiveness of implementing the Early Childhood Education Curriculum. It analyzed the major factors which may directly or indirectly affect in its implementation from the administrative, teachers, learning environment and the learners as well. A total of seventy-five (75) studies were reviewed and analyzed under the following criteria in curriculum- content, pedagogy, instructional materials and learning outcome. The studies that were collated generated the following specific parameters: research design, sample, setting, procedure/ instrument and data analysis.

Keywords: Early Childhood Education; Curriculum; Children; Learning Content and Outcome.

1. Introduction

Early Childhood Education consists of activities and experiences that are intended to affect the developmental changes in children prior to their entry into elementary education. Early childhood is the most fundamental and critical stage of human development. It is a period of life where the human brain rapidly develops and is known to be the best stage to enhance skills. The first six years of life are most vital. [37] In early childhood, both intellectual and moral foundation must be built in every child. This is also the stage when a child learns through exploration and discover about himself, his family, community and the world around us. In the past years, research has provided a lot of information about childhood as a separate stage with distinct characteristics of its own. The application of this information or knowledge to teaching is called Developmentally Appropriate Practices (DAP), which means teaching in ways that suits the way a child develop and learn.

Recently, the Philippines adopted the K to 12 Curriculum as the country's educational system. Republic Act 10157 also known as the Kindergarten Education Act makes kindergarten "the first stage of compulsory and mandatory education." The kindergarten education program will be comprised of one year of preschool education for children aged 5 and above. The framework of the kindergarten curriculum draws from the principles and goals of the K to 12 Basic Education Curriculum and is aligned with National Early Learning Framework. This Kindergarten framework considers the developmental benchmarks of Filipino five year old child, which is at the center and is envisioned to be functionally literate and holistically developed.

Moreover, the Kindergarten Curriculum Framework of the Philippines demonstrates an unstructured characteristics of the Kindergarten Curriculum Standards and Competencies to provide the necessary readiness skills for smooth transition for the Filipino child to traverse successfully in Kindergarten and complete Grades 1 to 12 Basic Education. In this kind of principle, it is a positive step that all children in the near future would have the opportunity to experience the most satisfying learning environment which is necessary in their developmental needs. In the end, every Filipino child will become productive, confident and self-sufficient in facing the challenges and tasks of the next level of education.

Education for children in the early years lays the foundation for life-long learning and for the total development of a child. The feature of the curriculum of kindergarten is congruent to Education for All (EFA) 2015, to which the Philippines is committed. It emphasizes the crucial role that early childhood education (ECE) plays in the child's brain development, listing ECE as first priority, that is, to expand and improve the comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children. In this sense, the review of various curriculum development models provides valuable insights and ideas on the development of a model for developing curriculum standards for preschool education. All the curriculum development models are based on curriculum researches and are on certain theories of curriculum. Each model is unique depending on the curriculum theory advocated by the proponents.

This study attempted to review the practices behind the effectiveness of implementing the Early Childhood Education Curriculum. It examined the major factors which may directly or indirectly affect in its implementation from the administrative, teachers, learning environment and the learners as well. Furthermore, it established the relationship of foreign Early Childhood Education curriculum from local ECE Curriculum and their salient differences.

2. Objectives

This review of related literature aimed to achieve the following research objectives:

1. To find out the specific parameters in the curriculum review: (a) research design, (b) sample, (c) setting, (d) procedure/ instrument and (e) data analysis.
2. To identify the research gaps in the curriculum.
3. To determine the common areas/ topics in the curriculum review.
4. To reveal the point of discussion in the curriculum review.
5. To establish future research directions in the Early Childhood curriculum.

3. Methodology

3.1 Criteria for the Inclusion in the Review

A total of seventy-five (75) studies were thoroughly organized, reviewed, categorized and analyzed under the following criteria in curriculum- content, pedagogy, instructional materials and learning outcome. The studies that were collated generated the following specific parameters: research design, sample, setting, procedure/ instrument and data analysis. The featured studies and other reference materials on the ECE curriculum were initially searched by the members of the graduate class.

