

Engaging Young Children in Learning by Project-Based Play

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Abstract: This study is action research conducted on in-service teachers as the participants of the teacher professional education program (TPE) at Universitas Muhammadiyah Jember. The research objective was to develop the in-service teachers' ability in designing and applying project-based play. Project-based play was the focus of this study, which aimed to improve the skills of in-service teachers through professional education. The Kurikulum Merdeka, which was introduced in the 2022–2023 school year, includes a new emphasis on using project-based play to teach young children. To most teachers, and especially to those who are currently teaching, the Project Play Approach is novel territory. There was a total of 12 participants across 3 cycles of the study. A video recording of the practice teaching session, cut down to 30–40 minutes, was uploaded to the LMS and used for data collection. We used a narrative inquiry method of data analysis, detailing our results and the process of providing remedial assistance in the accompanying video. This CAR helped in-service teachers become more proficient in developing and enacting project play activities in line with K13 and Kurikulum Merdeka.

Keywords: Kurikulum Merdeka; Project-based play; Teachers professional program.

INTRODUCTION

The Teacher Professional Education program (hereafter referred to as TPE), which is designed to provide teachers with additional education after earning a bachelor's degree in education, is implemented using two models. The first model is implemented for in-service teachers, whereas the second model is implemented for fresh graduates who are unemployed. The first TPE model is designed for teachers who have been recorded in the Education Primary Data (DAPODIK) database of the education office in the district/city where they teach.

Since the Covid-19 pandemic occurred in 2020, the learning model for TPE has changed. Since then, in-service TPE learning has been conducted online, allowing participants from various locations in Indonesia to attend the same class. As a result of the online model, the Field Experience Practice (Practice Teaching) activities are conducted online as well. Mentors (certified lecturers and teachers) may conduct direct observations (sit-ins) while participants are practicing teaching, or they may observe through recordings recorded during the practice. During the learning process, the mentors on duty document any weaknesses and strengths that emerge. Mentoring efforts are conducted after the practice or on a predetermined schedule, such as waiting a few days for the practice to conclude.

One of the distinctive features of practice teaching for the participants in the field of preschool is that the learning process is lengthier at preschool than at higher grade levels. Mentors have to make direct observations. However, they who cannot be physically present in class to observe the learning process may concentrate on the practice teaching videos. For the purpose of monitoring learning outcomes and, in particular, of acquainting in-service teachers with the learning process, observations on each TPE participant must be conducted.

The implementation of practice teaching is anticipated to develop teacher competence as 21st century educators, who are expected to be able to create student profiles of students who are able to collaborate, communicate, and think critically. Consequently, in-service teachers should be taught to create higher order thinking skill (HOTS) lesson plans since the development of teaching materials. The process of training preschoolers to think at a higher level is expected to be carried out through project play activities.

Although most early childhood education theories assert that learning through project play is the optimal form of play because it provides an opportunity to stimulate the integration of all aspects of development, project play is not yet a common play activity approach in preschool education institutions. The view of preschool teachers regarding project play is that play activities are assignments that every child must complete and are typically designed to include more than one play activity. The design of multiple play activities is applied with safety to the Center model, Area model, Group model, and Corner model. The teacher's knowledge of multiple play activities is geared toward stimulating aspects of development measured by basic competency indicators, particularly basic knowledge competencies (KD 3) and basic competency skills (KD 4).

Numerous studies have examined how the process of project play in preschool can be implemented and adapted to the cognitive, language, motoric, and social emotional development of children (Delaney, 2018; Hesterman & Targowska, 2020; McCann, 2014; Mercer et al., 2019; Salmon, 2008; Sands et al., 2012). Children can be introduced to learning early mathematics, languages, science, engineering, and rudimentary technology through the use of play-based projects (Ali & Mukhtar, 2017; Bautista et al., 2021; Kimathi & Nilsen, 2021; Piscitelli & Penfold, 2015; Tabi, 2019). Children's opportunities to collaborate, develop their creativity, and learn to design can be enriched by playing projects. This is feasible because basic playing projects are conducted using an inquiry-based method (Gillies, 2016; Gillies et al., 2012; Krogh Morehouse, Pam, 2014; Stremmel et al., 2015).

