

University of Kentucky

UKnowledge

---

Theses and Dissertations--Early Childhood,  
Special Education, and Counselor Education

Early Childhood, Special Education, and  
Counselor Education

---

2024

## SUPPORTING CHILDREN'S EATING BEHAVIOR IN A PRESCHOOL CLASSROOM

Olajumoke Leshi

*University of Kentucky*, mo.leshi@uky.edu

Author ORCID Identifier:

<https://orcid.org/0009-0004-3574-5165>

Digital Object Identifier: <https://doi.org/10.13023/etd.2024.223>

[Right click to open a feedback form in a new tab to let us know how this document benefits you.](#)

### Recommended Citation

Leshi, Olajumoke, "SUPPORTING CHILDREN'S EATING BEHAVIOR IN A PRESCHOOL CLASSROOM" (2024).

*Theses and Dissertations--Early Childhood, Special Education, and Counselor Education*. 152.

[https://uknowledge.uky.edu/edsrc\\_etds/152](https://uknowledge.uky.edu/edsrc_etds/152)

This Master's Thesis is brought to you for free and open access by the Early Childhood, Special Education, and Counselor Education at UKnowledge. It has been accepted for inclusion in Theses and Dissertations--Early Childhood, Special Education, and Counselor Education by an authorized administrator of UKnowledge. For more information, please contact [UKnowledge@lsv.uky.edu](mailto:UKnowledge@lsv.uky.edu).

## **STUDENT AGREEMENT:**

I represent that my thesis or dissertation and abstract are my original work. Proper attribution has been given to all outside sources. I understand that I am solely responsible for obtaining any needed copyright permissions. I have obtained needed written permission statement(s) from the owner(s) of each third-party copyrighted matter to be included in my work, allowing electronic distribution (if such use is not permitted by the fair use doctrine) which will be submitted to UKnowledge as Additional File.

I hereby grant to The University of Kentucky and its agents the irrevocable, non-exclusive, and royalty-free license to archive and make accessible my work in whole or in part in all forms of media, now or hereafter known. I agree that the document mentioned above may be made available immediately for worldwide access unless an embargo applies.

I retain all other ownership rights to the copyright of my work. I also retain the right to use in future works (such as articles or books) all or part of my work. I understand that I am free to register the copyright to my work.

## **REVIEW, APPROVAL AND ACCEPTANCE**

The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Director of Graduate Studies (DGS), on behalf of the program; we verify that this is the final, approved version of the student's thesis including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Olajumoke Leshi, Student

Dr Collin N. Shepley, Major Professor

Dr Channon K. Horn, Director of Graduate Studies

SUPPORTING CHILDREN'S EATING BEHAVIOR IN A PRESCHOOL  
CLASSROOM

---

THESIS

---

A thesis submitted in partial fulfillment of the  
requirements for the degree of Master of Science in the  
College of Education  
at the University of Kentucky

By

Olajumoke Motunrayo Leshi

Lexington, Kentucky

Director: Dr. Collin Shepley, Assistant Professor of Early Childhood, Special Education,  
& Counselor Education

Lexington, Kentucky

2024

Copyright © Olajumoke Motunrayo Leshi 2024  
<https://orcid.org/0009-0004-3574-5165>

## ABSTRACT OF THESIS

### SUPPORTING CHILDREN'S EATING BEHAVIOR IN A PRESCHOOL CLASSROOM

Food selectivity, commonly observed in young children, has a significant effect on their health outcomes, and this poses a major challenge for parents and caregivers. This proposed study aims to investigate the effectiveness of a teaching package comprising prompting, shaping, and reinforcement strategies in enhancing exploratory eating behaviors among preschool children displaying food selectivity in a classroom setting. The study seeks to answer the research question: does the delivery of a teaching package consisting of prompting, shaping, and reinforcement result in an increase in exploratory eating behaviors (touch, smell, taste) by young children displaying food selectivity? This study will use a single-case multiple probe design across behaviors for each participant to evaluate the effectiveness of the treatment package. Data collection will occur in the participants' classroom, sessions will be conducted daily before snack or lunchtime, focusing on prompting and reinforcing exploratory eating behaviors. This research will contribute to understanding effective interventions for addressing food selectivity in preschool settings, provide strategies that could promote healthy eating behaviors in young children. By exploring the impact of prompting, shaping, and reinforcement, this study seeks to provide practical recommendations for educators, caregivers, and practitioners involved in early childhood nutrition and development.

