

Student: **Lisa Runyon**

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## **Final Project Proposal**

**Statement of Problem:** Is it possible to determine the stage of a child's development by having them draw a picture of a tree behind a house? Will children who are the same age be in the same stage of development?

### **Guiding Questions:**

- Will the drawings support Jean Piaget's sequence of visual perception?
- How do the stages of visual perception correlate to Piaget's stages of development?
- Will children in the same stage of development have the same type of drawing?
- Will there be a difference in stage of development between gifted children and regular children of the same age?

**Hypothesis:** It is possible to determine the stage of development of a child by his response to the task "draw a tree behind a house." Children in the similar stages of development will have similar solutions to the drawing task. This will be revealed when the drawings are scored. The children who have been identified by a school district as "gifted" will have responses that show a more advanced stage of development than same age children in a regular class.

### **Preliminary Annotated Bibliography:**

Piaget, Jean (1969) *The Mechanisms of Perception*: Basic Books Publishers.

This book is a compilation of 25 years of studies made by Piaget on the development of perception. He investigates the relationship between perception and intelligence, the origins of perception, and how perception compared with other forms of knowledge. His research is very methodical and well documented.

Weintaub, Daniel J. (1966) *Perception*: Brooks/Cole Publishing Company.

This book has brought together a variety of theories on visual perception, such as depth perception, illusions, color perception, etc. The theories are also explained through a large variety of illustrations.

Gibson, Eleanor J. (1969) *Principles of Perceptual Learning and Development*: Meredith Corporation.

Several chapters of this book are devoted to the development of visual perception in children. A variety of theories, including Piaget, are discussed and illustrated.

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**Terms To Be Defined:**

Scribbling  
Fortuitous Realism  
Failed Realism  
Intellectual Realism  
Visual Realism  
Decentering  
Sensorimotor Stage  
Preoperational Stage  
Concrete Operation Stage  
Formal Operation Stage  
Conserve Substance  
Irreversibility  
Centering/Decentering  
Egocentrism  
Gifted Student  
Regular Student

**Equipment:**

*For drawings:*

8 1/2 x 11 drawing paper  
Colored Pencils (black, brown, green, red, blue, yellow)

*For experiments:*

Two balls of clay, equal weights  
Three paper "mountains" of varying size/pattern/color  
Paper with possible solutions to problem pre-printed and pencil to record answers  
Doll

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**Methodology/Procedures:**

- Select five “regular” students and five “gifted” students of various age levels (to be determined by availability). Individually test the students as follows:
  1. Have one child sit with me at a table with four chairs, one on each side.
  2. Say “Today I would like you to draw a tree behind a house. Do the best you can. You may use these colored pencils and this paper. Do you have any questions?”
  3. Present the child with a piece of plain white 8 1/2 x 11 paper and the colored pencils.
  4. When the child is finished with the drawing, record their name and birthdate on the reverse side.
  5. Remove the drawing and all pencils. Get out the clay and the data recording sheet.
  6. Begin the experiments to determine the subject’s stage of development. Say “Now I would like to ask you a question. I have two balls of clay here. Are they the same size or does one have more clay in it than the other?” Record the answer (either yes or no.)
  7. Roll one ball of clay into a snake shape (long, thin) in front of the child. Repeat the question. Record the answer.
  8. If the child answers “Yes” to both questions, remove the clay and bring out the three “mountains.” Place mountains on the table in this order shown in the sketch below:
    9. Place the doll in the seat to the child’s right (seat #1.) Give the child the data sheet with drawings representing views from each of the three chairs the doll will sit in.
    10. Ask the child “What does the doll see from her chair? I have a paper that has three drawings on it of the table and mountains. Would you circle the drawing that looks like the view the doll has of the mountains? ”
    11. Move the doll to seat #2 and repeat the question. Move the doll to seat #3 and repeat the question.

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12. Thank the child for his/her answers. Remove the mountains and data sheet.
13. Say to the child "I want you to imagine you are opening a can of orange juice. First you take off the lid and set it on the counter. Then you take off the lid on the bottom and put it next to the other lid. Then you get your scissors and cut the paper part of the orange juice can lengthwise. Now, flatten out the can. Can you tell me what three shapes the orange juice makes?" Record the answer on the data sheet.
14. Score the drawing based on criteria established in the grading system on the next page.

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**Scoring of Drawings:**

The child's drawings will be evaluated and given a "score" which reflects placement of the tree in relation to the house and the amount of detail in the drawing.

**House (1 point per item)**

Roof  
Chimney  
Smoke coming out of chimney  
Shingles  
Door  
Doorknob  
Window in door  
Window in house  
Doorbell  
Doormat  
Curtains in window  
Window Panes

**Tree (1 point per item)**

Trunk  
Roots  
Hole in tree  
Branch  
Leaf  
Big clump of leaves  
Bark  
Object in tree

**Placement of House and Tree**

0 points - no house or tree (did not do what was asked)  
1 point - scribbled only  
2 points - drew the house only / no tree  
2 points - drew the tree only / no house  
3 points - drew the tree to the left, right, or in front of the house  
4 points - drew the tree behind the house