

**DEVELOPMENT OF CENTRAL LEARNING MODELS WITH SOCIOCULTURAL APPROACH TO IMPROVE CHILDREN'S COGNITIVE AND LANGUAGE DEVELOPMENT AT PGRI 3 PANDAAN KINDERGARTEN OF PASURUAN REGENCY**

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**ABSTRACT**

This study aimed to develop a central learning model product with a sociocultural approach to improve children's cognitive and language development at PGRI 3 Pandaan Kindergarten of Pasuruan Regency. The research subjects were a child aged 6 years and 2 teachers, and 1 principal of PGRI 3 Pandaan Kindergarten at Pasuruan Regency. This study used the Dick & Carey Research and Development model. As a result of the outbreak of the COVID-19 Pandemic which resulted in all educational institutions not being allowed to conduct face-to-face learning and the prohibition of gathering, this development research was limited to expert feasibility testing and feasibility testing on a PGRI 3 Pandaan kindergarten student. Data were collected by collecting and analyzing validation questionnaires from experts and practitioners. The theoretical feasibility based on the validation results of the learning model expert is  $37/40 \times 100\% = 92.5\%$  with very suitable criteria for use. Feasibility based on the validation results from material instrument experts is  $29/32 \times 100\% = 90.6\%$  with very feasible criteria for use. Feasibility is based on the results of the validation of the learning implementation plan instrument expert with a score of  $31/32 \times 100\% = 96.8\%$  with very suitable criteria for use. The empirical feasibility is based on the validation results of the practitioners after testing a PGRI 3 Pandaan kindergarten student. Cognitive practitioners stated that 97.5% with very suitable criteria for use and language practitioners stated 97.5% with very suitable criteria for use. The physical feasibility based on the validation results from the manual design expert is  $49/52 \times 100\% = 94.2\%$  with the criteria very feasible to use.

**KEYWORDS:** central learning model, sociocultural, cognitive, language development, early childhood education

**INTRODUCTION**

Early childhood education is an action effort taken by educators or teachers and parents in the very basic care, upbringing and education process since the beginning of development. Once the importance of early childhood education in various countries in the world, including in Indonesia, the government of the Republic of Indonesia supports early childhood education programs contained in legal sources

regarding early childhood education which are packaged in the National Education System Law number 20 of 2003. in article 28 that "Early childhood education can be held through formal, non-formal and informal education. Early childhood education in formal education is in the form of Kindergarten/Raudatul Athfal, early childhood education in non-formal channels is in the form of Play Groups, Daycare Parks or other equivalent forms, while early childhood education is in family education or organized education. by the environment".

Early childhood education is the initial step for children to receive guidance to optimize their potential and explore various things in the surrounding environment and actively carry out activities that motivate children to continue to learn to acquire knowledge that will be very useful in life in the future. Early childhood education has an important role in developing all aspects of child development, namely cognitive development, language, physical motor, social emotional, art, moral and religious values.

One form of early childhood education institution that is on the formal path is Kindergarten with an age range of four to six years. The purpose of education in Kindergarten needs to provide various activities that can develop various aspects of development which include cognitive, language, physical motor, social emotional, art, moral and religious values.

Children's cognitive development is closely related to language and social development, children doing conversational dialogue can also stimulate children's speaking skills. Sobel (2016:111) argues that children learn science concepts in a social environment by observing and collaborating with other children in learning centers, groups, and pair activities, exchanging knowledge, engaging in science projects, and discussing various findings. Children interact with their environment and allow them to form a rule to communicate with their environment. Children will also acquire spoken and written language as they explore science.

Language is one manifestation of communication which is an important part of children's lives, without the help of language, children will have limitations in thinking, socially and emotionally. At the age of 5-6 years, children's achievement levels in expressing language include: (1) answering more complex questions, (2) mentioning groups of pictures that have the same sound (3) communicating orally, having vocabulary, and recognizing symbols. preparation for reading, writing and arithmetic, (4) compiling simple sentences in a complete structure (main sentence-predicate-adverb), (5) having more words to express ideas to others, (6) continuing some of the stories/tales that has been heard.

Bromley (in Dhieni, et al., 2013:1.5) defines language as an orderly symbol to transfer various ideas and information consisting of visual and verbal symbols. Visual symbols can be seen, written, and read, while verbal symbols can be spoken and heard. The language ability that develops after listening is the ability to speak. Since birth, children make cries and voices to express their needs and respond to their environment, as well as in their development when adults talk to them, children make sounds

as if they are answering. With the increasing age and maturity of the speech apparatus, as well as the readiness to speak, the vocabulary and skills of children are also increasing, even children are able to play a role in simple dramas with their peers.

Cognitive and language development in early childhood becomes an important aspect of development for early childhood because through proper stimulation of this aspect of development, it will stimulate other aspects of development better. Children's cognitive development is an intellectual process in which children have concepts and use their thinking abilities to solve problems. As for language development, Piaget (in Suparno, 2000:58) states that with language, a child's thinking is expanded, compared to sensorimotor thinking, thinking that uses language is much faster and wider.

Cognitive and language development has actually been widely studied in various existing learning models. All learning models have their own characteristics and concepts, the central learning model to be developed has the characteristics of providing scaffolding to build concepts, ideas, children's knowledge, rules, stimulate all aspects of child development, focus on children, the learning process is centered in the center play and when the child is in a circle. In his research, Sella (2017: 56) even revealed that spatial cognitive mapping in children is not focused on numbers, but the visual number of an object.

The theory of constructivism proposed by Piaget explains the importance of various internal factors of a person such as the level of thinking maturity, previous knowledge, self-concept, and belief in the learning process (Winataputra, 2011:6.8). Children create their own knowledge of the world through their interactions with the surrounding environment. Children practice using previously known information and combining new information with familiar skills, and testing their experiences with new ideas. Hannust (2010:164) in his research argues that children gain knowledge about understanding the world and the environment by describing the world according to their own imagination.

Vygotsky argues that knowledge is socially constructed, meaning that it emphasizes the centralization of social relationships as an important thing that affects cognitive development, because children first find knowledge in their social world, then it becomes part of their cognitive development (Gaines, 2013:135). Vygotsky put forward the concept of the Zone of Proximal Development (ZPD). ZPD as the distance/gap between the actual level of development indicated by problem solving with adult guidance or collaboration with more capable peers (Rezaee, 2012:51). ZPD is combined with a related concept, namely scaffolding. An important aspect of scaffolding is temporary assistance or support from adults, as the child's abilities increase, the scaffolding provided will decrease over time.