KEYWORDS: Food selectivity, exploratory eating, classroom, preschool

---

Olajumoke Motunrayo Leshi

*(Name of Student)*

---

05/06/2024

Date

SUPPORTING CHILDREN'S EATING BEHAVIOR IN A PRESCHOOL  
CLASSROOM

By  
Olajumoke Motunrayo Leshi

Collin N. Shepley, PhD., BCBA-D

---

Director of Thesis

Channon K. Horn

---

Director of Graduate Studies

05/06/2024

---

Date

## ACKNOWLEDGMENTS

The following thesis, while an individual work, benefited from the insights and direction of several people. First, my thesis Chair and Advisor Dr. Collin Shepley, who exemplifies the high-quality scholarship to which I aspire. In addition, he provided timely and instructive comments and evaluation at every stage of the thesis process. Also, I thank the other distinguished members of the Thesis Committee; Dr Jennifer Grisham-Brown, and Dr Sarah Hawkin-Lear. Each provided insights that guided and challenged my thinking, substantially improving the finished product.

In addition, I wish to extend my gratitude to those who have played pivotal roles in this journey. To my late parents, Dn. Dr. Gbadegesin Faniyi and Mrs. Oyebisi Faniyi who laid the foundation for my education and instilled the importance of diligence and legacy in me. I would like to thank my siblings; Tolulope, Morolake, Olarotimi, for their care and support. I will not forget the weekly check-in and prayers from Dn. Tunji Majaro and Mrs. Funke Majaro since this journey began. To my extended network of family and friends in the United States; Dr. Adefolarin Bolaji, Dr. Adebunmi Odefunso, Mummy and Daddy Oni, Harvest House Nations, and Calvary Baptist Church Lexington, Kentucky, and the Naija family at Greg Page Apartments. Your support has been immeasurable, and I extend my deepest gratitude.

My heartfelt appreciation goes to my husband, Oluwatosin Leshi for his unwavering support and understanding. I am endlessly grateful for your sacrifices, and your boundless love. I will not forget my beloved children, Oluwalonimi, Oluwatoni,

Monioluwa for their patience and understanding despite the demands of my studies. Thank you for being my pillars of strength and for sharing this remarkable experience with me.

Most importantly, I offer my gratitude to my Heavenly Father, the source of life and inspiration, and the architect of my life and destiny. To Jesus, my beacon of hope, and the Holy Spirit, my constant source of assistance and wisdom, I lift my voice to praise and honor you.

## TABLE OF CONTENTS

TITLE PAGE .....	i
ABSTRACT OF THESIS .....	ii
ACKNOWLEDGMENTS .....	iii
LIST OF TABLES .....	vi
LIST OF FIGURES .....	vii
INTRODUCTION .....	1
CHAPTER 1. METHOD .....	2
1.1 Participants.....	2
1.2 Settings.....	3
1.3 Dependent Variables.....	3
1.4 Data Collection .....	5
1.5 Experimental design.....	5
1.6 Procedures.....	11
1.6.1 Screening procedures.....	11
1.6.2 Baseline procedure.....	11
1.6.3 Intervention procedures .....	12
1.7 Data analysis Strategy.....	13
1.8 Reliability and Fidelity .....	14
1.9 Interobserver Agreement .....	15
1.10 Procedural Fidelity.....	15
CHAPTER 1. Research Design Comparison.....	17
2.1 Research Questions.....	17
2.2 Participants.....	17
2.3 Setting .....	17
2.4 Measures .....	18
2.5 Research Design.....	18
2.6 Analysis strategy.....	19
2.7 Similarities .....	19
APPENDICES .....	20
Appendix A: Pre-Intervention Baseline Probe sessions .....	20
APPENDIX B: Intervention Probe sessions .....	21
APPENDIX C: Procedural Fidelity .....	22
APPENDIX D: Parent/Teacher Interview Questions .....	23
REFERENCES .....	24
VITA.....	25

## LIST OF TABLES

Table 1: Dependent Variables, Operational Definition Examples and non-examples as Provided by Turner et al., (2020) .....	4
Table 2: Threat to Internal Validity and How It Might be Controlled.....	8

## LIST OF FIGURES

Figure 1: Hypothetical Percentage of Correct Responses.....	10
---	----

## INTRODUCTION

My thesis sought to utilize a single-case multiple probe design across various behaviors for each participant to evaluate the effectiveness of a treatment package incorporating prompting, shaping, and positive reinforcement on children's exploratory eating behaviors. Unfortunately, constraints prevented me from conducting this research project during the current study.

This document is divided into two sections. The first section provides a detailed outline of the procedural and methodological aspects of my thesis, including research questions, instrumentation, data collection methods and units of analysis. The second section compares my research design and analysis to similar study conducted by Fernand, Penrod, Fu, Whelan, & Medved (2016).

The study is set to answer this research question; does the delivery of a teaching package consisting of prompting, shaping, and reinforcement, result in an increase in exploratory eating behaviors (touch, smell, taste) by young children displaying food selectivity?