In these previous studies, greater emphasis was placed on how the process was implemented in the classroom, how children responded to the activities conducted, and how the outcomes of the play stimulated children's development. In some studies, prospective teachers were responsible for designing project play. The activity was conducted in the classroom as a simulation. This differs from the study described in this article. The research was conducted in the context of empirical learning in preschool classes. The class was the one being taught by an active teacher, who was also the executor. Project play exercises were used to address real issues that teachers were dealing with. Finding the problems to be studied, creating learning resources, establishing objectives, and assessing learning are, therefore, all based on the actual circumstances of each participant's class. It also differs from earlier studies in that mentoring activities were carried out online using instructional videos that the participant had posted. The current study examined and described in greater detail how the teacher explained the material and forms of the project to be completed, how the teacher set up the project play, and how the teacher directed children to think critically and develop their creativity through playing teacher-designed projects.

METHOD

This study is action research, specifically classroom action research, since the activity seeks to enhance the learning process during the implementation of practice teaching program. On the basis of a series of implementation action plans and evaluation plans, one round cycle was conducted in accordance with the Learning Management System (LMS) requirements. Theoretically, it is often stated that the next cycle's planning is contingent on the problem's resolution. Nonetheless, the number of valid cycles had been determined based on the LMS system and the online TPE program implementation schedule.

Each round of the cycle consisted of planning, which is the activity of planning, defining learning objectives, compiling teaching materials in the form of manuals and videos to reinforce concepts related to themes, and directing core activities. In addition, participants created evaluation tools based on the learning objectives and the expected outcomes of the problems to be solved.

During core activities designed with scientific approach stages, playing projects were implemented in accordance with the 2013 Preschool Education Curriculum, which includes observing, asking, gathering information, reasoning, and communicating. During the activity, the participants conducted an assessment as a basis for reflection in order to determine if the learning outcomes were in accordance with the assessment

rubric, whether there were any weaknesses or obstacles in the learning process, and whether there were any unique aspects related to critical thinking skills, creativity, and stimulation in children's development. The final activity of the cycle was reflection, which serves as the foundation for the next cycle's planning and implementation.

The participants in this research were twelve PPG students for whom the authors served as mentors. Ms. El was a crucial informant. She was selected as a key informant based on her ability to absorb the mentors' direction and carry out project planning tasks. Her transformations of thought and application had greater novelty learning value than those of the majority of her peers. She adapted to the design of project-based play programs faster than eleven of her peers. She was also able to incorporate technology into the learning process and test instruments related to the problems to be solved.

Videos and audio recordings of two informants that were uploaded to YouTube or pasted on the LMS (stored on Google Drive which can be accessed openly) served as a source of information for data collection. Three video data from cycles 1 to 3 were collected in relation to mentors' comments regarding:

- a. How does the teacher explain the project's material and structure?
- b. How does the teacher conduct the project play?
- c. How does the teacher encourage children to think critically and develop their creativity?

The results of the data collection were analyzed using a narrative inquiry approach, in which the authors presented mentoring data in a narrative format, describing the findings from videos uploaded by the participant and conducting reflective discourse to enhance planning for the next cycle. Reflective discourse refers to a discussion of findings with reference to prior theories and research in an effort to improve or increase the intensity of children's involvement in playing in the next cycle.

RESULTS AND DISCUSSION

The participant emphasized project play activities when conducting 60-minute core activities. The core activity was conducted after the introductory activity, which was designed using a scientific approach that includes the stages of observing, questioning, gathering data, reasoning, and communicating. One of the anticipated outcomes of implementing this project play was that the participants were able to design play activities to train children to think critically, solve problems, and stimulate all facets of their development in a holistic, integrated manner.

In the initial stage, the children were instructed to observe the play activities that were conducted during information gathering. As the initial step in practice teaching, the participants are instructed to utilize technological media to satisfy the criteria for implementing Technological Pedagogy Content Knowledge (TPACK). Each participant was instructed to create at least two instructional videos to introduce material and play activity guides that were implemented by preschoolers.

Ms. El's design was based on the week's theme of rural animals, with chickens as a subtheme. She demonstrated the sub-sub-themes of the benefits of chicken in this first cycle by making toast of processed chicken products. She presented a video on the benefits of chicken, followed by an introduction to processed chicken products and a demonstration on how to bake bread in an electric oven. She used an electric oven in an effort to increase the children's technological knowledge and proficiency. Some of her students struggled with the issue of children's comprehension of high-tech tools used daily or around them.

The children viewed videos while seated in a circle. They viewed the video in silence, with no one speaking during its duration. After they viewed the video, Ms. El gave them the opportunity to provide feedback or ask questions. None of them commented or asked questions after a while. They responded with a variety of responses to her query. Her questions continued to assess the children's comprehension of the information they had received, such as how to turn on the oven, how to remove cooked bread, and what fillings could be used for toast.