Various learning models used at the Kindergarten level are applied to develop various aspects of this child's development. Various kinds of learning models that exist and are applied in Kindergarten include the central learning model, the area learning model and the group learning model with a safety

angle. According toutama & Budhojo (2012:45) the learning model is a design or design that describes the detailed process and creation of environmental situations that allow children to interact in learning, so that changes occur in children.

Based on the studies mentioned above, it can be concluded that children need the experience of communicating with other people, and conducting social interactions while the adults around them become good models, listeners, and friends to talk to (Muhonen, 2016:143), while cognitive development and language, especially children's speaking and communication skills are influenced by neurological, structural and physiological factors as well as environmental factors.

Researchers are interested in developing a learning center model with a sociocultural approach that is able to more optimally facilitate cognitive and language development in early childhood. This development is supported by the statement of Borg R. Walter, Gall P. Joyce & Gall D. Meredith (2003: 569) that "Educational research and development aims to design a new product and procedure that is tested and evaluated to meet the criteria of effectiveness, quality and compliance standard in a systematic way".

Sugiyono (2008:408) in his book "Educational Research Methods" also states that development in the field of education and social is still low so that many products in the field of education and social need to be produced through research and development. Moved by the low level of development in the field of education, the researchers designed a central learning model that uses a Sociocultural-Based Scientific Approach as its core. The researcher views that the central learning model is very close to socio-cultural based which both use scaffolding (footing) as the core of playing while learning activities.

The aims of this research are (1) Knowing the feasibility of the learning center model with a sociocultural approach to improve children's cognitive development in PGRI 3 Pandaan Kindergarten, Pasuruan Regency; (2) Knowing the feasibility of the learning center model with a sociocultural approach to improve children's language development in PGRI 3 Pandaan Kindergarten, Pasuruan Regency.

## **THEORETICAL FRAMEWORK**

### **Early Childhood Development**

Cognitive can also be interpreted as the ability to learn or think or intelligence that leads to the ability to interpret new skills and concepts, skills to understand what is happening in their environment, and skills to use memory and solve simple problems (Pudjiati & Masykouri, 2011:6). In line with what was stated by Leppink (2017:386), that cognitive itself can be interpreted as the ability to understand something. Cognitive means understanding and showing the ability to capture the nature, meaning, or description of something and have a clear picture of it. Cognitive development itself refers to the ability of a child to understand something.

Cognitive development shows the development of the way children think. Children's ability to coordinate various ways of thinking to solve various problems can be used as a measure of intelligence growth. The view of the flow of behavior (Behaviorism) argues that the growth of intelligence through the accumulation of increasing information. While the flow of interactionist or developmentalist argues that knowledge comes from the interaction of children with the child's environment. Cognitive development is expressed by the growth of the ability to design, remember and seek solutions to problems encountered. (Patmodewo, 2003:27) as well as activities that motivate children to continue learning to acquire knowledge that will be very useful in life in the future.

Vygotsky argued that development is shaped by the inheritance of cultural history. Vygotsky considers experiences in family and society as early learning for children, and as the basis for further cognitive development. Therefore, the theory is not limited to considerations of cognitive development, but involves components of affective and motor development. (Hedges, 2012:143)

## **Early Childhood Language Development**

Language is a very important part of a child's life, without language the child will have limitations in thinking as well as socially and emotionally, without having the ability to manipulate and understand words, children will have limitations in absorbing information from other people, books, other printed materials. , or limitations in developing ideas and communicating ideas to others. This is also supported by Piaget's statement in Suparno (2000:25) which states that thinking as a prerequisite for language continues to develop as a result of experience and reasoning.

According to Chaer (2006:226) children's language development is related to social and communication development. From birth, children are biologically "tuned" to communicate and respond to events that arise. Since birth, children already have the ability to express their wishes. Bromley (in Dhieni, et al, 2013:1.5) defines language as an orderly symbol to transfer various ideas and information consisting of visual and verbal symbols. Visual symbols can be seen, written, and read, while verbal symbols can be spoken and heard. According to Jackman (2012:82) Language is human speech, written symbols or any means of communication.

Vygotsky (in Dhieni et al, 2013:2.15) suggests that children's language and cognitive development materials are related to the culture and society in which children are raised. Vygotsky uses the term Zone of Proximal Development (ZPD) for tasks that are difficult for children to understand, but with motivation from adults, children can get through. Vygotsky believed that children use language not only for social communication, but also to plan and monitor children's behavior in their own way. The use of language for self-regulation is called "inner speech" or "private speech". According to Vygotsky, private speech is an important tool for thinking during childhood.

## **Central Learning Model**

The center learning model gives children the freedom to play freely in the centers that have been prepared through four interconnected play steps so that they can support the development of all aspects built by children. in accordance with the principles of learning using the center including (1) the whole learning process is based on theory and empirical experience (2) each learning process is aimed at stimulating all aspects of intelligence (plural intelligences) through planned and directed play and teacher support in the form of four steps (3 ) placing the arrangement of the playing environment as a starting point that stimulates children to be active, creative, and continuously thinking by exploring their own experiences (4) using standard operational standards in the learning process.

Asmawati (2008:38) suggests that the center is the best integrated learning. Centers can help children develop all of their abilities at the same time. In the center children learn when they actively participate, observe, and interact with other children.

## **Sociocultural Approach**

Kistanto (2006:4) in his research suggests that visible, tangible and visible cultural elements can be in the form of material or objects that can be touched and felt by the human senses, are actually the result and embodiment of elements of human culture that cannot be touch and cannot be felt by the human senses. Cultural elements that are material (tangibles, material goods) such as buildings, machines, equipment, clothing and other technological products, such as computers, either directly or indirectly, are the results of elements of human culture that are not visible (intangibles, immaterials) such as thoughts, ideas, fantasies, images, which are in the inner region, mental-spiritual and thought processing, or the use of the human brain and mind, which are side by side with values, norms, and ethics, which are inherited and developed by humans through and very involving the functions and roles of inheritance, education, teaching, learning, habituation, which are sustainable and interconnected, interact, attract, weigh with their backgrounds and environment.