3.2 Literature Sources

The sources of the related literature were mostly acquired from online journals of US National Library of Medicine, Early Childhood Research and Practice, Middle East Technical University, Utah State University, Delta State University, University of Wisconsin, State University of New Jersey and other online databases. The local literatures were from the libraries of Tarlac State University, Harris Memorial College, University of the Philippines-Diliman, Philippine Normal University, Adventist International Institute of Advance Studies and Department of Education.

3.3 Procedure

As previously mentioned, the members of the group obtained various reference materials about the Curriculum in the different literature sources cited. As soon as the group received the list of bibliographies, they were then divided to the members to undergo a detailed analysis or what we refer to as literature search. Each paper underwent analysis and a summary was obtained from each and used Recon table to compile all researched studies. Through these summaries, the researchers were able to identify the main ideas and thus were able to classify them accordingly. The studies were then categorized into 4 major areas in Curriculum. The members of this study's interests focused on content, pedagogy, instructional materials and learning outcome. 1) Curriculum which is sub-divided to 4 domains: content, pedagogy, instructional materials and learning outcome.; 2) Review of Related Literature, and 3) Applied References.

The group then tabulated the collected studies under the main area of Curriculum in accordance to the 4 domains mentioned. These domains are the focal points of this study. The trends, frequencies, patterns and gaps from the studies in relation to their respective domains were carefully examined and analyzed. Summaries were then presented to come up with an all-encompassing, comprehensive discussion. The review of related literature and applied references served as background and support information in the conclusions and recommendations.

3.4 Conceptual Framework

The curriculum can be narrowly defined as the contents and methods that substantiate children's learning and development. It basically answers the questions as to what to teach and how to teach it. A curriculum should be

reflective of the developmental level of the child which involves set of actions and behaviors that support a child's holistic development. This should be considered on the planning phase. that a curriculum is a complex concept containing multiple components such as ECE goals, content and pedagogical practices. The organized content can be implemented through pedagogical approaches which best suits the content and congruent to the instructional material. For purposes of spotting out the various points for improvement in every implemented curriculum, the evaluation phase is significant. The learning outcome defines the effectiveness of the curriculum and it gives feedback to what transpires throughout the entire curricular process.

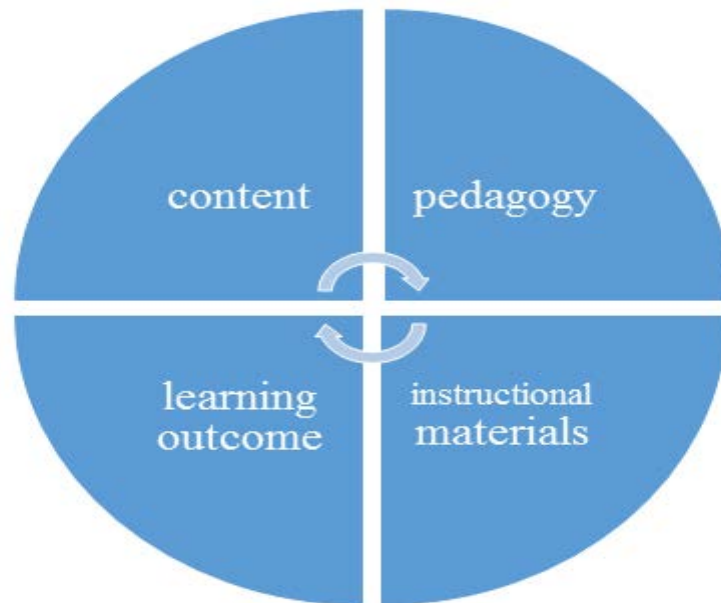


Figure 1: Research Paradigm

4. Results and Discussion

4.1 Specific parameters in the curriculum review

a. Research Design

Comprehensive analysis of the research design was done to understand the context and perspective in which ECE curriculum are studied in terms of content, pedagogy, instructional materials and learning outcome. The designs gave the researchers an idea of the progress of researches made in the area of Early Childhood Curriculum. The 75 studies were included in the analysis of the studies.