Ms. El gathered the components for toast after the questioning activity. She asked about the varieties of processed chicken meat fillings for toasted bread. During this activity, she repeated the instructions provided in the instructional videos. She also developed a plan for how the children's recreational activities would be conducted. First, the children chose a companion to join their group, and then they were tasked with gathering ingredients for the toast. Second, they were reminded to tally their group members beforehand so that they would not pick up too much bread and stuffing. After hearing the explanation, the children chose a groupmate

and returned to their seats with the other members of their group. A group consisted of four or five individuals. That day, two factions existed.

A child was selected to represent the group and receive bread. When receiving bread, the group representative was questioned about the number of acquaintances in the group. The child was reminded that each individual had to receive two loaves of bread, and, therefore, determined how many loaves were required. There was a child who demonstrated good proficiency by stating that the group members required eight loaves of bread, while another representative stated that there were only five members. Ms. El guided the child in counting the number of loaves by mentioning the names of the group members, e.g., now take two loaves for An, two loaves for Di, etc., until each child had received their portion. The child was then instructed to tally the number of buns on the tray. Two children were designated to collect the bread filling ingredients that had been arranged in containers.

While the students were preparing the tribute, Ms. El conducted the evaluation. She kept track of when the child baked bread and responded to inquiries. Her inquiry pertained to the selected toast filling and the stage of toast preparation. These were queries that the children could answer without much thought because the answers were readily apparent based on how the bread was being prepared. The children completed the preparation of the bread, and those who had already completed the preparation baked the bread. Due to the fact that there was only one oven, the children waited attentively in line. The oven was set by Ms. El to bake for five minutes at a temperature that could not be altered by the children. On multiple occasions, there were multiple children present, but due to the oven's limited capacity, only two loaves could be baked. The majority of children were able to turn on the oven at the 5-minute mark. Children waited their turn with patience. The culinary activity had completed, and the children were now eating the fully completed bread.

After the children had relished the bread, Ms. El questioned who would tell her about the toast they had made or other toast-related experiences. Several children were willing to describe the toast they made. One child stated that he wanted to make toast but lacked a comparable oven at home. One child stated that her mother prepared toast with delectable fillings, including jam and meses.

After allowing the children to share their experiences with toast, Ms. El concluded the main activity by conveying the message that they should not be hesitant to use electrical technology tools. She also advised that children must be accompanied by an adult when using electrically powered instruments and must adhere to all safety procedures. The event concluded with a hymn and a prayer.

The 31-minute version of the video depicts the aforementioned phases of the activity, which the mentors observed. The video was the result of the participant's editing, but it was still able to demonstrate both appropriate and problematic aspects of playing projects. Feedback was meticulously conveyed for everyone's improvement and was recorded to be verified for the participants who were practicing.

The following day's afternoon was devoted to guidance-related activities. It was done in the afternoon due to the fact that there were still students practicing in the morning. The mentors provided feedback and clarified the video's depiction of the truth in relation to the actual situation when the virtual class met through Google Meet. During the activities of cycle 1, neither the lecturer nor the tutor conducted sit-in activities; therefore, all of the data was collected from participant-edited videos.

The initial input pertained to the stages of play conducted by the participant. There should have been no more explanation activities during the information-gathering phase when children were playing. What needed to be strengthened by the teacher was the learning videos that explain the stages of the assignment that the students could complete. Essentially, project play activities consist of constructing discourses about children that are anticipated to be in accordance with children's desires and preferences. The distinction must be made between instructional videos for playing activities and videos on the topics or themes being discussed. Learning videos that serve as aides for play activities should include options that children can access when gathering information to strengthen their understanding of the topic. The mentors provided an illustration, such as allowing the child to choose whether to bake the bread for a while or a little longer. The participant could construct knowledge

discourses of the children about the texture of toast, color changes, and distinctions in the outcomes of engineering performed by setting baking times.

The second input pertains to the manner in which the participant guided the critical thinking and creativity of the children. This activity was conducted while the children were preparing the toast while the teacher administered an evaluation. The teacher should ask children questions that require them to think before responding, as opposed to questions that are readily answered because the children already possess the necessary knowledge. The purpose of critical thinking is primarily to increase children's knowledge and their ability to abstract an event or occurrence. Therefore, the query words that should be used are not what, but rather how or why. This will also train children's creativity, particularly their language abilities through the use of new words. Even though the initial sentences used by the children are repetitions of the teacher's interrogative sentences, they will educate the children to be creative when describing or explaining their ideas for the activities.

