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## Environmental Conservation Curriculum for Preschoolers

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Environmental Conservation Curriculum for Preschool Age Children

Veronica M Lampreda

A Capstone project for the Bachelor of Arts in Human Development and Family Studies

## **Environmental Conservation Curriculum for Preschool Age Children**

### **Introduction**

Preschool children are often not exposed to the importance of environmental conservation. Preschool curriculum typically focuses on social, physical, emotional, and simple academic lessons such as alphabets and numbers, which overpower any curriculum geared towards environmental conservation. To address the lack of knowledge on this topic in preschool settings, I created a curriculum about the three r's of environmental conservation; reduce, reuse, recycle. I implemented a three day curriculum to four and five year old children at the Monterey Peninsula College (MPC) Child Development Center, in Monterey, California.

### **Needs Statement**

Environmental conservation curriculum is currently neglected in standard preschool curriculums. Environmental conservation is the protection and preservation of natural resources and environments by human beings. Although preschool age children are in earlier stages of cognitive development, they are capable of understanding that humans have an impact on the earth both positively and negatively. Furthermore, research shows that there is a sparsity in effective environmental curriculum for preschoolers. Research proves that preschool age children are able to understand and practice environmental conservation habits, when taught through hands on experiences and activities to build upon their learning. These habits include acts of reusing, reducing, and recycling materials.

Specific curriculum about recycling, reducing, and reusing in early childhood education is important for environmental sustainability and conservation. With effective curriculum, young children can begin to practice these conservation habits effectively. Ozyaral, Karakaya

and Kaya (2013) found that preschool aged children knew about environmental awareness and practices such as recycling, but when the children were observed whether they practiced those methods, the preschool children failed to recycle items properly or use items more sparingly. This research shows that preschool aged children are interested in recycling and reducing, and are capable of understanding the concept of environmental awareness. Yet, preschoolers need support to enact their learning. Although preschool age children are in the early stages of their development, they are capable of understanding and completing the actions of recycling, reducing, and reusing materials around them.

Once again, the idea of environmental conservation may seem too advanced for preschool age children but research has proved otherwise. With enough stimulus and experiences on conservation habits, preschool children can understand and learn to practice basic habits such as recycling and reducing. Kahriman- Ozturk, Olgan and Guler (2012) found that preschool children who attended a school that had recycling bins and recycling activities were more familiar with recycling issues and effectively practiced more environmental conservation habits. Children with more exposure to this type of habits, are more likely to practice and understand the importance of sustainability in their everyday lives. With proper instruction, modeling, and interactive activities which focus around basic environmental conservation habits children will be able to model and mimic these behaviors.

Furthermore through this type of curriculum, preschool age children benefit by gaining an appreciation and relationship for their environment. Ward (2013) found in her research that preschool children were able to find a connection with and have a sense of responsibility for their surrounding environment after using recycled material for art projects. Her findings support that

preschool aged children are more than capable to learn and appreciate the idea of recycling, when the children are able to touch and visualize the concept. By reusing materials, children gain a greater appreciation for their environment.

For my capstone project, I created a curricular unit on environmental conservation for preschool aged children from ages four to five. In order to increase preschool students awareness of environmental conservation, I provided a three day curriculum about the three r's; reduce, reuse, recycle to preschool students at the Monterey Peninsula College Child Development Center.

### **Theory Application**

Preschool age children are at the optimal age of learning. Preschool age children learn through a number of ways, one theory states that children learn best through observational learning. Albert Bandura, a developmental psychologist, describes significant amount of learning is explained by the social-cognitive learning theory. The social cognitive learning theory is an approach that emphasizes learning by observing the behavior of another person, called a model (Bandura, 1971). Through this theory it is believed that individuals can learn through observation rather than trial and error. Individuals do not need to experience the consequences of actions in order to learn from them (Feldman, 2012,p.16).

This theory applies to my project because through environmental conservation curriculum. Children will be able to observe the methods and practices of conservation habits and then go and practice them through structured activities. Preschool age children mimic behavior because of their urge to understand society's norms and see how they fit into the world.

Preschool children begin to notice the connections between particular situations and certain kinds of behaviors.