## CHAPTER 1. METHOD

### 1.1 Participants

Four young children between 3 and 5 years that are enrolled in a university-based preschool program will be recruited for the purpose of this study. Each participant either male or female will be given hypothetical names (Smith, Donald, Catherine, Susan). The inclusion criteria to participate are as follows: (a) These children must demonstrate food selectivity based on their parent or caregiver's report (a questionnaire will be used to extract this information) or from interviewing both the parent and teacher/caregiver; (b) be between 3 and 5 years of age; (c) must regularly consume no more than 5-10 foods daily; (d) must be self-feeding and drink from an open cup or closed cup; (e) sit for the duration of meal (up to 15 minutes); (f) be able to follow two-step directions; (g) often exhibit food refusal when presented with non-preferred foods; (h) attend school for 80% of school days within the last month; and (i) have identifiable preferred items to use as reinforcement.

Children will be excluded (a) if they had health conditions that would contribute to food selectivity (e.g. biological feeding disorder); (b) if they are receiving any treatment related to feeding (c) if they have medical conditions associated with eating (such as inability to swallow, gastrointestinal issues, gastroesophageal reflux etc.). Consent will be sought by sending parental informed consent and child assent forms home by the researcher. One signed form will be retained at home, while the second will be returned to school.

## 1.2 Settings

All the sessions of this study will take place in the preschool classroom of the Early Childhood Laboratory of the University of Kentucky. All sessions will be conducted at a child-sized table in the participants' classroom. There are approximately 16 children in the class, 1 lead teacher, 2-3 assistant teachers including the researcher. Data will be collected from each student one time per day prior to snack or lunch time. Each session will last for an average of 1-3 minutes. During each of the sessions, the participant will sit beside the researcher to avoid distractions and to allow for prompting purposes while other children will be on the other side of the classroom.

## 1.3 Dependent Variables

The dependent variable for this study is the exploratory eating behaviors (touch, smell and taste), these three variables will be measured during this study. The operational definitions of each behavior, example and non-examples are described in the Table below:

Table 1

*Dependent Variables, Operational Definition Examples and non-examples as Provided*

*by Turner et al., (2020).*

Behavior	Definition	Examples	Non examples
Touch	Any part of the participant's hand / finger contacts the piece of food.	Touches food with finger or palm, picks up food, pushes food around on plate.	Throws food, pushes food off table, attempts to remove food, throwing the food on the floor.
Smell	having a non-preferred food within a minimum of 25 mm to 50 mm of his mouth or nose (inhalation was not required).	participant bending over the target food and placing their nose onto the food item.	Participant's cheek or forehead coming within a minimum of 25 mm to 50 mm of a non- preferred food.
Taste	Pick up food with hands, bring foods towards mouth and makes contact between food and mouth or lips	Touches food to the lips, holds food to the lips, touches food to teeth.	Contacts food while still on plate, touches food to nose, smells food, touches food to chin.
Eat/swallow	Opens mouth and inserts the food piece, chews food, and swallows the food without expelling it	Opens mouth, inserts food, moving it around the mouth, chews, and swallows.	Inserts food in mouth and spits out, bites food but does not swallow, licks food, kisses food, refuses food, touches food.

## 1.4 Data Collection

The researcher will observe participants, noting their eating behaviors both before and during the intervention. Trial-based event recording will be used to collect data on the children's behavior, if an exploratory eating behavior occurs without prompting, then it will be coded as an unprompted correct response (UC). If a behavior occurs with prompting, then it will be coded as a prompted correct (PC). If a behavior does not occur and no prompting is provided, we will code it as unprompted incorrect (UI). If a behavior does not occur and a prompt is provided, we will code it as a prompted incorrect (PI). If the child does not indicate they are ready to begin a session, then a code of no response (NR) will be recorded. Data will also be collected on if a child eats (i.e., swallows) any bites of the novel foods that are presented and if a child engages in any form of problematic behavior. See appendix A and B for the data collection sheets.

## 1.5 Experimental design

This study will use a single-case multiple probe design across behaviors for each participant (Ledford & Gast, 2018) to evaluate the effectiveness of the treatment package that uses prompting, shaping, and positive reinforcement, on children's exploratory eating behaviors. This design is a demonstration design that answers if the treatment is effective and there is no need to withdraw treatment in this design. The multiple probe design enables intermittent collection of baseline data prior to introduction of intervention, this approach anticipates that the target behavior will improve specifically upon the introduction of intervention. Before introducing the independent variable, a pre-intervention condition is done, in the absence of independent variable. The response

during this pre-intervention condition will be assessed and compared to the response during the intervention condition following the introduction of the teaching package. The intervention in this study will only be applied to one tier (dependent variable) of the design at a time, the remaining tiers will not receive the intervention until a prior tier has received the intervention.

Once a participant achieves an 80% criterion for the target behavior in the (*touch*) intervention phase, data probes will be conducted just before transitioning to the intervention for the subsequent behavior (*smell and taste*). This process will be repeated for each behavior tier. When the second behavior reaches the 80% criterion, probes will be conducted for the third behavior before initiating its intervention.