Thirdly, it was suggested that the assessment should not have only been geared toward enhancing children's abilities in mastering technology, language, and basic engineering, but also early math and science skills. Therefore, it was necessary to design activities or add the objective of developing early mathematical and writing skills to activities that had already been conducted. In addition, the mentors stipulated that the test instrument for this activity be a comprehensive written statement. Comprehensive refers to the fact that the written evaluation is administered not on paper, but is based on technology. Due to the fact that there was only one laptop as media, the subsequent implementation was somewhat complicated.

During cycle 2 implementation, several modifications were made. Initially, a video describing the steps of preparing bread was utilized to explain how to make toast. It was explained in the clarification that the bread was filled prior to baking. During the inquiry phase, children were more engaged in describing the video-observed procedure.

The teacher asked the students to tally the number of loaves of bread after dividing them into groups. With 10 students in this second cycle, each cohort was required to bring 20 loaves of bread. In the video explanation, Ms. El gave children the option of spreading margarine on the bread prior to baking. It was also demonstrated that bread without margarine would have a coarser, crunchier texture. When baking, the children were physically active. Every child contributed to the preparation of the bread. The two groups decided to bake some bread with margarine and some without it to create two distinct varieties of bread.

When it was time to bake, the children were questioned about their decision to bake two varieties of bread. The children stated that they desired "crispy" bread. One child decided to bake the bread for an extended period of time so that it would also be crunchier. Ms. El encouraged the children to monitor the outcome of the bread preparation process.

Ms. El inquired once more how to operate the oven. The children enthusiastically explained each step of the sequences. For instance, she inquired about the indication that the bread was baked according to the specified time. They collectively responded "ting sound." In addition, they described how to remove the bread from the oven. They explained sequentially, wait a moment after the ting sound, then open the oven. Then, she inquired about the proper way to hold the heated bread tray. Two children responded by wearing oven mitt. One responded with a lengthy cloth or towel. She provided two things to wear, one was thick mitts and the other was a lengthy and thick towel.

After the toast was taken, Ms. El inquired about the differences in texture between bread baked with and without margarine, as well as bread baked for an extended period of time than usual. Each group was able to articulate why bread without butter turned yellow and bread with margarine turned brown. Certain areas of bread that was baked for an extended period of time turned black. She responded, "That is known as being burned." The children also distinguished between the pastries based on texture. Without margarine, the breads were drier and tougher, but not crunchy. Those made with margarine were crispier and gentler. She inquired what the difference in color and texture was

between the unbaked and toasted bread. Children stated, "If it has not been baked, it will be white with yellow outlines. The texture is gentle." The children pressed the bread after determining that its texture was spongy. She, then, requested the children to scent the bread, both unbaked and baked. She assisted the children by holding the bread with tongs and bringing it to their nostrils. According to the children, the baked bread smelt burnt.

After examining the bread, the children added various toppings. Ms. El strolled around and asked the children for topping suggestions. That day, garnishes included chicken sausage, nuggets, cheese, tomato sauce, and sunny-side-up eggs. Some children prefer a different substance, so the toast was not cupped. There were those who decided against slicing the sausage because they wished to bite it. The children chose the type of bread to be toasted, the bread to be formed into a symmetrical shape, or for each bread to be filled with a variety of garnishes. The children also reported that the bread that was overbaked and burned tasted somewhat acrid. Additionally, the children discussed the experience of making the toast and the possibility of making toast at home.

In general, the mentors observed that the cycle 2 activities were better executed. The teacher's ability to direct children to think critically by using different types of bread to be baked, introducing textures and distinguishing scents, topping choices, and how to fill the toppings on toast was her method for getting children actively involved in the toast project this time. The mentors suggested testing the model with a distinct theme in cycle 3. The mentor also reminded the teacher of the need to administer a written examination to determine the children's reading, writing, and arithmetic skills. The written examination was administered in a different format than in the past. Ms. El responded that she would attempt again in the third cycle. Due to a shift in the topic of discussion, the mentors instructed her to prepare learning materials. Then, the cycle 2 teaching experience could be incorporated into the improvement of the learning materials that were developed as prerequisites for entry into the practice teaching stage.