### **Consideration of Diversity**

The participants I used at the MPC child development center are widely diverse. There is a wide variety of both racial and ethnic diversity. Also there is a diversity of families and incomes. The child development center, offers tuition assistance to low income families, but also allows families to pay full tuition. Some children have a nuclear family setting, while other families have single parent families. Approximately 40% of the participants speak another language besides English, but all can comprehend and speak English. For my participants, 37% are Mexican-American, 30% are Caucasian, 22% are African-American, 7% are Asian-American, and 4% are Middle-Eastern.

My project is very inclusive. But, in order for preschool age children to participate in the curriculum, they need to be English proficient and able to sit and focus for more than 30 minutes. Since material in this curriculum can be very complex, it is important that if this curriculum is presented in English that the child is proficient in English to understand the concepts. Also each activity has several steps and aspects of discussion and tasks, so it is important that a child should be able to be in group like setting for more than 30 minutes. There is one way that this project can be broadened. This project can be done in any other language to include those who may not be English proficient.

### **Learning Outcomes**

I provided a three day, 30 minute discussions and activities to preschool age children ages 4-5 in the Garden Room at the MPC Child Development Center.

By the end of my project, children will be able to:

- 1) describe one way to reduce their environmental impact
- 2) sort recyclable material and non recyclable material.
- 3) Identify one way common objects can be reused for another purpose.

### **Method**

#### **Day 1**

On day 1, my first activity I wanted to focus on the first r: reduce. I did this activity as a large group activity with a discussion. There were 20 children present during the activity, 11 boys and 9 girls. By the end of the activity I wanted each child to be able to identify one way they can reduce their environmental impact. For the first portion of the activity, I read the book *10 Things I Can Do to Help My World* (Walsh, 2009). This part of the activity took approximately 15 minutes, as I broke to answer children's question during the book. After the book concluded, I posed this question for the children, "What is one way you can reduce your impact on the earth?" I then chose on each child individually to give their answer. The discussion took approximately 10 minutes. I made a thought chart of the children's responses. I carefully wrote down verbatim what each child said; for those children who did not answer I did not write anything on the chart. See Figure 1.

#### **Day 2**

On day 2, I wanted to focus on the second r: recycle. I implemented a 30 minute small group activity with seven children; there were 4 boys and 3 girls. At the beginning of the activity I lead a 5 minute discussion, explaining and showing children a common recycle symbol. See appendix A for recycle symbol picture. I then explained that when a recycling symbol is

presented on an item it can be put in a recycling bin, rather than in the trash. After our discussion, I then laid out 14 common household items such as; plastic sandwich and snack wrappers, milk jugs and beverage containers, food boxes, etc. I had 7 items that were recyclable which had the recycling symbol on the item, and 7 items that were non recyclable. I then put out two different bins; one recycling bin and trash bin. I allowed each child to pick 2 items, then instructed the children to determine whether each item was recyclable or non recyclable, and to put them in the appropriate bin. After all the children placed their items in either bin, I had the children sit back down and I went through with them each item they had placed in the bins. As I went through each bin I made sure each item was correct, and if it was a recyclable item I pointed out where the recycling symbol was.

### **Day 3**

On day 3, I wanted to focus on the third r, reuse. I implemented a 30 minute group discussion and activity which focused on the aspect of reusing materials for other purposes. For this activity I had 9 children, 5 boys and 4 girls. In the beginning of my activity I held a group discussion, where I showed pictures of how common household items can be reused for other purposes. See Appendix B for pictures. After I showed the children the pictures, I posed this question “How can we reuse old things, to make something new?” I then chose each child to answer the question and wrote down their responses verbatim on a thought chart. See figure 2. I then had the children experience reusing materials to make something new.

As a class we used recycled paper from the writing area in the classroom to make paper. I then had the children move from the carpet to a table, where I had the children begin the process. First I put the recycled paper on the table, and instructed the children to rip up the paper



into small pieces. Second, I had the children put the pieces of paper into a bin. Then I dumped the paper into the blender and added 6 cups of water, and blended the paper water mixture. Once the mixture was a pulp type texture, I then used a deckle to drain the excess water from the mixture. Once the paper pulp was in the deckle I instructed the children to move around the pulp where it would cover the 8 ½ by 11 deckle. Then I laid out the deckle and paper pulp to dry so it can turn into paper.