Socio-cultural issues raised in this study refer to the social and cultural aspects of Pasuruan district, especially in Pandaan sub-district which is the area where TK PGRI 3 Pandaan was established. The people of Pasuruan Regency are part of the East Java community who respect the traditional values and culture of Java and Madura. Although the people of Pasuruan Regency are mostly made up of Javanese and Madurese, they can live side by side as a harmonious community. Social and cultural communities are closely related to the development of early childhood. Vygotsky (Dhieni et al, 2013:2.15) suggests that children's cognitive and language development materials are related to the culture and society in which children are raised. Vygotsky uses the term Zone of Proximal Development (ZPD) for tasks that are difficult for children to understand, but with the motivation of adults children can get through.

## RESEARCH METHOD

The research method used is research and development methods. Research and Development Methods or in English called Research and Development is a research method used to produce certain products, and test the effectiveness of these products. (Sugiyono, 2012:407). This research and development as a process to develop and validate products that will be used in education and learning. This research and development is an effort to develop and produce a product in the form of a learning model for early childhood called the Sociocultural-based Learning Center Model. This study uses the Dick & Carey Research and Development development model because this development model has clear stages to develop a sociocultural-based Learning Center Model. In this study, it is broadly described in 4 steps, namely 1) preliminary research; 2) development planning; 3) evaluation, validation and revision; 4) implementation of the sociocultural-based Central Learning Model.

This research was conducted at PGRI 3 Pandaan Kindergarten, which is located at Jalan Attorney General Suprpto, Kedondong, Sumbergedang, Pandaan sub-district, Pasuruan district. The research subjects were 1 child as a test subject, one child, 2 teachers, and 1 principal at PGRI 3 Pandaan Kindergarten.

Data collection techniques were carried out through observation, validation questionnaires and documentation. The observation instrument used was first tested for validity by Expert Judgment. Interviews and observations were carried out during the preliminary study, namely to find out the problems and initial description of children's cognitive and language abilities in the learning process. Observation instruments are arranged in the form of a measuring value scale. Data analysis to measure the feasibility level uses the following formula:

$$P = \frac{\sum xi}{\sum x} \times 100\%$$

Information:

P = Eligibility Percentage

$\sum x$  = Highest Number of Answers

$\sum xi$  = Number of Appraiser Answers

The criteria for the feasibility value in the assessment of the learning center model with sociocultural approach are as follows.

**Table 1. Criteria for the Feasibility Percentage Value of the Central Learning Model with a Sociocultural Approach**

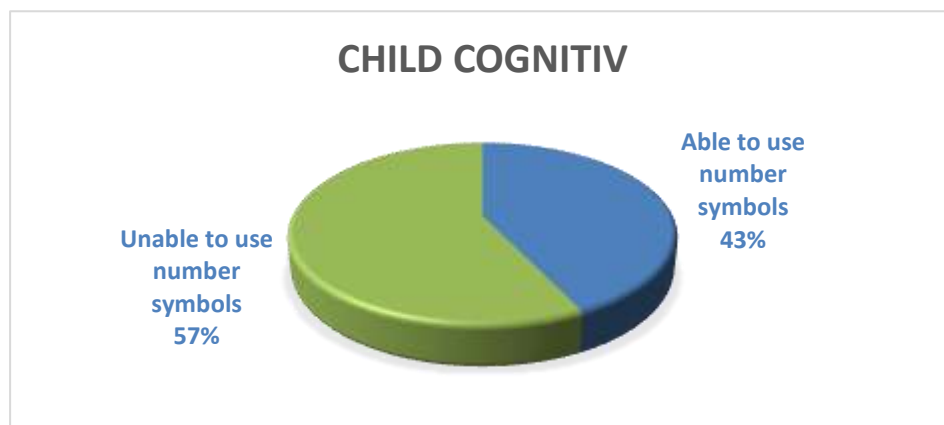
Percentage (%)	Eligibility Criteria
84% - 100%	Very Worthy
68% - 84%	Worthy
52% - 68%	Decent enough
36% - 52%	less worthy
20% - 36%	Very Less Worthy

**RESULT**

**Data Needs Analysis Results**

Preliminary study data conducted on the research and development of the learning center model with a sociocultural approach is the data from the needs analysis of the learning center model that is used daily in learning at PGRI 3 Pandaan Kindergarten. The reason the researchers chose Kindergarten PGRI 3 Pandaan as the object of research is because Kindergarten PGRI 3 Pandaan has implemented a learning center model so that researchers can analyze the learning process at the center and make observations on the responses of teachers and children that occur in the institution.

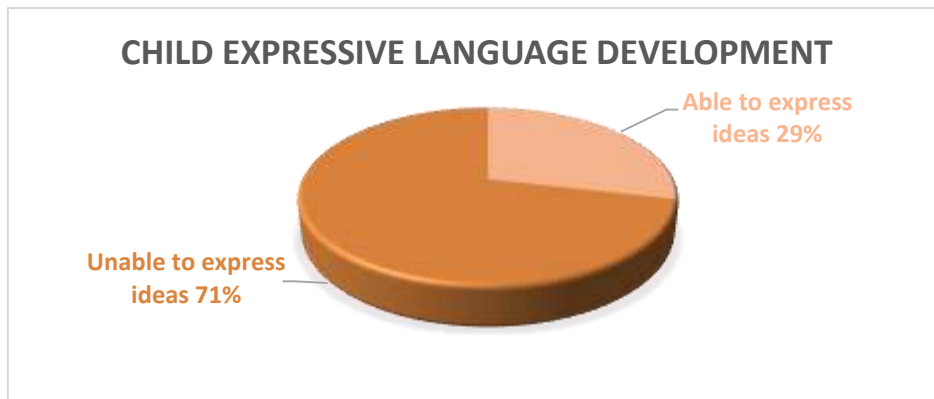
Based on observations, it appears that some children have not developed in the scope of cognitive development. Of the 28 children observed, 16 of them have not been able to understand number symbols and have not been able to use number symbols to count.



**Figure 1. Percentage of Number of Children with Cognitive Development Achievements in Symbolic Thinking in Kindergarten PGRI 3 Pandaan**

Observations on language development, some children have not yet developed in the scope of expressive language development. In the development of expressive language, of the 28 children observed, 20 of them have not been able to express their ideas.