Different research designs were used in the studies of ECE curriculum. Among the 75 research studies, most of them looked into the use of different instructional materials in the ECE curriculum, specifically the use of ICT or multimedia resources. Out of 75, 24 of which or 32% dealt with this. 19 of the studies or 25% researched about the practices, awareness and effectiveness of teachers in ECE curriculum. 16 of the studies or 21% studied about the content of ECE curriculum and the other 16 studies or 21% dealt with learning outcomes of ECE children.

Table 1: Research Design Analysis on the 75 Studies

Research Design	Content	Pedagogy	Learning Outcomes	Instructional Materials
Descriptive	4	5		6
Experimental	2	1	2	6
Longitudinal			2	
Observational		1	2	
Cross- Sectional	2			
Focus Group		1		
Qualitative	3	7		4
Quantitative	1		3	1
Causal Comparative	1			
Quantitative & Qualitative	1		1	1
Phenomenological	1			
Survey Research		2	1	1
Action Research		1	1	1
Intervention Study			2	2
Evaluation			2	1
Quasi-Experimental	1			1
Post-structural		1		
TOTAL	16	19	16	24

The research studies used varied research designs. There were a total of 17 research designs used. Descriptive study is the most used design. There were 15 studies or 20% that used this method. It was used in studying

content, pedagogy and instructional materials in ECE curriculum. But there was no study found by the researchers that used this design in talking about the learning outcomes. Qualitative research was also one of the most used design by the research studies found. 14 studies or 19% used this design. 7 out of the 14 studies used this method to study about pedagogy. But there was also no study found that used this in studying about the learning outcomes. On the other hand, among the 75 research studies, 11 or 15% used the experimental design. The researchers were able to find studies that used the experimental design in studying about the content, pedagogy, instructional materials and learning outcomes in ECE curriculum.

Among the 75 studies, there were 3 studies or 4% used combinations of qualitative and quantitative designs. One of the studies by DeRousie and Bierman [57] explored the sustainability of the curriculum. It also identified the factors that may facilitate or hinder the sustainability of the curriculum. While the other study of Daytner, Johanson, Clark, & Robinson[34] studied about the implementation of curriculum. The qualitative data, which included staff observations and teacher interview data, provided contextualized information about changes in students and teachers. The quantitative data were related to the research questions that were generated. Lastly, the other research study by Broemmel, Moran, and Wooten [7] studied about the impact of animated books on the vocabulary and language development of preschool-aged children.

The other studies found used different kinds of research designs. Considering the nature of the other research designs, the studies were able to present varied information and data about the different variables in ECE curriculum.

b. Sample

Most of the research studies have pupils/ students as their respondents which is 37 out of 75 studies or 49.33%, 16 out of 75 have teachers as their respondents, 7 studies have both teachers and pupils/students as their respondents. Other stakeholders, such as school administrators, principals, curriculum planners, even parents served as respondents in 3 out of 75 studies or 4%, while a combination of these stakeholders with teachers as their respondents were selected samples in 7 of the studies. However, 5 out of 75 or 6.66% didn't mention any sample hence their study focused on program evaluation.

c. Setting

Generally, the chosen literature for this review were foreign, 77.33% of the studies were conducted in other countries outside Asia. There were just 6 out of 75 have other Asian countries as locus other than Philippines, and 14.66% (11 out of 75) were conducted here in The Philippines.

d. Procedure/ Instrument

There are varieties of instruments/ procedures that may be used for data gathering. For the research collated, the observation, questionnaire, interview/ survey, and standardized assessment tools were commonly used. Other procedures such as focus group discussion, photo documentation, content analysis, and research review were also utilized.

e. Data Analysis

Most of the researches gathered were quantitative, which is 48% or 36 out of 75 research studies. On the other hand, 44% or 33 out of 75 analyzed data qualitatively, while the remaining 8% of the research studies were both quantitatively and qualitatively analyzed.