### **Results**

Learning outcome one was that children would be able to identify one way to reduce their environmental impact. I believe this learning outcome was partially met. After I read the book, *10 Things I Can do to Help My World* (Walsh, 2009), I posed the discussion question, “What is one way you can reduce your environmental impact on earth?” From the children’s discussion about reducing their environmental impact, the children focused a lot on the idea of picking up trash. During the discussion, I felt as if the children were copying their peers’ responses to the question. Although the children who answered the question explained why he or she needed to pick up trash, not every child was able to answer the question. Only 9 out of the 20 students in the discussion answered the question, while 11 out of the 20 could not answer the question at all. Of the 9 responses, 8 of the responses were correct while the 1 response was inconclusive. See table 1 for children’s responses and analysis.

Learning outcome two was that children will be able to identify recyclable and non recyclable materials. I believe my learning outcome was met. During the activity, the children were engaged and actively looking through the items to find the recycling symbol. Each child picked two items from the pile, and I asked them to put each item in the correct bin depending on

if the item is recyclable or not. After all the children sorted their items, I went through each bin with the children watching. All items were sorted correctly in their appropriate bin. Each child correctly sorted their two items, and was able to identify one recyclable item and non recyclable item. See table 2 for results.

Learning outcome three stated that children will be able to identify one way an object can be reused for another purpose. I believe this learning outcome was met. After the group discussion, I asked each child what is one way they can reuse old things. If the children were able to give one way they could reuse the material, their answer was marked as correct. Please see table 3 for children's responses and analysis. Of the 9 children that were in the activity, 8 children gave a correct answer, while 1 child did not. 8 of the 9 children gave diverse ideas on how to reuse common household items for another creative purpose. After their discussion, the children engaged in a hands-on experience of reusing recycled paper to make more paper. The children were excited and engaged during the activity. See Appendix D for final product of paper activity.

### **Discussion**

I believe my project was successful for introducing children to environmental conservation habits. During the three-day lesson, the children were engaged with the content that I presented. Even after the activities I presented, I noticed that the children were applying the content outside the classroom. Since young children are observational learners, as Bandura's Social Learning theory states, the children were able to observe several environmental conservation habits and then replicate them. I saw children picking up trash around the school

yard, turning off the water while washing their hands, and even using both sides of their paper while drawing. Quickly children began to practice and became more conscious of their environmental impact.

In terms of diversity, I believe my project was inclusive. But as I discussed certain conservation habits such as recycling, I did not know if every child in my class had access to a recycling bin at home. So, for some participants, this may have been new information, and the child may not be able to do some of these habits at home, especially if they do not have access to a recycling bin.

If I had to do my project again, I wish I had done a hands-on activity for each learning outcome. I noticed that the children were more engaged in the activities that were more hands on. During my first activity, I would have liked to have the children maybe do a trash pick up around the school yard. I believe this would have helped them completely achieve their learning outcome. Children were more likely to replicate and engage in environmental conservation habits once they saw me demonstrate the habit and then had the chance to replicate the habits. All in all, I think the children enjoyed and absorbed the content and now exhibit more awareness about reducing their environmental impact.

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**Table 1**

Activity 1: Children's responses and my analysis to discussion, "What is one way you can reduce your environmental impact?"

<b>Children's responses</b>	<b>Analysis(correct or incorrect)</b>
Make small trash. Not big trash.	Correct- limiting amount of trash reduces environmental impact
Pick up trash.	Correct-correct sorting of materials reduces environmental impact
Pick up trash because it does not belong on the ground.	Correct-correct sorting of materials reduces environmental impact
Pick up trash so a bird does not eat it and die.	Correct-correct sorting of materials reduces environmental impact
Put trash in the trash.	Correct-correct sorting of materials reduces environmental impact
Tell people to pick up trash.	Correct-correct sorting of materials reduces environmental impact
Walk around and clean trash.	Correct-correct sorting and of materials reduces environmental impact
Don't use trash.	Incorrect-inconclusive
Pick up trash so it does not go into the ocean.	Correct-correct sorting of materials reduces environmental impact