By staggering the introduction of the independent variable across each tier, the design will allow for assessment of functional relation. The effectiveness of the teaching package will be seen if the children's exploratory eating behaviors improve exclusively with the introduction of the teaching package. Additionally, all children involved in this study will have access to the intervention. The mastery criterion for changing condition is 80% unprompted correct responses in two consecutive days, then having at least three data points before a condition change will help to detect covariation.

Threats to internal validity are controlled in multiple probe design since participants are not tested/exposed so much during the probe conditions. the threat of testing will control for internal validity during the probe session. To control for covariation, intervention sessions will be conducted on each target behavior in the dinning section of the classroom to ensure that other participants are not exposed to the

intervention before their time. This research will engage three participants therefore it will control for attrition.

History threat could occur if an event or activities at home such as some strategies of reinforcement on exploratory eating behaviors other than the independent variable in this study could be causing change to the eating behavior of the children. I might control for history threat by communicating with other people that have contact with the child most especially the parent and the classroom teacher, time lagged introduction of intervention will also control for history threat, for example the implementation of intervention on different days/ time. I might minimize the effect of the threat by comparing the data during the baseline probe to the data during the intervention, such that if there is a sudden therapeutic effect of the intervention on the behavior the researcher will detect there is an history threat.

Table 2

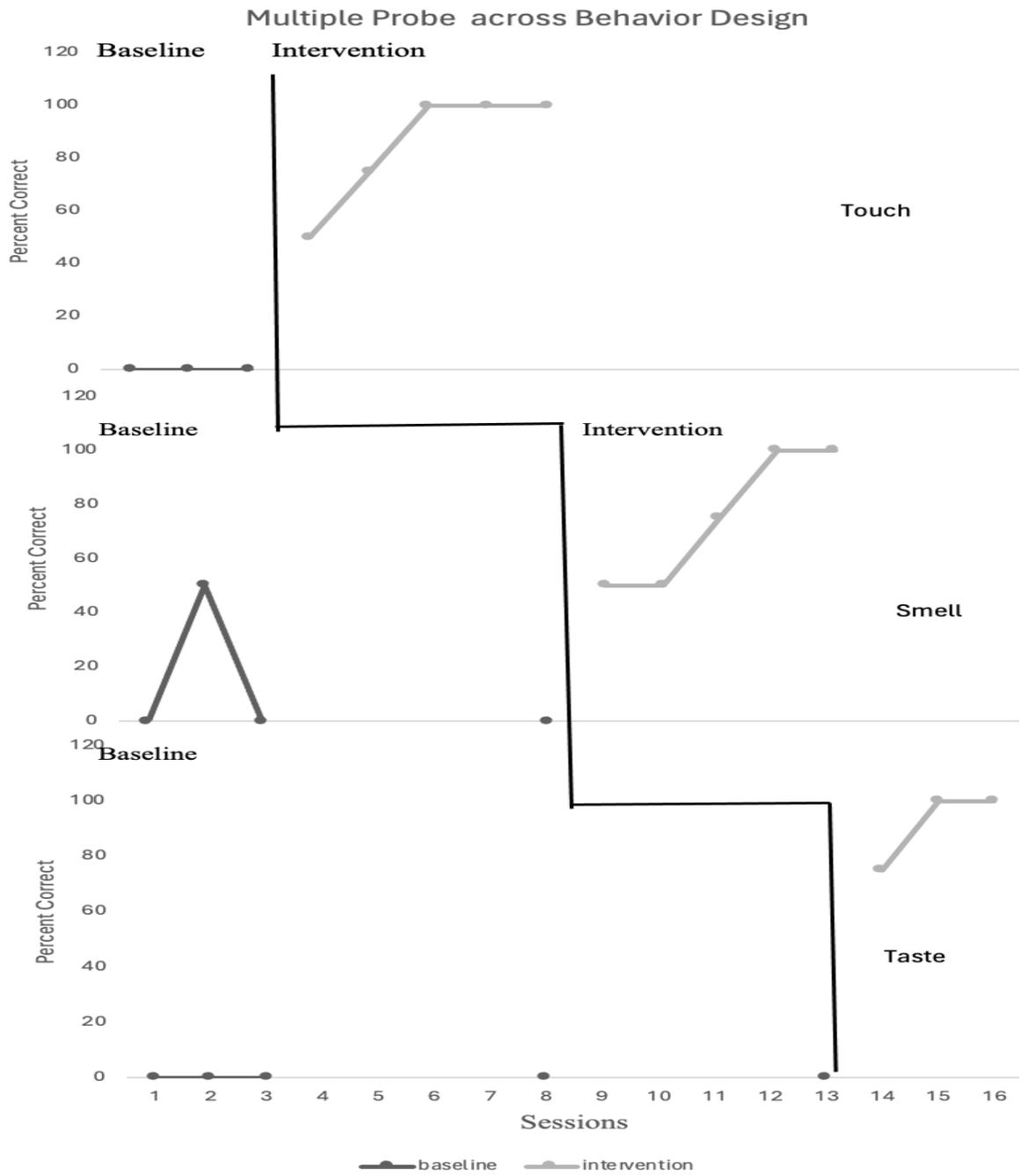
*Threat to Internal Validity and How It Might be Controlled.*