The mentor added that if the children had begun to grasp the project's cadence, their involvement can be increased by allowing them to choose which activities to participate in. Even though the teacher continues to intervene by directing information at the beginning about the content that would later be developed into a project, allowing children to select their own activities was the first step in developing their critical thinking and creative abilities.

Ms. El created a new instructional tool, but assessed the same fundamental skills in cycle 3. She simply added one pair of basic competence to the lesson plan for cycle 3 in order to assess the children's literacy abilities. The third cycle theme was about plants, with plant varieties and ginger plants serving as subthemes. The title of the play-based project was "Making a Drink from Ginger."

In the introductory activity, the children viewed a video about the various varieties of ginger rhizome. This activity was also enhanced by inhaling different varieties of ginger. There were disparities in the stage of fundamental activity. Before Ms. El invited the children to view a video that leads to learning activities, she described the activities they would engage in while recalling the information presented in the introduction. The children decided to create a ginger-based beverage. After the children decided to make a drink with ginger as one of the main components, she encouraged them to locate a recipe for ginger drink. In reality, she created multiple versions of the instructional video for preparing this ginger drink. She screened a video about numerous ginger-based beverages.

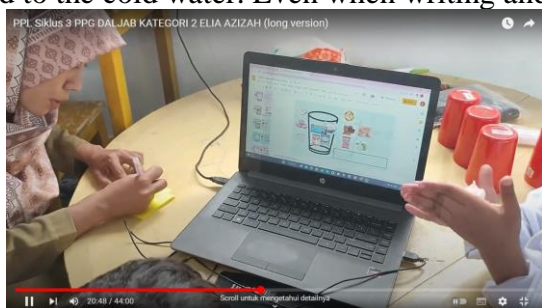
The video began with cleaning and peeling ginger. The children then observed various ginger drink formulas and additional ingredients, including milk powder, lime, brown sugar, and white sugar. Ms. El intended to introduce more science, technology, engineering, and literacy in this activity. She introduced sophisticated technology in the form of blenders and basic technology in the form of spoons and vegetable peeling tools. She emphasized the need for caution when the children used a blender. She additionally instructed them on how to coordinate their right and left hands when peeling with a knife or utensil. In the video, she also presented them with recipe cards for the ginger drink they created. The video also guided them in gathering information on how to prepare the

selected drink recipe. The preparation of this recipe was performed on a laptop, and each group could subsequently print the results.

Ms. El explained that, after forming a group and deciding on a play agreement, the children could either choose a recipe first or prepare the selected drink and then compile the recipe. First, the children attempted to peel various types of ginger according to their preferences, and then alternately ground them in a blender. The ginger was prepared for use. Some children chose to begin with the beverage recipe. However, others chose to purchase the necessary ingredients to prepare the designated beverage. Ms. El acted to protect the selection materials. The children appeared engaged in their task.

Making drink recipes was an engaging activity that required children to deliberate and make choices. For instance, they selected a recipe for ginger milk. Actually, there were two varieties of milk available: white milk and chocolate milk. They preferred to add brown sugar to chocolate milk, even though the milk powder already contains sugar. They referred to the beverage as "Delicious Ginger Milk."

While writing the names of the recipes, the majority of the children had trouble deciphering. The name of the recipe was then written by the children with the assistance of Ms. El, who typed the recipe using a laptop-style keyboard. The other group opted to prepare sweet ginger tea beverages that were processed. The children strained the ginger into ginger juice, which is then combined with water and sugar. The hot water used came from a dispenser. Due to the accord that there would be no fighting or crowding, the process of obtaining hot water was secure. Immediately, the hot water was added to the cold water. Even when writing and perusing recipes, they desired to attempt each step.



Picture 1 Ms. El inscribed the name of the recipe selected by the children.



Figure 2. The children preparing ginger drink according to the recipe (the arrow)



Figure 3 Each child was enthusiastic about preparing the selected beverage in his or her own manner.



Figure 4. The children displaying a mixed ginger drink recipe (written exam)

Individually, in small or large groups, or by oneself, project play (Jackman, 2012) is a comprehensive examination of the topic being studied. The project play methodology provides children with the opportunity to implement and hone their speaking, critical thinking, creative thinking, decision-making and prediction skills. Children's comprehension of play projects is developed using topics or themes as a jumping off point. Children connect experiences they have already had or create new experiences through self-directed activities. Playing projects are not simply a form of required homework for children, because in playing projects children's involvement begins with the decisions that they make to further explore the introduced topics or themes.