4.2 Research Gap in Curriculum of Early Childhood Education

Little focus on curriculum content and learning outcome were identified. Most of the studies conducted were on instructional materials and pedagogical approaches. It is obvious that most researchers failed to concentrate on the evaluation of the content of the curriculum being implemented in the educational system. They did not explore as to the curriculum design and model. Although there were some studies that dealt with the study of the curriculum model, the researchers think that it is not enough. Further, they did not deal on the different themes or areas/domains of development that should be included in the curriculum design.

In the study of Pawilen [23], he made a study about a model for developing curriculum standards for preschool teacher education. The study is successful in achieving its aim of creating a model for developing curriculum standards for preschool teacher education. The study found out that it is possible for curriculum theory to be developed by learning from the works of other curriculum scholars and by describing the current practices of curriculum development in any context. While Amar made a study about comparing curriculum models in ECE. The results said that early childhood education is a burgeoning field, with no clear consensus as to what constitutes quality. However, it is evident that one curriculum model may not be the panacea that will cure our nation's education ills. However, the current study does depict part of the problem with our education system: some types of curriculum models work better at preparing our children for school than others do.

Most of the studies dealt with the evaluation and implementation of the kindergarten curriculum. Brown [14], De Rousie [56], Darrow [16], Erden [20], Cabansag [42] and Barnett [72-73] studied about this. Results show that the process of curriculum implementation needs support, complete participation and eventual acceptance of innovative teaching practices from the teachers. The studies also pointed out that more research on the effects of preschool curriculum interventions on other language and literacy-related competencies is warranted, given the emphasis often put on curriculum as a means to meet early childhood educational standards.

However, the problems related to evaluation and physical facilities followed by the ones related to planning science and math activities, organizing field trips, providing parent involvement and inclusion. Results showed that the problems related to physical facilities experienced by preschool teachers working in public kindergartens were significantly differed compared to teachers working in private preschools. The studies also suggested that there is a need for close monitoring of the program implementation coupled with continuous professional trainings of teachers to clear areas of misinterpretations such as on grading system, skills development for employment standards, and on processing of learning activities to attain target competencies and attainment of mastery. They further suggest the provision and wide dissemination of policy standards on employment and education opportunities in the ASEAN Economic Community integration.

Aside from this, there are also some studies about integrating the Multiple Intelligences programs in the curriculum. Deutz [35] and Jaber [60], studies show that using multiple intelligences theory curriculum in the preschool classroom did slightly enhance object counting ability, but statistically did not prove the expected relationship between the multiple intelligence theory and object counting ability. The MI program is a guide for preschool teachers or tutors to implement an MI program in their classrooms.

But just like what mentioned above, study about the curriculum content is not much studied.

4.3 Common areas or topics in Curriculum of Early Childhood Education

It is obvious that most researchers concentrated on testing and finding out the effectiveness of various multimedia materials in facilitating early childhood program and activities. Most of the research studies found were related with the different kinds of ICT and multimedia materials that can be used. They also explored on the utilization of educational toys and other manipulative materials, equipment and gadgets. The researchers also interested to discover how these multimedia equipment and materials facilitate the growth, learning and development of children.

As mentioned above, most of the research studies found were about instructional materials. Out of 75, 24 or 32% were about this topic. In the study of Oladunjoye [52]; Fitzpatrick [44]; Silverman and Hines [57]; Shilpa and Sunita [63]; Toki and Pange [21]; Islam, B., Islam, K., Ahmed & Shamsuddin [8]; Broemmel, Moran and Wooten [7], they showed that many electronic materials such as iPad, videos, animations, televisions and other computer devices are important for literacy learning. Computers provide correct knowledge in interactive ways. Videos are mostly based on real situation which children can interact easily. Animation deeply affected children's minds and increased their academic performance. Presentations through slide projectors increase children's attention. These studies show we cannot separate the use of ICT, multimedia and other computer devices from literacy. They have a way of facilitating children's ability to read and write when they are effectively used for such purpose. The impact of interactive learning materials is exclusively high to improve their learning skills and adaptation. The general results in the studies showed that ICT presents a meaningful way in reading and writing and promote the social interaction and integration of the children.