S/N	Threat to Multiple Probe Design	Attempt to control
1	Testing	<ul style="list-style-type: none"> <li>• Probe is used to minimize testing and reduce prolong testing during baseline condition.</li> <li>• Participants will not be exposed so much during the baseline probe condition</li> </ul>
2	History	<ul style="list-style-type: none"> <li>• Time lagged introduction of the intervention</li> <li>• Withdrawal of intervention</li> <li>• Interacting with individuals who are in contact with the participant.</li> </ul>
3	Attrition	<ul style="list-style-type: none"> <li>• More than one participant will be recruited for the study.</li> <li>• The attendance rate of the participant in school will be checked.</li> <li>• There will be communication with significant others such as parents, caregiver to be aware of the ongoing study</li> </ul>

4	Instrumentation	<ul style="list-style-type: none"> <li>• Data will be recorded less frequently because the baseline probe session is less frequent.</li> <li>• The target behavior will be defined operationally.</li> <li>• Reliability data will be collected.</li> <li>• Training and retraining of data collector will be on till the IOA meet the set standard</li> </ul>
5	Multiple treatment interference	<ul style="list-style-type: none"> <li>• Clearly definition of each condition.</li> <li>• Changing of order of the behavior</li> </ul>
6	Procedural Infidelity	<ul style="list-style-type: none"> <li>• Calculate the procedural fidelity for each observer, each component of the independent variable.</li> <li>• Conduct frequent check at least 20% of all the condition)</li> </ul>
7	Adaptation	<ul style="list-style-type: none"> <li>• Familiarization with the classroom by the researcher.</li> <li>• Exposure to experimental and data recording conditions so as not to be new to the participant when the study starts.</li> </ul>

Figure 1

Hypothetical Percentage of Correct Response



## 1.6 Procedures

### 1.6.1 Screening procedures

Before the treatment begins, a parent/teacher questionnaire (adapted from Hesley, 2019) will be given to both the parent and the teachers to extract information on child's food selectivity to identify the three non-preferred foods by the child.

A paired choice preference assessment will be conducted using stickers to identify which type of stickers the participants mostly preferred, and they will serve as the effective reinforcers for the consumption of non-preferred foods. The two preferred stickers will be made available to serve as stimuli for each participant during the feeding sessions. Materials will include data collection sheets target foods (selected based on caregiver and parent input), a researcher developed questionnaire, non-preferred food, and plates.

### 1.6.2 Baseline procedure

The probe session will consist of three trials per the three behaviors of interest (touch, smell, taste) making 9 random trials per session. A trial is when the researcher presents the non-preferred food to the child along with a verbal task direction (e.g., touch). The baseline sessions will be initiated by the researcher explaining the purpose of eating a variety of healthy foods to the child. Then the researcher will tell the child that there are some new foods available for the child to try, the researcher will get the attention of the child by asking if the child is ready to see the new foods. Thereafter, the three non-preferred foods will be presented on a plate and engage the child in a target exploratory eating behavior using the prompt such as "Would you like to touch the food

(e.g. cucumber) to see if you might like it?". There will be nine trials without prompting (i.e., thrice for each target exploratory eating behavior of touch, smell, and taste) in a day. If the child independently engages in any of the target exploratory behaviors, the researcher will provide behavior specific verbal praise (e.g. "You touched the orange! I'm glad you touched it!") and allow the child to choose a preferred sticker or stamp. If the child says "No, thanks" or does not respond within 10 seconds to the researcher, then the researcher will present a new question related to a different food or exploratory eating behavior. Sessions will occur prior to the child's snack or lunch time in the classroom; the child will be dismissed to snack or lunch after each session. It is estimated that each session will take 1-3 minutes to complete depending upon if a child consumes any of the targeted foods. The probe session will occur prior to the implementation of any intervention across all tiers.

### 1.6.3 Intervention procedures

During the intervention session, the sequence for the behavior will be touch, smell, or taste, and only one behavior will be targeted in each of the conditions. The session during the intervention will consist of five to eight trials and a stable data for each condition of the target behavior. The intervention teaching package comprise of prompting physical guidance and reinforcement.