**Table 2**

Activity 2: Sorting of recyclable and non recyclable material activity

<b>Children</b>	<b>Recyclable Item Correctly sorted</b>	<b>Non recyclable item correctly sorted</b>
Child 1 (boy)	Yes	Yes
Child 2 (boy)	Yes	Yes
Child 3 (boy)	Yes	Yes
Child 4 (boy)	Yes	Yes
Child 5 (girl)	Yes	Yes
Child 6 (girl)	Yes	Yes
Child 7 (girl)	Yes	Yes

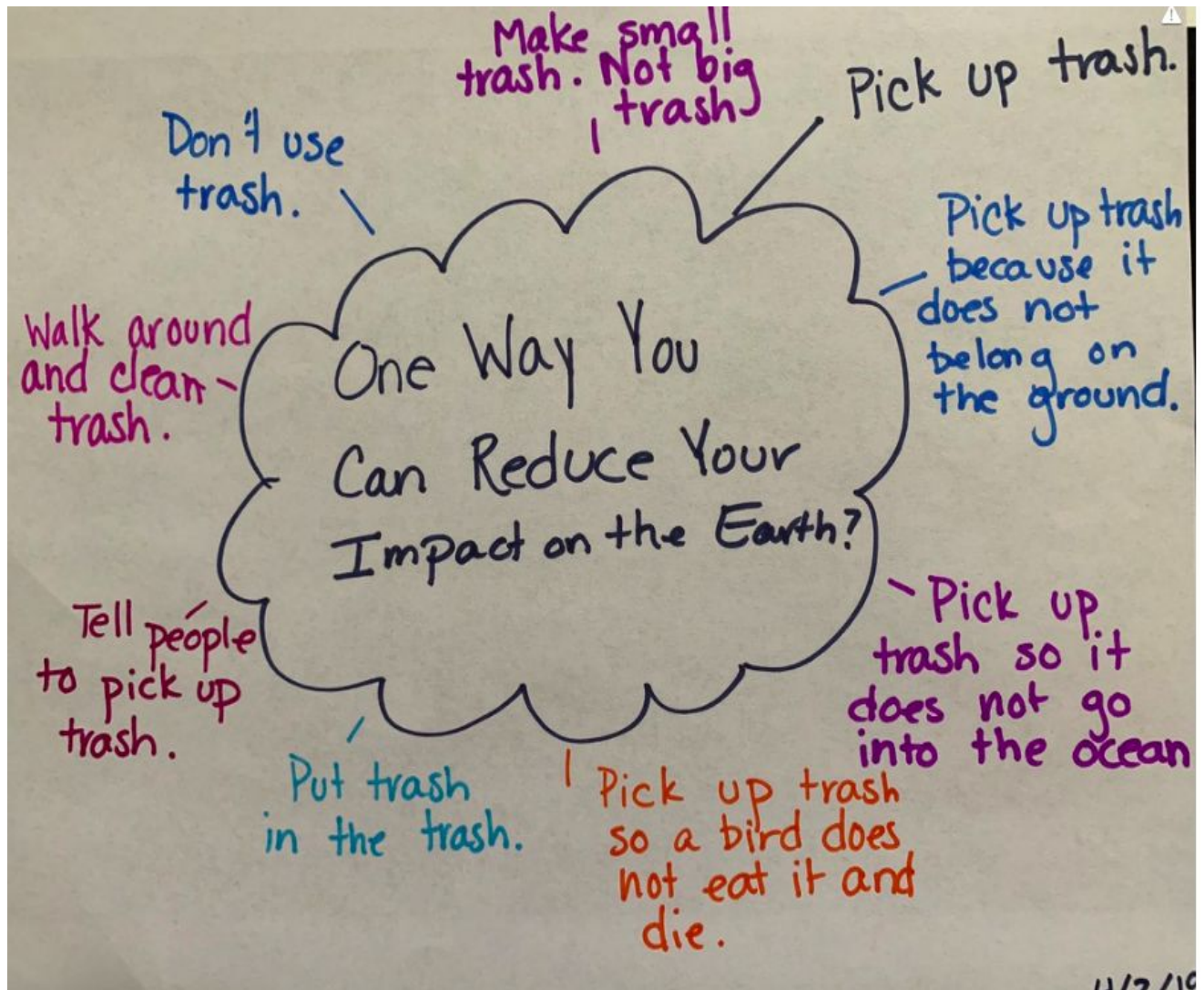
**Table 3**

Activity 3: Children's responses and analysis to the question, "What is one way you can reuse old things?"