**Figure 2. Percentage of Number of Children with Expressive Language Development Achievements in Kindergarten PGRI 3 Pandaan**

Based on observations on language development, some children have not yet developed in the scope of language literacy development with the introduction of letter symbols. In the development of language literacy, of the 28 children observed, 19 of them have not been able to mention letter symbols.



**Figure 3. Percentage of Number of Children with Language Literacy Development Achievements in Kindergarten PGRI 3 Pandaan**

Based on the percentage of children's cognitive and language development, the results of the analysis of the needs of children in PGRI 3 Pandaan Kindergarten indicate that it is necessary to increase the cognitive and language development of children in PGRI 3 Pandaan Kindergarten.

## Literature Study Results Data

The development of the learning center model with a sociocultural approach is based on several results from previous research on the center learning model, its effect on children's cognitive and language development, as well as studies on the theories used in this development research, as follows:

- 1) Indrawati (2012) in her research entitled The Effect of Application of the BCCT (Beyond Centers And Circle Time) Method on Early Childhood Cognitive Development in the Tunas Melati PKK Playgroup, Banyuwangi District, Banyuwangi Regency, 2011/2012, stated that the BCCT (Beyond Centers And Circle Time) method ) has a significant effect on the cognitive development of early childhood. The results of this study support the basis for developing a learning center model that is able to develop children's cognitive well.
- 2) Romero (2015) in his research article entitled Children's Experiences: Enjoyment and Fun as Additional Encouragement for Walking to School states that children's enjoyment of learning grows with direct interaction with learning resources, where children tend to like activities at school with natural interactions, recreation, and the availability of space for expression. The results of this study support the use of natural materials and direct interaction with the media can actually be a fun play activity for children.
- 3) Michaelides (2017) in his research entitled Developmental Changes in the Mental Transformation of Spatial Arrays states that children's cognitive and spatial abilities are a reflection of children's creativity.
- 4) Husna (2016) in his research entitled The Influence of Storytelling Methods on Children's Language Development at RA Ip Qurrota A'yun Ngrandu Nglorog Sragen in the 2015/2016 Academic Year stated that the storytelling method had a positive effect on children's language development. The results of this study support a sociocultural-based scientific approach. In this study, children are given the opportunity to retell the knowledge they have acquired after learning and this is reinforced by research which states that storytelling can positively affect children's language development.
- 5) Sulkodriyatin (2012) in his research entitled Improving Cognitive Ability Through Storytelling Method in Kindergarten ABA Group B Nglinggi Klaten Selatan Klaten Year 2012/2013 stated that storytelling method had a positive effect on children's cognitive development. The results of this study support the development of a sociocultural-based learning center model. In this stage, children are given the opportunity to retell the knowledge they have acquired after learning and is reinforced by research which states that storytelling can positively affect children's cognitive development.
- 6) Lestarinigrum (2019) in his research entitled Development of Local Culture-Based Learning Models at the State Kindergarten of the Pembina City of Kediri stated that the implementation of learning programs based on the potential of students must be carried out in a relationship that accepts and respects as a foothold and uses adequate media, learning resources and technology, and can take advantage of the surrounding environment to empower natural, social

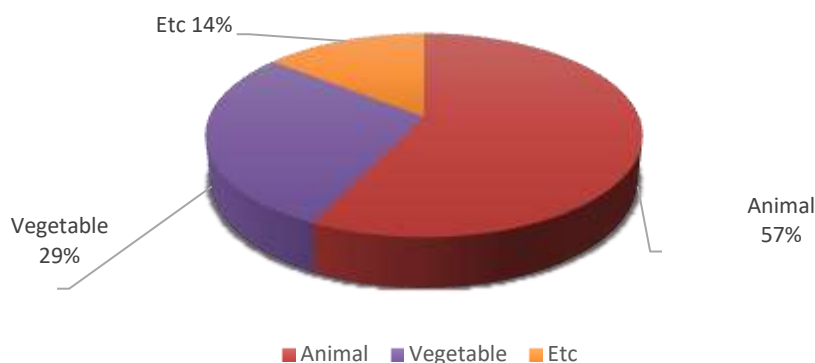
and cultural conditions of regional wealth in an effort to achieve the goals of early childhood education.

The conclusion from the results of preliminary research shows the need for more development in the cognitive aspect of children with data only 50% of the number of children in the reasoning stage and the need for more development in the language aspect of children with data only 4% of children are active in the questioning stage and only 11% of children who active at the communication stage. Preliminary research also states that local and regional culture can be used as a reference to make learning fun and meaningful, and easy to find and use in children's environment.

**Results of Model Development Planning**

After going through the analysis stage and literature study, the researchers analyzed and set learning objectives through core competencies, namely cognitive and language development of children which were sourced from the Child Development Achievement Level Standard (STTPA) for children aged 5-6 years which became a reference for early childhood learning which was regulated in Permendikbud number 137 of 2014

The second step researchers analyzed the learning process carried out in institutions, especially group B children in PGRI 3 Pandaan Kindergarten. The data generated through the analysis of learning materials through lesson plans or RPPH prepared by the teacher, learning strategies used, learning tools or media used, observing children's processes in carrying out activities, analyzing daily learning assessments, especially in cognitive and language development. The results of this learning analysis can identify the child's early abilities, so that researchers can develop strategies that will be developed at a later stage.



**Figure 4. Percentage of Number of Types of Themes that Children Like in Kindergarten PGRI Pandaan**

Based on the graph above, the researcher obtained data by conversing with children that 57% of children liked the animal theme, while 29% of children liked the plant theme, while the remaining 14% liked other themes such as professions, vehicles, etc. Therefore, the researchers raised the theme of animals that will be developed in lesson planning, media provision, and assessment techniques.

Identifying the characteristics of children which include the actual abilities possessed by children, learning styles, and attitudes obtained through observation and interviews. This has implications for the preparation of the learning model to be developed. At this stage the researcher focuses on introducing local culture and using sociocultural-based materials and themes that are easy for children to find in their daily lives.

The objectives of early childhood learning are contained in indicators of children's abilities which are developed from the basic competencies of child development in the Standards for the Level of Achievement of Child Development for children aged 5-6 years, study of developmental theory, analysis of learning and characteristics of child development which will be the basis for developing instruments for measuring child development.