After an incorrect response in which a child does not engage in the requested exploratory eating behavior (touch, smell, and taste), the researcher will show a picture model illustrating the desired behavior (depending on the condition: *touch, smell, or taste*). If the participant performs the target behavior independently, they will receive behavior specific praise for that behavior and be given a choice sticker. The researcher

will allow 5-10 seconds for the participant to comply with the instruction and will provide a prompt (such as guiding their hand). If the participant does not engage in the target behavior, the researcher will guide them by placing her hand over theirs, directing them to touch the food in the touch session, bring the food close to their nose in the smell session, or touch the food to their mouth or tongue in the taste session (Gast, Shepley, & Lane, 2016). The researcher will stop providing any of the prompts if a child verbally refuses (e.g., "No, thanks") or engages in a gesture to indicate refusal (e.g., shaking head no, pushing the plate away, pulling their hands away from the researcher during a physical prompt), the trial will end, and the response will be recorded as prompted incorrect for that trial.

Any time that a child engages in exploratory eating behavior, with or without prompting, the researcher will praise the child and provide the child access to a preferred sticker. The mastery criterion is 80% unprompted correct responses for two consecutive days. There will be no intervention in other tiers until the current tier has received mastery of the behavior and have effectiveness of the teaching package. The researcher will probe the target behavior on other tiers (tier 2 and tier 3) before intervention on those tiers.

### 1.7 Data analysis Strategy

The data analysis strategy that will be used for this research is visual analysis of graphic data. Data will be visually analyzed to ensure there is stable pattern of response across all the tiers before introducing intervention to Tier 1, and in subsequent tiers (Kratochwill et al., 2013).

The graphical representation (line graph) of the data that will be collected during the research will be visually analyzed for clear and better communication of the result.

Graphical representation of data will give the level (the amount(percentage) of eating exploratory behavior that occurs), trend (direction of the data), variability (fluctuation from one data point to another), immediacy of the effect of change and the consistency of the effect of the teaching package between the baseline condition and intervention condition.

### 1.8 Reliability and Fidelity

Reliability and fidelity data will be collected by secondary data collector (graduate-level students in early childhood education and special education programs), it will be collected for at least 20% of the sessions. Prior to start of the study, all reliability and fidelity data collectors will be trained by the investigator. The training will occur as suggested by Ledford and Gast (2018) and will include (a) providing the data collectors with the operationally defined behaviors and procedures in writing; (b) practicing coding alongside the instructor, answering questions, and addressing concerns; (c) discussing any discrepancies and revising written guidelines if necessary; (d) all data collectors independently coding a session and calculating the extent to which the investigator agrees; (e) discussing any discrepancies and revising written guidelines if necessary; and (f) repeating this until the trainees reach 90% agreement with the investigator. If agreement or fidelity falls below 90% at any point during the study, the investigator will re-assess the defined behaviors and procedures, and retrain the data collector until they return to the acceptable criterion.

## 1.9 Interobserver Agreement

Interobserver Agreement for participants behavior will be calculated using occurrence and non-occurrence agreement. The total number of agreements for occurrence between the investigator and secondary observer will be divided by the total number of agreements for occurrence trial plus total number of disagreements for occurrence trial, then multiplied by 100 to get the percentage of agreement. Interobserver Agreement data will be collected in this way for all conditions and will be collected at least 20% of sessions per condition.

$$\frac{\text{\# of agreement for occurrence trial (OT)}}{\text{\# of agreements for OT + \# of disagreement for OT}} \times 100$$

## 1.10 Procedural Fidelity

Procedural Fidelity data will be collected to ensure that all procedure steps will be implemented correctly by the researcher. During the baseline condition, the researcher will direct the participants and provide no additional feedback or support or reinforcement. During intervention, the investigator will provide a rationale, explain what is expected of the participants, show the food presentation, provide prompts, and provide behavior-specific praise following the demonstrations of the target behavior.

Procedural fidelity will be collected on the following researcher's presentation of the 3 non-preferred food in a plate at the beginning of the session. (b) presentation of attending cue "ready" and waited for attending response and make verbal request (c) presentation of picture prompt of target behavior during the intervention sessions, (d)

presentation of controlling physical prompt within 10 s of the task direction if no response or an incorrect response occurred, and (e) presentation of reinforcement menu, praise and stickers for correct response.

This formula will be used to calculate PF: (number of observed behavior/ numbers of planned behaviors) x 100 = % of PF.

The second observer will record the number of procedural steps completed by the researcher, divide it by the total number of procedural steps, and multiply the number gotten by 100 equals the percentage of PF. If PF falls below threshold of 90% there will be retraining until both the primary and secondary observer reach criterion. See appendix C for procedural fidelity form.

## CHAPTER 1. RESEARCH DESIGN COMPARISON

This chapter aims to compare the differences and similarities between the present study and that of Fernand et al., (2016).

### 2.1 Research Questions

Fernand et al., (2016) research aimed to assess the role of choice as an antecedent manipulation in mediating the potential negative side effects induced by NRS while the research question for my thesis is does the delivery of a teaching package consisting of prompting, shaping, and reinforcement result in an increase in exploratory eating behaviors (touch, smell, taste) by young children displaying food selectivity?