Not only did they focus on the general learning skills of the children, there are also studies that looked into the use of multimedia in teaching language, music and visual arts. In the study of Broemmel, Moran and Wooten[7], the results said that e-books can play an important role in young children's vocabulary development. Children in this study demonstrated significantly increased use of relevant vocabulary after multiple exposures to books, regardless of whether they had access to traditional books or e-books. It appears that increased exposure to books, whether traditional picture books or e-books, contributed to children's continuing vocabulary growth. Ko C.[9] and Chou M. study had results that said technology instruments in music teaching facilitate the quality and efficiency in the young children's learning motivation and facilitate children's performance in their pretend play. In visual arts, they facilitate the quality and efficiency in the learning motivation of children.

While Goodwin [36]; Ahmad, Rosmani, Ismail, & Shakeri [65]; Mattoon, Bates, Shifflet, Latham and Ennis[13]; dealt with the use of ICT and multimedia in teaching Math. The results suggest that interactive tools

support the cognitive apparatus of young learners, some tools more effectively than others. Goodwin's study has established that digital technologies can provide unique learning opportunities for young students. The preliminary analysis reveals that multimedia tools afforded the intervention students the opportunity to engage with advanced mathematical ideas that exceed current, teaching practices and syllabus requirements. Moreover, Ahmad, Rosmani, Ismail, & Shakeri [65] made a multimedia application that tested its use in terms of teaching Math. The multimedia application has a significant impact in increasing the children's understanding toward the mental arithmetic techniques. In the study of Mattoon, Bates, Shifflet, Latham and Ennis [13] they concluded that both digital manipulatives and traditional manipulatives can be used to teach computational skills and can assist early childhood educators in providing children with a variety of experiences. Educators need not be reluctant to integrate digital manipulatives into prekindergarten mathematics curricula.

Aside from the use of ICT and multimedia, there were also some studies that focused on the use of toys, manipulatives and other tangible objects in preschool teaching. Clavio & Fajardo [28], Evangelou [18], Bagiati [2], Hart and Tannock [32] were the researchers who looked into this. Results show how toys can be used as instructional tools in the development of problem-solving skills among preschoolers. Particularly, Clavio & Fajardo's [28] study supports and agrees with the effectiveness of Wallace and Maker's instructional design in developing problem-solving skills among young learners. The instructional design is successful in incorporating toys as an instructional tool. The study however acknowledges the need for teachers to acquire the skills in asking questions and facilitating discussion to truly aid in the development of problem-solving skills in young learners.

4.4 Point of Discussion in Curriculum of Early Childhood Education

Based on the literature review, it was pointed out that teachers' awareness on the curriculum is indispensable for the proper implementation of curriculum so as to affect positive learning outcome from the learners. It is also discovered that teachers' full acceptance and involvement in the curriculum implementation is a big factor that produce favorable learning outcome.

In the study of Martinez [5], she looked into competencies of kindergarten teachers in Tarlac. Results show that the general competency level of the teachers on the National Competency-Based Teacher Standard (NCBTS) was that all kindergarten teachers were assessed to be on the satisfactory level of competence. There are only four domains that have indicators that assessed the kindergarten teachers to be expert, in domain 1, 2, 5 and 7, thus the level of competence in their KSA's are high. These were the kindergarten teachers' strengths although not a priority, training or professional development need but the teachers should continue to enhance their competency.