### Social System Learning Center Model with Sociocultural Approach

The social system provides a description of the roles of teachers and children in the sociocultural-based learning center model. The social system of the central learning model with a sociocultural approach is as follows:

**Table 2. Sociocultural-Based Center Learning Model Social System**

No.	Teacher's Role	Child Role
1.	As a facilitator of play while learning activities for children. The teacher selects, plans, and provides various play facilities for children that can develop aspects of child development. As a motivator for children by encouraging children to play while learning. As a motivator, the teacher designs play while learning activities that attract children's interest to know more about thematic learning.	As an actor in playing activities while learning. Children listen to the directions and rules of play while learning from the teacher and then carry out the play activities while learning. Follow the direction and motivation of the teacher to carry out play activities while learning well.

### The Principle of Reaction of the Central Learning Model with a Sociocultural Approach

The principle of reaction focuses on providing an overview to the teacher on how to view and respond to what children are doing, the principle of reaction of the central learning model with a sociocultural approach is as follows:

**Table 3. Reaction Principle of Sociocultural-Based Center Learning Model**

No.	Teacher Reaction Principle	Child Reaction Principle
1	Give proper attention to all aspects of child development by taking into account the Standards for the Level of Child Development Achievement	Carry out play activities while learning according to teacher directions.
2	Paying attention to the safety, comfort, and cleanliness of the play environment used by children	Carry out play activities while learning in a safe, comfortable, and clean environment.
3	Using the concept of scaffolding which provides assistance to children in completing their activities and reduces the intensity of the assistance when children are able to complete learning activities while playing on their own.	Get help from the teacher when you have trouble participating in play activities while learning.

**Center Learning Model Support System with Sociocultural Approach**

The support system pays attention to the conditions or requirements needed for the implementation of a model, then the support system of the central learning model with a sociocultural approach is one of them by using a classroom setting.

The class setting of the learning center model with a sociocultural approach has 6 centers developed, including: a) Library, the library is a place where story books and blackboards are used in learning and contains a variety of books and readings placed in this center. The library is equipped with tables and chairs to make it easier for children to learn; b) Role Playing Center, which contains various kinds of APE for role playing with the setting like at home. This center contains toys that resemble household utensils that are the same size or smaller than the original, such as toy stoves, small guest tables and chairs, toy plates, toy fruit, and others; c) Art centers, focusing on placement of APE that can develop artistic and fine motor aspects of children, for example ronce beads, plasticine, brushes, watercolors, crayons, sand and water, as well as musical instruments such as tambourines, percussion, and others are placed in this center; Experiment Center, This center contains APE, tools, materials and learning resources for children to conduct various experiments under the direction of the teacher, for example ingredients for cooking class activities, salt, sugar, colored water, natural ingredients; d) Block Center, This center contains various shapes of blocks, lego, bombik, puzzle, etc. which can be used by children for activities to arrange various forms according to children's creativity; e) Preparation Center, a preparatory center containing whiteboards, various letter and number games, projectors, and various technology games materials and learning resources for children to conduct various experiments with the direction of the teacher, for example materials for cooking class activities, salt, sugar, colored water, natural ingredients; d) Block Center, This center contains various shapes of blocks, lego,

bombik, puzzle, etc. which can be used by children for activities to arrange various forms according to children's creativity; e) Preparation Center, a preparatory center containing whiteboards, various letter and number games, projectors, and various technology games materials and learning resources for children to conduct various experiments with the direction of the teacher, for example materials for cooking class activities, salt, sugar, colored water, natural ingredients; d) Block Center, This center contains various shapes of blocks, lego, bombik, puzzle, etc. which can be used by children for activities to arrange various forms according to children's creativity; e) Preparation Center, a preparatory center containing whiteboards, various letter and number games, projectors, and various technology games

### Theoretical Validation Results

Before being used for research, the instruments used were validated by expert validators. All of the instruments that were validated were the feasibility of the central learning model with a sociocultural approach, material validation, validation of learning implementation plans, and validation of guidebooks. The results of the validation by the validator are presented below.

**Table 4. Research Instrument Validation Results by Experts**

No.	Validated instruments	Percentage	Predicate
1.	Feasibility of the central learning model	92.5%	Very worth it
2.	Material	100%	Very worth it
3.	Lesson plan	100%	Very worth it
4.	Guidebook	94.2%	Very worth it

The results of theoretical validation are based on feasibility tests conducted by experts. Theoretical feasibility test refers to the theoretical studies used. This feasibility test focuses on the validation results from learning model experts, material experts and instrument experts. The following are the results of theoretical validation from experts.

To develop the Learning Center Model with a Sociocultural Approach, an instrument is needed to measure the feasibility of the learning model developed. All instruments were validated by experts/experts to determine whether or not the central learning model with a sociocultural approach was used.

Evaluation of draft 1 was carried out by learning model experts by taking into account 10 aspects that were assessed on the validation instrument, there were 3 aspects that were deemed necessary to be revised, these aspects were:

**Table 5. Learning Model Expert Evaluation Results**

No.	Assessment Aspect	Comments and Suggestions
1.	Supporting theories relevant to the learning model	The learning theory used needs to include not only sociocultural theory in cognitive but also sociolinguistic and pragmatic theories in language.
2.	Syntax of learning models that are suitable for the development of children aged 5-6 years	It is necessary to highlight the sociocultural implementation according to Vygotsky's theory in teacher activities in each phase of learning activities from beginning to end as a differentiator of this developed model with the existing center model.
3.	Social system learning model that is suitable for the development of children aged 5-6 years	It is necessary to show the element of collaborative play as a specification of the sociocultural approach to social system items.

Evaluation of draft 1 was carried out by material instrument experts by taking into account 8 aspects that were assessed on the validation instrument, there were 3 aspects that were deemed necessary to be revised, these aspects are as follows.

**Table 6. Evaluation Results of Material Instrument Experts**

No.	Assessment Aspect	Comments and Suggestions
1.	The choice of words on the instrument does not contain a double meaning.	The statement items in the activity column on the instrument sheet are made into more specific sentences to make it easier for the observer to observe and give instructions to the children.
2.	Clarity in writing the formulation of the assessment criteria.	The measurement criteria in the rubric are made of logical ranges so that they are objective in measuring the achievement/ability of children at the time of observation.