<b>Children's Responses</b>	<b>Analysis (correct or incorrect)</b>
Make a house.	Correct
We can make binoculars.	Correct
I can build a race track.	Correct
We can build a boat.	Correct
We can make a small boat.	Correct
Throw it away.	Incorrect
Can make a fake tree.	Correct
You can build a city.	Correct
I can make a gun.	Correct

Figure 1

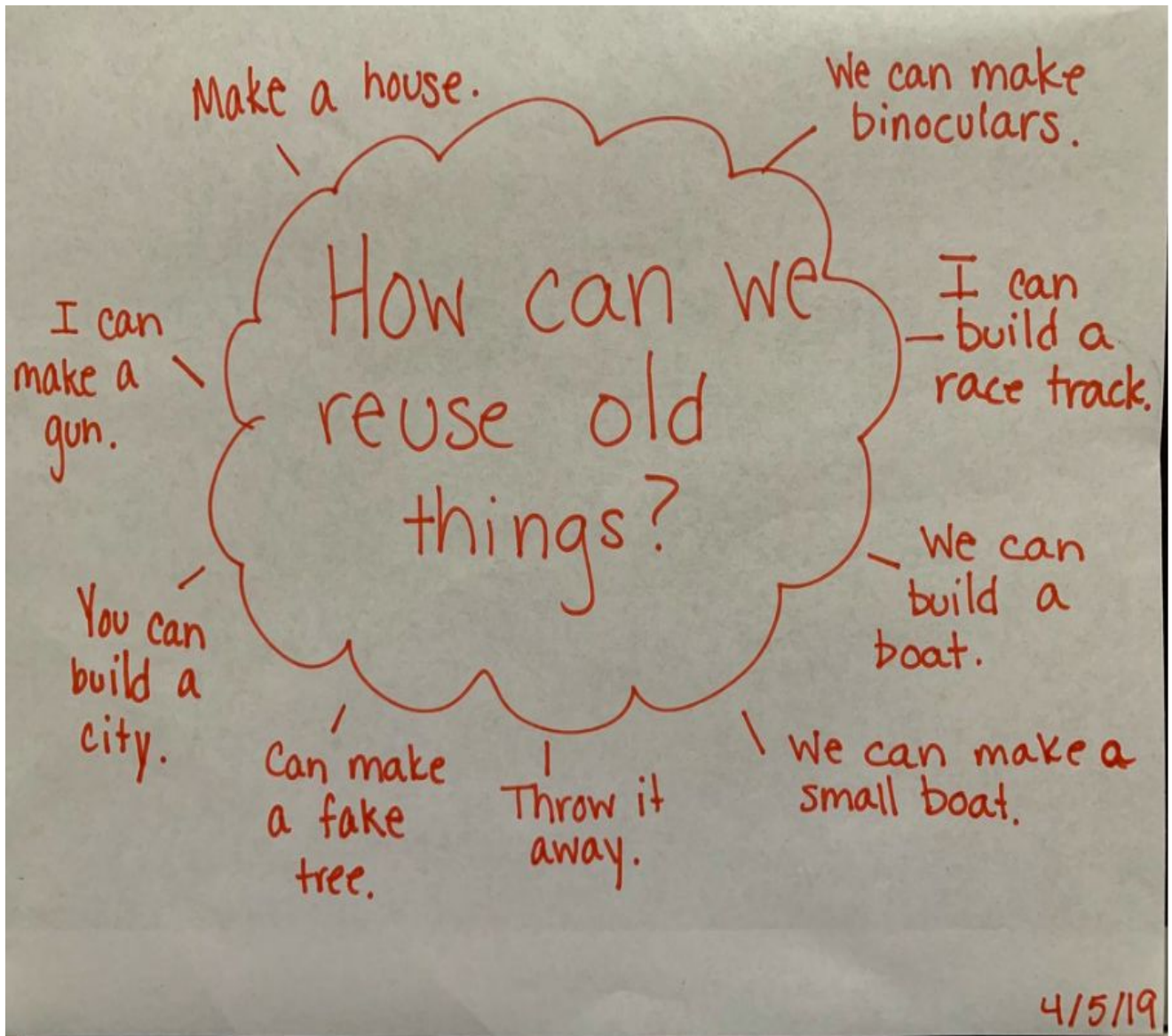
Activity 1: Children's responses to one way they can reduce their environmental impact.