Playing projects as an early childhood learning strategy cannot be isolated from the inquiry learning model (Siantajani, 2020) in the learning process with an inquiry approach and curiosity as the initial stage of scientific learning steps. Young children between the ages of 4 and 6 years, according to Piaget, are still in the pre-operational stage of cognitive development (Slavin, 1998), so the teacher must facilitate the development of inquiry. The teacher can satisfy children's curiosity through non-assignment-based activities in the context of activity choices, so that they work with a variety of media to develop new knowledge and skills or connect a small amount of knowledge from previous learning experiences to acquire new information and abilities. This selection of activities is known as play because the child is not required to follow a method determined by the teacher. For young children, the opportunity to attempt, explore, exploit, or manipulate various media to satisfy their curiosity is referred to as play, thus play is regarded as the most effective method of education for young children.

The majority of teaching and learning processes in early childhood education have been assignment-based up until this point. There are still many instructors who believe that the stimulation of holistic, integrative aspects of development is accomplished through high school subjects as part of the learning process (elementary school and so on). As a result, despite modifications to the curriculum, preschool teachers typically present children with a variety of play activities or games that represent each aspect of child development. Children typically labor alone and must complete their tasks. Therefore, children do not play but instead perform only teacher-assigned duties.

In an effort to alter the perception of the teacher's role and competences, the teacher professional education program emphasizes from the start that teachers must be able to become 21st century teachers whose success is determined by the 4C profile of learners: critical thinking, creativity, collaboration, and communication. Early on, teachers are expected to be able to construct a learning plan that bridges the achievement of this profile. There is no longer any denial that young children should acquire reading, writing, and arithmetic, as well as learning presentations that encompass all aspects of development. Holistic integrative learning in early childhood education must be interpreted as learning that is carried out with one large activity as a place to play in which children can acquire various media, develop every aspect of development simultaneously, train 4C skills, learn to think critically about science, technology, and engineering, as well as gaining knowledge of numeracy and literacy through a variety of creative activities. The recreational activity that is an arguably the most commonly can be designed by the teacher as a long- or short-term activity. The forum also provides children with opportunities to learn from a variety of sources, including the Internet, social media, and resource persons. The name for this package is the project play.

Ms. El carried the Animals theme in cycles 1 and 2, with subthemes about the benefits of poultry. The launching project play activity was preparing toast. The context of knowledge expected from playing the toast-making game was about the children's immediate environment, specifically the use of an electric oven. While the context of the expected skills was that they were able to use technology, it was also specified that they must be able to communicate effectively. Initially, emphasis was placed on introducing technology to children and developing engineering of technology knowledge and skills. It appears to be a straightforward process of making toast, adding various processed chicken toppings, and roasting it. When early mathematics, language, science, and movement were incorporated into children's activities, the process became more complicated. Counting the number of buns for each member of the group was an opportunity to teach children to recognize mathematical functions for daily routines. The first step for children to consider at a higher level was the use of language in the form of provocative questions.

As they entered cycle 3, children were no longer surprised when they were required to complete assessments, which they viewed as part of their play activities. As a mediator, Ms. El recognized that the majority of children's literacy skills were still inadequate, so she assisted. The process of writing the recipe's name as the children desired was adapted to the letters on the laptop keyboard, allowing the children to pass the test with some difficulty. Also in cycle 3, children were more confident in expressing their preferences, despite working in groups. This was possible because the children understood that the agreement of playing and working together allowed them the freedom to express ideas while respecting those of their peers, despite the fact that the initial decision to make the desired recipe was made collectively.

The children's participation was successful because they felt at ease participating in activities based on their thoughts and desires. In three lengthy cycles, Ms. El was able to design learning activities without constructing a separate activity for each learning aspect and content. Importantly, she devised play activities that allowed children to develop ideas (critical thinking), take risks (creativity), work with others (collaboration), and respect or appreciate the work of their peers (communicative). Through playing initiatives, the teacher could alter their mentality regarding how to implement learning through play activities

CONCLUSION

The Play Project is a large platform for play activities that promote developmental aspects using learning resources in science, technology, engineering, art, language, and early mathematics. By providing learning materials in the form of theme-based or topic-based play project, teachers must create project forms that facilitate the holistic integration of stimulation and ideas. Children's engagement can be achieved through a variety of carefully thought-out activities by giving them the chance to use various media through a variety of offers that can be guided by the teacher directly or using technology.

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