Based on the results of the evaluation conducted by the material instrument expert, the researcher revised the first draft that was developed. The components of the researcher's revision based on suggestions from material instrument experts can be seen in table 7 below.

**Table 7. Results of Expert Suggestions for Material Instruments**

No.	Before Revision	After Revision
1.	The statement items in the activity column on the instrument sheet use non-specific sentences. Information: Activity: "Being able to observe fish."	Revise the statement in the activity column on the instrument sheet using specific sentences. Information: Activity: "Observing the movement of fish in the aquarium"
2.	The measurement criteria in the rubric use an illogical range.	The measurement criteria in the rubric use a logical range.

Information:  
 Measurement range using units  
 1. Unable  
 2. Quite Capable  
 3. Able  
 4. Very Capable

Information:  
 Measurement range using Undeveloped units; Start to develop; growing as expected; growing very well

The content of the material instrument of the learning center model with a sociocultural approach has been revised and has been approved by the material instrument expert so that it is feasible to use.

Evaluation of draft 1 was carried out by an expert on the Learning Implementation Plan instrument by taking into account 8 aspects that were assessed on the validation instrument, there was 1 aspect that was deemed necessary to be revised as follows.

**Table 8. Results of Expert Evaluation of Learning Implementation Plan Instruments**

No.	Assessment Aspect	Comments and Suggestions
1.	Clarity of the procedure for the selected activities in the Learning Implementation Plan	The activities planned in the daily learning implementation plan should be distinguished from the activities given during the pretest and posttest so that more objective research results.  The assessment plan in the daily learning implementation plan should be complete with areas of development and indicators in accordance with the learning objectives and content of the material that has been formulated.

Based on the results of the evaluation conducted by the expert on the Learning Implementation Plan instrument, the researcher revised the first draft that was developed. The components of the researcher's revision based on suggestions from experts on the Learning Implementation Plan instrument can be seen in table 9 as follows.

**Table 9. Results of Researcher's Revision on Expert Suggestions for Learning Implementation Plan Instruments**

No.	Before Revision	After Revision
1.	The activities planned in the daily learning implementation plan are the same as the activities given at the pretest and posttest.	Revise the activities planned in the daily learning implementation plan so that it is different from the activities given at the pretest and posttest.
	Information: The activities in the pretest and posttest were the same as the "land animals" theme with the "duck animal" sub-theme.	Information: The activities at the pretest and posttest were different from the theme "land animals" with the sub-theme "duck animals" in the pretest, activities



<p>2. The assessment plan in the daily learning implementation plan is not complete with areas of development and indicators in accordance with the learning objectives and material content that has been formulated.</p>	<p>with the theme "water animals" with the sub-theme "fish animals" in the posttest. The revision of the assessment plan in the daily learning implementation plan is equipped with areas of development and indicators in accordance with the learning objectives and content of the material that has been formulated.</p>
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The contents of the Learning Implementation Plan instrument using the central learning model with a sociocultural approach have been revised and have been approved by experts on the Learning Implementation Plan instrument so that it is feasible to use.

The evaluation of draft 1 was carried out by an expert in the design of the guidebook by taking into account 12 aspects that were assessed on the validation instrument, there were 3 aspects that were deemed necessary to be revised, these aspects are as follows.

**Table 10. Evaluation Results of Guidebook Design Experts**

No.	Assessment Aspect	Comments and Suggestions
1.	Illustration can describe the content/material in the book	The illustration of the cover of the guidebook is very interesting, creative, and in accordance with the depiction of early childhood creativity, but does not yet describe the theme or topic of aquatic animals which are the learning materials for the centers carried out. Likewise the illustrations in the book.
2.	Clarity of separation between paragraphs	The use of a typing system that needs to be done on tables or matrices needs more tightly spaced so that the matrix is not too elongated and interferes with the understanding and interest of the book
3.	Consistent element placement and layout in one book	It is necessary to arrange the contents of the book that is more structured and complete in accordance with the theory of writing a guidebook by adding elements that do not yet exist.

Based on the results of the evaluation conducted by the guidebook design expert, the researcher revised the first draft that was developed. The researcher's revision component is based on suggestions from design experts. The results of empirical validation are based on due diligence conducted by practitioners. The empirical feasibility test refers to the validation results of observers of the cognitive and language development aspects of children. The empirical feasibility test refers to the results of a draft trial on a child aged 5-6 years at PGRI 3 Pandaan Kindergarten. The following are the results of empirical validation from practitioners:

**Research Trial Results**

To develop the Learning Center Model with a Sociocultural Approach, the revised draft 1 was then tested on a child aged 5-6 years who is a student at PGRI 3 Pandaan Kindergarten. The learning center model with a sociocultural approach is implemented by the teacher as a practitioner who observes the cognitive development of children aged 5-6 years. The research trials produced data on children's cognitive development which are described in the following table:

**Table 11. One-on-one Trial Results on Children's Cognitive Development**

Indicator	Activity	Rating Score			
		1 BB	2 MB	3 BSH	4 BSB
<b>Learning and Problem Solving</b>					
Demonstrate exploratory and probing activities	Watching fish			V	
	Name the fish body parts			V	
Demonstrate a creative attitude in solving problems	Decorate the aquarium with creativity				V
	Exchange a number of miniature fish with toy money according to their nominal value		V		
<b>Logical Thinking</b>					
Classify objects based on color, shape, size and function.	Classify fish toys with similar colors			V	
	Classify play money with the same nominal			V	
Sort objects by size from smallest to largest or vice versa.	Sort the miniature fish from smallest to largest			V	
	Sorting the play money with the smallest nominal to the largest nominal			V	
<b>Symbolic Thinking</b>					
Use numeric symbols to count.	Counting amount toy fish according to the number symbol			V	
Match numbers with number symbols.	Match the number cards 1-20 according to the number of fish			V	

**BB: Undeveloped;**

**MB: Starting to Grow;**

**BSH: Developing as Expected;**

**BSB: Developing Very Well**

The research trials produced data on children's language development which are described in the table below.