**Figure 2**

Activity 3: Children's responses to one way they can reuse old things.



**Appendix A**

Activity 2: Recycling symbol shown during discussion.



## Appendix B

Activity 3: Pictures shown during discussion about reusing materials for another purpose.



**Appendix C**

Activity 3: Pictures of activity using recycled classroom paper to remake new paper.





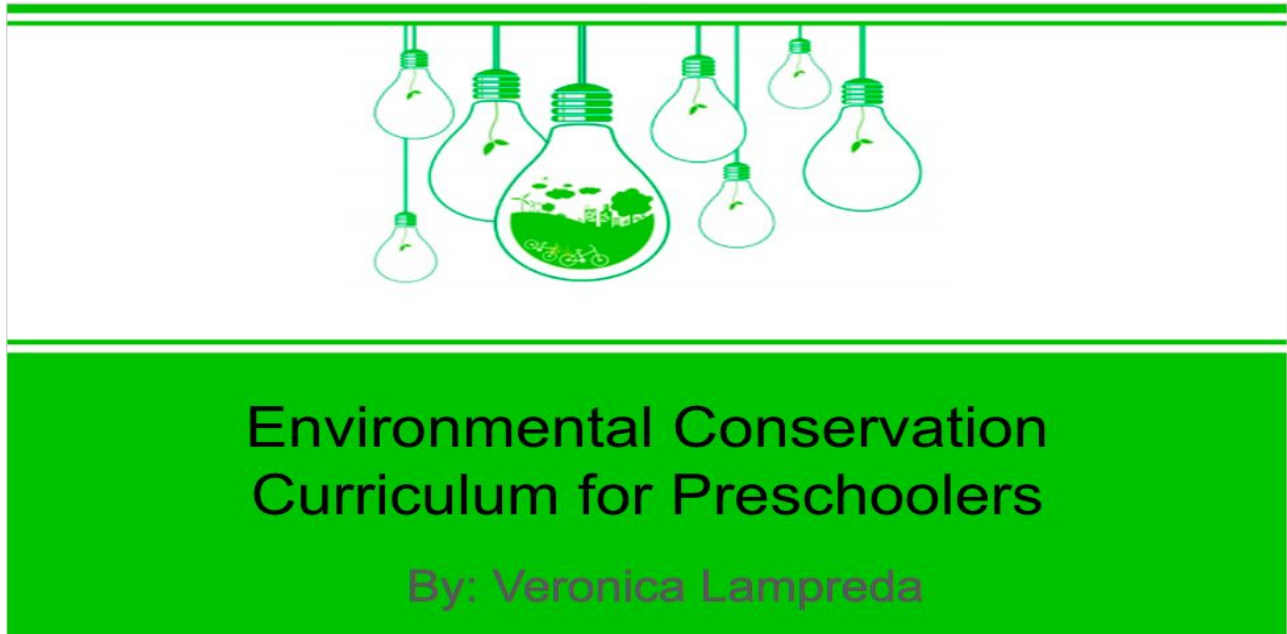
**Appendix D:**

Activity 3: Final product of paper that the children made out of recycled paper.



## Appendix E:

Capstone presentation slide show.



## Need



- Environmental conservation is the protection and preservation of natural resources and environments.
- Research shows that preschool age children are aware of the environment and the impact people have on the environment, but show little practice on how to conserve their environmental resources (Ozyaral, Karakaya, & Kaya, 2013).



## Bandura's Social Learning Theory

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- He believed that people learn from one another through observation, imitation, and modeling.
- Children are observational learners and learn most effectively through mimicking behaviors and actions.

Through environmental curriculum, preschool aged children can learn certain practices on how to lessen their human impact on the world's resources and environment.