### 2.2 Participants

The participants in Fernand et al., (2016) research study were two children, Kyle, a 7-year-old boy, and Ava, a 6-year-old girl, both children were diagnosed with autism spectrum disorder, highly selective and actively refused novel foods when presented. The participants for the proposed study will be four children between the ages of 3 and 5 years old, known to have demonstrated food selectivity based on their parents' and caregiver's report.

### 2.3 Setting

The settings for Fernand et al., (2016) study was not stated in the article while all the sessions of this study will take place in the preschool classroom of the Early Childhood Laboratory of the University of Kentucky. All sessions will be conducted at a child-sized table in the participant's classroom.

## 2.4 Measures

The dependent variable for Fernand et al., (2016) are frequency of accepted bites, frequency of mouth clean, frequency of expulsion and frequency and duration of problem behaviors. Also, data were collected through the observation of video recordings. For the proposed study, the dependent variables to be measured will be the three exploratory eating behaviors (touch, smell, and taste) while trial-based event recording will be used to collect data on the children's behavior on data sheets.

## 2.5 Research Design

While Fernand et al., (2016) study utilized a multi-element design with treatment components introduced in sequential and evaluated fashion, this study will use multiple probe design across behaviors for each participant to evaluate the effectiveness of the treatment package.

Two pre-treatment paired-choice preference assessments and two post treatment paired-choice assessments were conducted for each participant by Fernand et al., (2016) on the preferred and nonpreferred items and utilized for the baseline and treatment set of foods while in this study, paired choice preference assessments will be conducted to identify the preferred stickers for reinforcement.

The baseline procedure of the Fernand et al., (2016) study had different food sets and each food set had an experimenter while this study will have one food set and one experimenter with six trials per session without the introduction of the teaching package. The intervention phase of the study given different conditions (choice 1, choice 2, choice 1 + Nonremoval of spoon (NRS) versus Nonremoval of spoon alone and Nonremoval of

spoon while my study had one condition with the six trial per session with the introduction of the teaching package.

## 2.6 Analysis strategy

Fernand et al., (2016) visually analyzed the data collected during the baseline and intervention phase to evaluate the effectiveness of different treatment conditions in increasing food consumption and reducing problem behavior while the graphical representation of data in my study will give the level (the amount(percentage) of eating exploratory behavior that occurs), trend (direction of the data), variability (fluctuation from one data point to another), immediacy of the effect of change and the consistency of the effect of the teaching package between the baseline condition and intervention condition.

## 2.7 Similarities

Fernand et al., (2016) research and this research are both interested in increasing the food selectivity of children and evaluating the effect of the independent variables on food consumption of individual with food selectivity. Both studies make use of paired-choice preference assessment. Participants in both studies have issues related to food selectivity.

APPENDICES

Appendix A: Pre-Intervention Baseline Probe sessions

Child: \_\_\_\_\_ Date: \_\_\_\_\_ Session #: \_\_\_\_\_ Instructor: \_\_\_\_\_  
 Setting: \_\_\_\_\_

Time at Start of Session: \_\_\_\_\_ Time at End of Session \_\_\_\_\_

Condition: Pre-Intervention

Targeted behavior (circle one): Touch Smell Taste Data Collector: \_\_\_\_\_

Data Coding Key: *UC=Unprompted Correct*      *UI=Unprompted Incorrect*  
*NR= No Response*

Trial #	Child Engaged in Target Behavior			Did Child Eat		Problem Behavior		Comments
	UC	UI	NR	Yes	No	Yes	No	
1	UC	UI	NR	Yes	No	Yes	No	
2	UC	UI	NR	Yes	No	Yes	No	
3	UC	UI	NR	Yes	No	Yes	No	
4	UC	UI	NR	Yes	No	Yes	No	
5	UC	UI	NR	Yes	No	Yes	No	
6	UC	UI	NR	Yes	No	Yes	No	
7	UC	UI	NR	Yes	No	Yes	No	
8	UC	UI	NR	Yes	No	Yes	No	
9	UC	UI	NR	Yes	No	Yes	No	

Summary of data	
% UC	
% UI	
% NR	
% Eat	
% Problem Behavior	

APPENDIX B: Intervention Probe sessions

Child: \_\_\_\_\_ Date: \_\_\_\_\_ Session #: \_\_\_\_\_ Instructor:  
 \_\_\_\_\_ Setting: \_\_\_\_\_

Time at Start of Session: \_\_\_\_\_ Time at End of Session \_\_\_\_\_

Targeted behavior (circle one): Touch Smell Taste Data Collector:  
 \_\_\_\_\_

Data Coding Key: *UC=Unprompted Correct* *PC= Prompted Correct*  
*UI=Unprompted Incorrect* *PI=Prompted Incorrect* *NR= No Response*