**Table 12. One-on-one Trial Results on Children's Language Development**

Indicator	Activity	Rating Score			
		1 BB	2 MB	3 BSH	4 BSB
<b>Understanding Language</b>					
Understand multiple commands at the same time	Follow orders to cooperate with friends, decorate the aquarium, count the number of fish			V	
Understand the rules in a game	play catch fish according to the rules			V	
<b>Expressing Language</b>					
Answering more complex questions	Answer teacher questions about the shape, color of the fish animal			V	
Have more words to express ideas to others	Tell about the activities that have been carried out at the fish market			V	
<b>Literacy</b>					
Recognize symbols for preparation for reading, writing and arithmetic.	Compose letter cards for mujaer fish, gold fish, indigo fish and catfish fish			V	
Mention the symbols of the letters that are known	Read the words mujaer iwak, mas iwak, tilapia fish and catfish fish		V		
<b>BB: Undeveloped;</b>		<b>MB: Starting to Grow;</b>			
<b>BSH: Developing as Expected;</b>		<b>BSB: Developing Very Well</b>			

Practitioners observing the child's cognitive development then tested the feasibility. The learning center model with a sociocultural approach is implemented by the teacher as a practitioner who observes the cognitive development of children aged 5-6 years.

The evaluation of the draft was carried out by observers of children's cognitive development by paying attention to 10 aspects that were assessed on the validation instrument, there was 1 aspect that was deemed necessary to be revised as follows.

**Table 13. Evaluation Results of Child Cognitive Development Observer Practitioners**

No.	Assessment Aspect	Comments and Suggestions
1.	Clarity of the procedure for the activities selected in the daily lesson plan	1. The Learning Model can be applied well, but requires a longer learning time compared to the usual center model.  2. The achievement of cognitive development in children differs from one another so that the application of scaffolding requires more than 1 teacher to assist all children equally.

The percentage of feasibility of the learning center model with a sociocultural approach according to practitioners in improving children's cognitive development can be seen in the table below.

**Table 14. The Feasibility of the Center Learning Model with a Sociocultural Approach According to Practitioners in Improving Children's Cognitive Development**

No.	Rating Points	Scoring scale			
		1	2	3	4
1.	Compatibility between basic competencies and core competencies				V
2.	The suitability of basic competencies with cognitive development in STPPA for children aged 5-6 years				V
3.	The attraction of selected activities for children aged 5-6 years				V
4.	Safety of selected activities for children aged 5-6 years				V
5.	The suitability of the selection of tools and materials with the cognitive development of children aged 5-6 years				V
6.	The suitability of the selected activities for the cognitive development of children aged 5-6 years				V
7.	Clarity of the procedure for the activities selected in the RPPH			V	
8.	Clarity of the assessment rubric on the RPPH				V
9.	Easy to understand manual			V	
10.	The language used is clear and easy to understand			V	

Based on the table above, the score for the number of appraisers' answers is 39 with the highest number of answers being 40, so the percentage of the feasibility of the learning model is  $39/40 \times 100\% = 97.5\%$  with the criteria very suitable to be used as a variable to improve children's cognitive development.

To develop the Learning Center Model with a Sociocultural Approach, the revised draft 1 was then tested on a child aged 5-6 years who is a student at PGRI 3 Pandaan Kindergarten. The learning center model with a sociocultural approach is implemented by the teacher as a practitioner who observes the language development of children aged 5-6 years.

The evaluation of the draft was carried out by observers of children's language development by paying attention to 10 aspects that were assessed on the validation instrument, there were comments from practitioners who observed children's language development, the comments were "for shy children, the activity of expressing opinions by children requires more".

Based on the results of the evaluation conducted by the observers of children's language development, the researcher revised the draft that was developed. The percentage of feasibility of the learning center model with a sociocultural approach according to practitioners in improving children's language development can be seen in the table below:

**Table 15. The Feasibility of the Center Learning Model with a Sociocultural Approach According to Practitioners in Improving Children's Language Development**

No.	Rating Points	Scoring scale			
		1	2	3	4
1.	Compatibility between basic competencies and core competencies				V
2.	Compatibility of basic competencies with language development at STPPA for children aged 5-6 years				V
3.	The attraction of selected activities for children aged 5-6 years				V
4.	Safety of selected activities for children aged 5-6 years				V
5.	The suitability of the selection of tools and materials with the language development of children aged 5-6 years				V
6.	The suitability of the activities chosen for the language development of children aged 5-6 years				V
7.	Clarity of the procedure for the activities selected in the RPPH			V	
8.	Clarity of the assessment rubric on the RPPH				V
9.	Easy to understand manual				V
10.	The language used is clear and easy to understand				V

Based on the table above, the score for the number of appraisers' answers is 39 with the highest number of answers being 40, so the percentage of the feasibility of the learning model is  $39/40 \times 100\% = 97.5\%$  with the criteria very suitable to be used as a variable to improve children's language development.

**DISCUSSION**

This research produces a learning center model with a sociocultural approach. In this section, we will discuss the data from the development of learning models and answer questions on the focus of the research. This discussion is divided into 2 parts, namely: (1) the feasibility of a learning center model with a sociocultural approach to improve children's cognitive development in Kindergarten PGRI 3 Pandaan, Pasuruan Regency; (2) Feasibility of the learning center model with a sociocultural approach to improve children's language development in PGRI 3 Pandaan Kindergarten, Pasuruan Regency.

The research method used is research and development methods. Research and Development Methods or in English called Research and Development are research methods used to produce certain products, and test the effectiveness of these products. (Sugiyono, 2012:407). This research and development as a process to develop and validate products that will be used in education and learning. This research and development is an effort to develop and produce a product in the form of a learning model for early childhood called the Sociocultural-based Learning Center Model.

This study uses the Dick & Carey Research and Development model because this development model has clear stages to develop a sociocultural-based Learning Center Model. The 10 stages of Dick & Carey's development model are: 1) Identification of learning objectives; 2) conduct learning analysis; 3) analyze the behavior of the initial characteristics of students; 4) formulating learning objectives; 5) develop assessment instruments; 6) develop learning strategies; 7) develop and select learning materials; 8) design and carry out formative evaluations; 9) revise learning. This research was carried out only at the feasibility test stage because it was not possible to observe learning directly as a result of the cessation of learning activities in the classroom due to the COVID-19 pandemic.