Cinisimo, Fuligni, Daugherty, Howes and Karoly [59] focused on key beliefs that preschool educators have. Results from the qualitative data analyses revealed three types of preschool classroom experiences that participants believed to be important when working with children who are getting ready for kindergarten: (1) types of teacher-child interaction, (2) children's learning environment, and (3) types of learning opportunities. As described above, these three types of preschool experiences are defined as dimensions, and each of these dimensions was determined to be made up of factors. Each dimension and its respective factors are discussed in

the following sections.

While Haws [69] and Tuba [26] made a study about the beliefs and practices of teachers relating to developmentally appropriate practices. The studies examined preschool teachers and student teachers' developmentally appropriate and inappropriate beliefs and practices related to classroom management. The findings of this study offer a contribution to the literature in relation to the teachers' developmentally appropriate and inappropriate beliefs and practices in terms of classroom management.

Other studies researched about the problems and concepts of a preschool teacher. There were also studies that involved teachers' perceptions about the implementation of the K to 12 curriculum in the Philippines.

4.5 Future Directions in Curriculum of Early Childhood Education

The Curriculum of Early Childhood Education should adhere to the present content standard particularly the K to 12 framework. It should include the important features and expectations of the new curriculum so as to contribute in the holistic development of a child and it will promote better and responsive learning environment. It must be an integrative curriculum to cater the different and various domains of child development.

Cabansang [42] concluded in her study that the impact statements from the surveyed stakeholders of the K to 12 curriculum put emphasis on the role of education in realizing holistic development of the 21st century learners equipped with necessary life skills who can contribute for economic and social development of the family and community. Science as one of the focus subject areas in the K to 12 curriculum has been viewed as venue for honing students' talents obtained through various learning activities. Meanwhile, from Arazo's [71] study, she recommended that the Department of Education should provide enough textbooks and teacher's manual to teachers and pupils as well as provide activity sheets and workbooks for pupils to ensure quality outputs in the K to 12 Curriculum,

In addition to this, a foreign study by Little [12] addressed the multiple domains of children's development in their standards which are linked to K to 12 standards prior to kindergarten. She concluded that additional supports will be needed for the early learning standards to be implemented effectively. Moreover, we should carefully examine the purposes for developing early learning standards and the opportunities they bring for promoting dialogue across settings and strengthening the early care and education system.

5. Conclusions

- 1) The different studies were able to offer substantial and essential information and data about ECE curriculum through the use of varied and appropriate research designs, sample, setting, procedure/instrument and data analysis.
- 2) The identified research gap is more of the curriculum content and learning outcome. It was manifested that researchers gave less focus on the curriculum content and possible learning outcomes in early childhood instruction.
- 3) It was determined that the use of multimedia is the most common area among the researches. Majority

of the researches uncovered the effectiveness of using multimedia as an important tool in ECE curriculum and instruction.

- 4) It was revealed that the point of discussions focused more on the teachers' awareness about the implementation of curriculum. It clearly emphasized the relevance of the teacher's role in the whole process of the curriculum development.
- 5) The educators in early childhood education felt the need for the alignment of ECE curriculum with the standards of the K to 12 curriculum. The researches highlighted the need for smooth transitions from preschool to grade school so as to facilitate continuity of learning content for better learning outcomes.

6. Recommendations

- 1) There should be an incessant understanding on the applicability of the different research methodologies in order to sustain the relevance and excellence of ECE curriculum.
- 2) There should be a regular and continuous exploration on the curriculum content in order to attain favorable learning outcome and to meet the increasing needs and demands of the changing society.
- 3) The use of ICT or multimedia in early childhood education should be strengthened, since it is found effective in the implementation of ECE curriculum. However, school administrators and classroom teachers should see to it that these technological equipment and gadgets must be properly used and regulated.
- 4) There should be continuous teachers' training and development program in order to sustain the teachers' involvement in curriculum implementation and evaluation.
- 5) There should be a continuous review of the curriculum content and design so that it would properly address the needs of children and to help them adjust effectively to the demands of formal education.
- 6) There should be further research and studies in ECE curriculum.

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