Tri al #	Child Engaged in Target Behavior					Did Child Eat		Problem Behavior		Comments
	UC	PC	UI	PI	NR	Yes	No	Yes	No	
1										
2										
3										
4										
5										
6										
7										
8										
9										

Summary of data	
% UC	
% PC	
% PI	
% NR	
% Eat	
% Problem Behavior	

APPENDIX C: Procedural Fidelity

Child: \_\_\_\_\_ Date: \_\_\_\_\_ Session #: \_\_\_\_\_  
 Instructor: \_\_\_\_\_ Setting: \_\_\_\_\_  
 Time at Start of Session: \_\_\_\_\_ Time at End of Session \_\_\_\_\_  
 Condition (circle one): Pre-Intervention Intervention  
 If condition is intervention, which behavior is targeted (circle one): Touch Smell Taste  
 Data Collector: \_\_\_\_\_

Data Coding Key: *UC=Unprompted Correct* *PC= Prompted Correct*  
*UI=Unprompted Incorrect* *PI=Prompted Incorrect* *NR= No Response*

Trial	1	2	3	4	5	6
Target Bx						
Adult presented food choices and verbal request						
Adult waits 10s for child's response						
As needed, picture prompt provided correctly						
As needed, physical prompt provided correctly						
Child response	UC UI PC PI NR	UC UI PC PI NR	UC UI PC PI NR	UC UI PC PI NR	UC UI PC PI NR	UC UI PC PI NR
Adult provides praise and sticker for correct responding						
Adult continues to next trial for incorrect or no response						
Child eat?	Yes No	Yes No	YesNo	YesNo	Yes No	Yes No

Summary of data	
% UC	
% PC	
% PI	
% NR	
% Eat	
% Procedural Fidelity	

APPENDIX D: Parent/Teacher Interview Questions

**0 = Never    1 = Sometimes    2 = Often    3 = Always**

1. My child/student often refuses to come to the table when it's time to eat?  
0                      1                      2                      3
2. My child/student has tantrums or engages in problem behaviors during mealtime?  
0                      1                      2                      3
3. My child/student complains about the food that is served to them?  
0                      1                      2                      3
4. My child/student seeks a lot of attention during mealtime?  
0                      1                      2                      3
5. My child/student often refuses to eat most food?  
0                      1                      2                      3
6. My child will only eat between 5-10 foods daily?  
0                      1                      2                      3
7. How likely is your child/student to try new foods?  
0                      1                      2                      3
8. What are preferred food items that your child/student will eat? List as many as you can.  
\_\_\_\_\_
9. What are your child's /student's most highly preferred foods?  
\_\_\_\_\_
10. List three non-preferred food items do you wish your child/student would consume that you cook or serve often? \_\_\_\_\_

## REFERENCES

- Fernand, J. K., Penrod, B., Fu, S. B., Whelan, C. M., & Medved, S. (2016). The effects of choice between nonpreferred foods on the food consumption of individuals with food selectivity. *Behavioral Interventions*, 31, 87–101.
- Hesley, C. C. (2019). Targeting food selectivity in young children in a preschool classroom using a multi-component treatment package. *Early Childhood, Special Education, and Counselor Education*. University of Kentucky Repository. [https://uknowledge.uky.edu/edsrc\\_etds/77](https://uknowledge.uky.edu/edsrc_etds/77).
- Kratochwill, T. R., Hitchcock, J. H., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M., & Shadish, W. R. (2013). Single-case intervention research design standards. *Remedial and Special Education*, 34, 26-38
- Ledford, J. R., Lane, J. D., & Gast, D. L. (2018). Dependent variables, measurement, reliability. In J. R. Ledford, & D. L. Gast (Eds.). *Single case research methodology* (3 ed.). New York: Routledge
- Turner, V. R., Ledford, J. R., Lord, A. K., & Harbin, E. R. (2020). Response shaping to improve food acceptance for children with autism: Effects of small and large food sets. *Research in developmental disabilities*, 98, 103574. <https://doi.org/10.1016/j.ridd.2020.103574>.

## VITA

OLAJUMOKE M. LESHI

PLACE OF BIRTH: OYO, NIGERIA

### EDUCATION

**Master of Science in Education** University of Kentucky, Interdisciplinary Early Childhood Education. Anticipated conferral (certification): Spring 2024.

**Post Graduate Diploma in Education** University of Ibadan, Nigeria. (2013)

**Master of Science in Human Nutrition** University of Ibadan, Nigeria. (2011)

**Bachelor of Science** in Biochemistry Bowen University Iwo, Nigeria. (2007)

### EMPLOYMENT

#### Academic

- **Graduate Teaching Assistant**, Early Childhood Laboratory, University of Kentucky. (Fall 2022-Spring 2024)
- **Lecturer III**: Emmanuel Alayande University of Education, Oyo, Nigeria. (2016-2022)