## The Project

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- Early Childhood Education Lab School of Monterey Peninsula College
- Garden Room Class had 27 students ages 4-5 years old.
- 3 day activity plan which focused on the three r's of environmental conservation.
  - Reduce
  - Recycle
  - Reuse

## Learning Outcomes



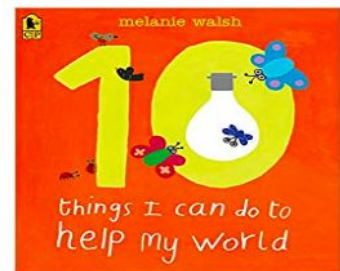
Children will be able to...

- 1) describe one way to reduce environmental impact.
- 2) sort recyclable material and non recyclable material.
- 3) identify one way common objects can be reused for another purpose.

## Activity 1: Reduce- Book with Discussion



- Learning outcome: Children will be able to identify one way to reduce their environmental impact.
- Book: *10 Things I Can Do to Help My World* by Melanie Walsh
- Discussion: How can you reduce your impact on the earth?

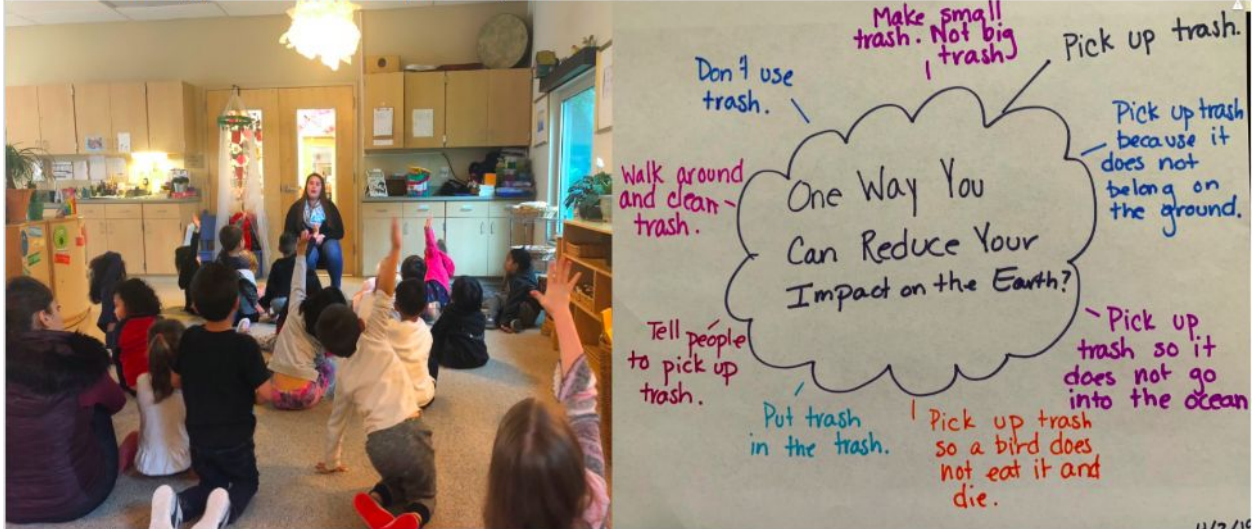




## Results from Activity 1



- Learning outcome was partially met.



## Activity 2: Recycle- Sorting materials



- Learning outcome: Children will identify recyclable and non recyclable materials.
- Small group activity: Showed children a common recycle symbol and where it can be found on common household items.
- Then I gave the children 14 items and had them sort the items in a recyclable and non recyclable piles.



## Results from Activity 2



## Results from Activity 2 continued



- Learning outcome was met.





## Activity 3: Reuse- Reusing materials for other purposes



- Learning outcome: Children will be able to identify one way objects can be reused for another purpose.
- Discussion about how to reuse common things in house for other purposes.
- Had the children make paper out of recycled paper that was in the classroom recycling bin.



## Results from Activity 3



## Results from Activity 3 Continued



- Learning outcome was met.



## Discussion



- Overall my project was very successful.
- Preschool age children are very capable and interested in learning about their environment and how humans can impact it.
- It is important to enhance their interest and knowledge through environmental conservation education at a young age.



# Thank You and Questions

Veronica Lampreda