The initial results of the research and development of a learning center model with a sociocultural approach to improve children's cognitive and language development at the PGRI 3 Pandaan Kindergarten, Pasuruan Regency, were the development of a learning model plan in accordance with the data needs obtained from the preliminary study stage. Preliminary research was conducted at PGRI 3 Pandaan Kindergarten, Pasuruan Regency. Characteristics of respondents are children aged 5-6 years who are students of group B.

Based on the results of observations, researchers found the fact that 57% of children aged 5-6 years in Kindergarten PGRI 3 Pandaan have not been able to use number symbols well. Researchers also found the fact that 71% of these children have not been able to express their ideas well. 68% of the children aged 5-6 years have not been able to pronounce letter symbols correctly. With data from preliminary research, researchers feel the need to develop a learning center model that is used to improve children's cognitive and language development. With the involvement of sociocultural elements, children also have the opportunity to get to know the local culture in the area where they live.

The design of the learning model was carried out after initial research, literature review, giving instruments, observations, interviews and documentation studies. The step taken is to design the model according to the needs and existing problems. There are three stages that need to be done, namely; (1) conceptual design; (2) procedural design; and (3) physical design.

The conceptual model is designed based on the existing problems, the difficulty of children following the learning process so that the increase in children's cognitive and language development is less than optimal. The learning center model with a sociocultural approach can also overcome the lack of

recognition of social and cultural elements that develop in the community around the child's environment.

The procedural model, the procedural model is made with the steps of developing a research model using the Dick & Carey Research and Development model because this development model has clear stages for developing a central learning model with a sociocultural approach. The 10 stages of Dick & Carey's development model are: 1) Identification of learning objectives; 2) conduct learning analysis; 3) analyze the behavior of the initial characteristics of students; 4) formulating learning objectives; 5) develop assessment instruments; 6) develop learning strategies; 7) develop and select learning materials; 8) design and carry out formative evaluations; 9) revise learning.

Physical model, physical model is the final form of the whole series of learning model development. The physical model is a set of document model learning centers with a sociocultural approach that is equipped with a guide book and examples of daily learning implementation plans for children aged 5-6 years. This model is realized after a series of model activities are completed starting from designing, providing formative and summative evaluations to children so that they can improve children's cognitive and language development. Physical models are also realized on the basis of problems and needs as well as validation activities by experts which are then revised and tested for feasibility.

At the planning stage: designing an outline of the contents of the model starting from the cover, introduction, and content of the model. The writing stage: (1) introduction, a brief explanation from the author about the general description of the contents of the model, the purpose of the preparation and refinement of the readers for the next model; (2) table of contents, made to make it easier for readers to find the material they want to know seen from the pages listed; (3) the main section, containing material or theories related to the central learning model and sociocultural approach accompanied by illustrations of activities; (4) the closing section, containing a summary and (5) a bibliography, containing references to books, journals or sources used in compiling the model.

After everything is completed, the validator is consulted, then revised according to suggestions and input and tested for theoretical feasibility based on learning model experts, material experts, and instrument experts. The next step is validation by a manual design expert who tests the physical feasibility. After being declared feasible theoretically and physically, then the learning center model with a sociocultural approach was tested on a child aged 5-6 years who is a student at PGRI 3 Pandaan Kindergarten. The results of the one-on-one trial were then tested for feasibility by practitioners observing children's cognitive and language development, revised according to the practitioners' suggestions to produce a final draft.

Based on the feasibility aspect of the learning center model with a sociocultural approach to improve children's cognitive development based on the validation results from children's cognitive development practitioners who stated that the score for the number of appraisers' answers was 39 with the highest

number of answers being 40, then the percentage of feasibility of the center learning model with a sociocultural approach to improve development children's cognitive is  $39/40 \times 100\% = 97.5\%$  with very feasible criteria to use. So that the learning center model with a sociocultural approach is very feasible to be used as a learning model to improve children's cognitive development in PGRI 3 Pandaan Kindergarten.

The feasibility of the learning center model with a sociocultural approach to improve children's cognitive development is based on validation results from children's language development practitioners who state that the score for the number of appraisers' answers is 39 with the highest number of answers being 40, then the percentage of feasibility of the center learning model with a sociocultural approach to improve children's language development is  $39/40 \times 100\% = 97.5\%$  with very feasible criteria to use. So that the learning center model with a sociocultural approach is very feasible to be used as a learning model to improve children's language development in PGRI 3 Pandaan Kindergarten.

In this research, obstacles were found in empirical trials in the form of small group trials and large group trials of children in PGRI 3 Pandaan Kindergarten or respondents due to the outbreak of the COVID-19 Pandemic which resulted in all educational institutions not being allowed to conduct face-to-face learning and the existence of face-to-face learning. the prohibition on gatherings with the issuance of a Decree from the Central Government, East Java Provincial Government, Pasuruan Regency Government, and Pasuruan Regency Education Office which held Large-Scale Social Restrictions since the beginning of the outbreak of COVID-19 and is still in effect until the time this research was conducted. Therefore, the implementation of the pilot test on the respondents could not be carried out according to the initial design and was only limited to a feasibility test on one child. Likewise, the trial of its effectiveness, cannot be carried out because there are strict sanctions for institutions that hold face-to-face learning.

## CONCLUSIONS

The model developed is a learning center model with a sociocultural approach. This learning model contains material on the application of a sociocultural approach that has distinctive emphasis on social activities in learning. ZPD scaffolding, and the introduction of the local socio-cultural environment are the differences between this learning model and other learning models. This sociocultural approach is combined with the central learning model that has been used to produce an active, creative, and fun learning model. This learning model is designed to focus on improving early childhood cognitive and language development. This development begins with a preliminary study through library research and field studies. Conceptually the model is based on theory, theory of model development and related research. Procedurally carried out through stages or a series of activities carried out starting from initial research to the resulting product with the Research and Development step of the Dick and Carey model. The learning center model with a sociocultural approach has been validated by a team of



experts/experts and revised so as to produce a learning model product that is suitable for use in early childhood learning.

The learning center model with a sociocultural approach has been through a feasibility test from experts and practitioners so it is suitable to be used to improve cognitive development and children's language development in PGRI 3 Pandaan Kindergarten, Pasuruan Regency.

The learning center model with a sociocultural approach has gone through a feasibility test from experts and practitioners so that it is feasible to use it to improve children's language development in Indonesia Kindergarten PGRI 3 Pandaan.

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