

# Developing an Inclusive Nutrition and Physical Activity Program for Individuals with Physical and Intellectual Disabilities

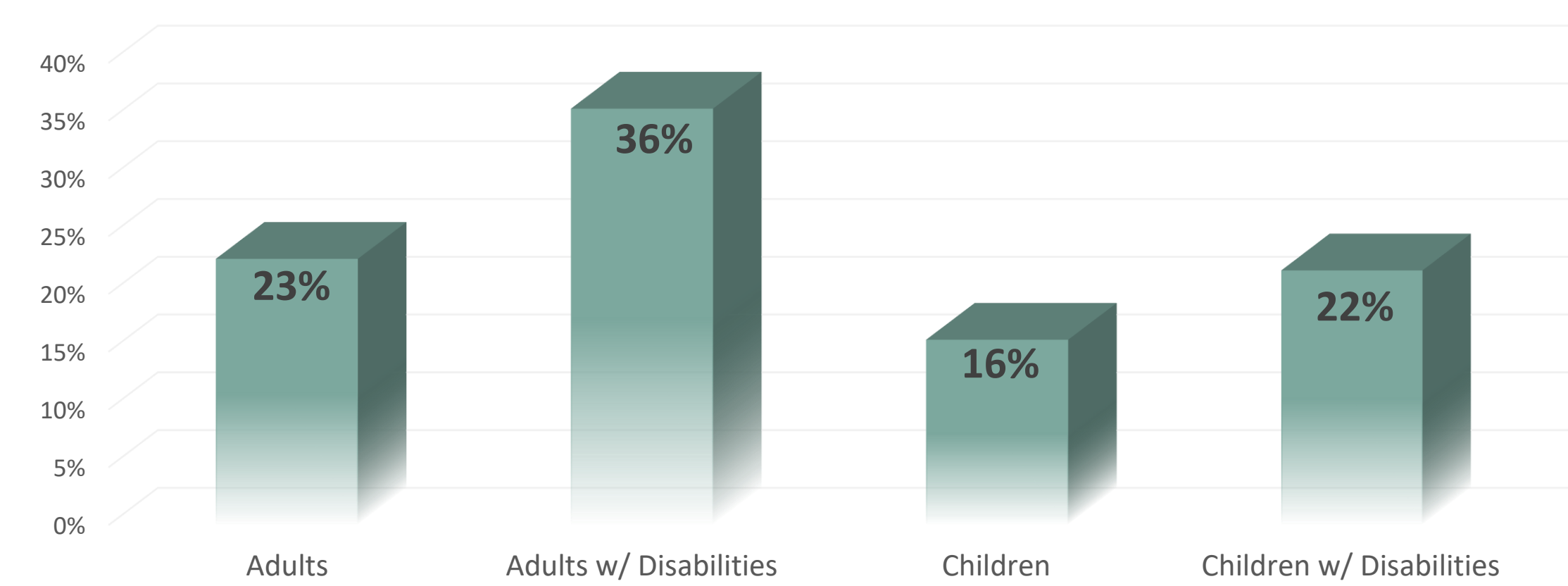
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## Background

PERCENTAGE OF OBESITY AMONG INDIVIDUALS WITH DISABILITIES



- Obesity rates for adults with disabilities are **58%** higher than for adults without disabilities.
- Obesity rates for children with disabilities are **38%** higher than for children without disabilities
- Obesity and disability are health conditions that have been increasing globally and growing evidence suggests that there is a strong link between the two.

## Objectives

- To develop and distribute an online survey for special education and special day class teachers aimed at identifying the need for and barriers to integrating nutrition and physical activity resources into their classrooms.
- To develop and pilot an inclusive curriculum aimed at providing equal access to and opportunities for healthy living to individuals with cognitive and physical disabilities.
- To help learners become enthusiastic about nutrition, cooking, gardening and physical activity and to make sure that all individuals, including children and adults with a disability, have equal opportunities to lead a healthy lifestyle.

## Methods

### Needs Assessment

- The need for and barriers to integrating nutrition and physical activity education and resources into special education and special day classrooms was measured through the distribution of an online survey.
- The survey contained 17 question, presented in two parts. Part 1 was specific to nutrition. Part 2 was specific to physical activity.
- Teacher responses were analyzed using Qualtrics Online Survey Software and descriptive statistics.
- This study was approved by the Institutional Review Board at the University of California, Davis (1130765-1).

### Pilot Project

- A 12 lesson curriculum titled, *Learn it, Grow it, Taste it!* was developed and pilot tested over the 2018-19 academic year.
- Lessons introduced participants to several topics, including: sensory exploration, food safety, the 5 food groups, physical activity, gardening, budgeting, etc.
- Surveys to measure Body Mass Index, healthy eating and physical activity knowledge, and ability to recognize healthy food items were administered at two time points.
- A Taste Test Tool was used throughout the curriculum at single timepoints to assess eating behaviors such as: willingness to try new foods, willingness to eat the food again, and willingness to either make the food or ask for the food at home.
- This study was approved by the Institutional Review Board at the University of California, Davis (1187176-7).

## Participants

### Needs Assessment (n = 30 respondents)

Teachers of individuals with disabilities (n = 30) were recruited from ten schools within five public school districts in California.

### Pilot Project (n = 116 participants)

The newly developed curriculum *Learn it, Grow it, Taste it!* was piloted during the 2018-19 academic year with a wide range of participants (ages 6 - 65) in several different settings, including:

- Four Special Day Classrooms ( 3 elementary, 1 high school, n = 38)
- One Adult Day Class (ages 18-22, n = 10 )
- One Adult Class at Easter Seals (ages 22+, n = 36 )
- One Family Centered Class (ages 6+, n = 13)
- Two Control Sites (1 elementary, 1 high school, n = 19)



## Results

### Needs Assessment

- Of the teachers that were surveyed, **90%** reported that their students receive too little nutrition education.
- The top barriers that were identified as obstacles for more fully integrating nutrition into their classrooms included: time within the school day, lack of resources/materials, and funding.

### Pilot Project

- Data show that participants in the intervention group demonstrated significant increases in knowledge, improvements in weight status, and an increased ability to identify healthy food items.
- Additionally, **100%** of the teachers the participated in the pilot reported that their students are now willing to try new foods.



## Conclusions

- Individuals with disabilities need access to opportunities and resources that will provide positive nutrition and health related outcomes.
- This study identifies a need for health-related nutrition, obesity prevention and treatment programs to be integrated into special education, special day classrooms, and community sites serving individuals with disabilities.
- The curriculum developed in this study shows promise for generating behavior change in individuals with physical and cognitive disabilities, however, it is suggested that additional research be completed with a larger sample size to determine overall effectiveness.

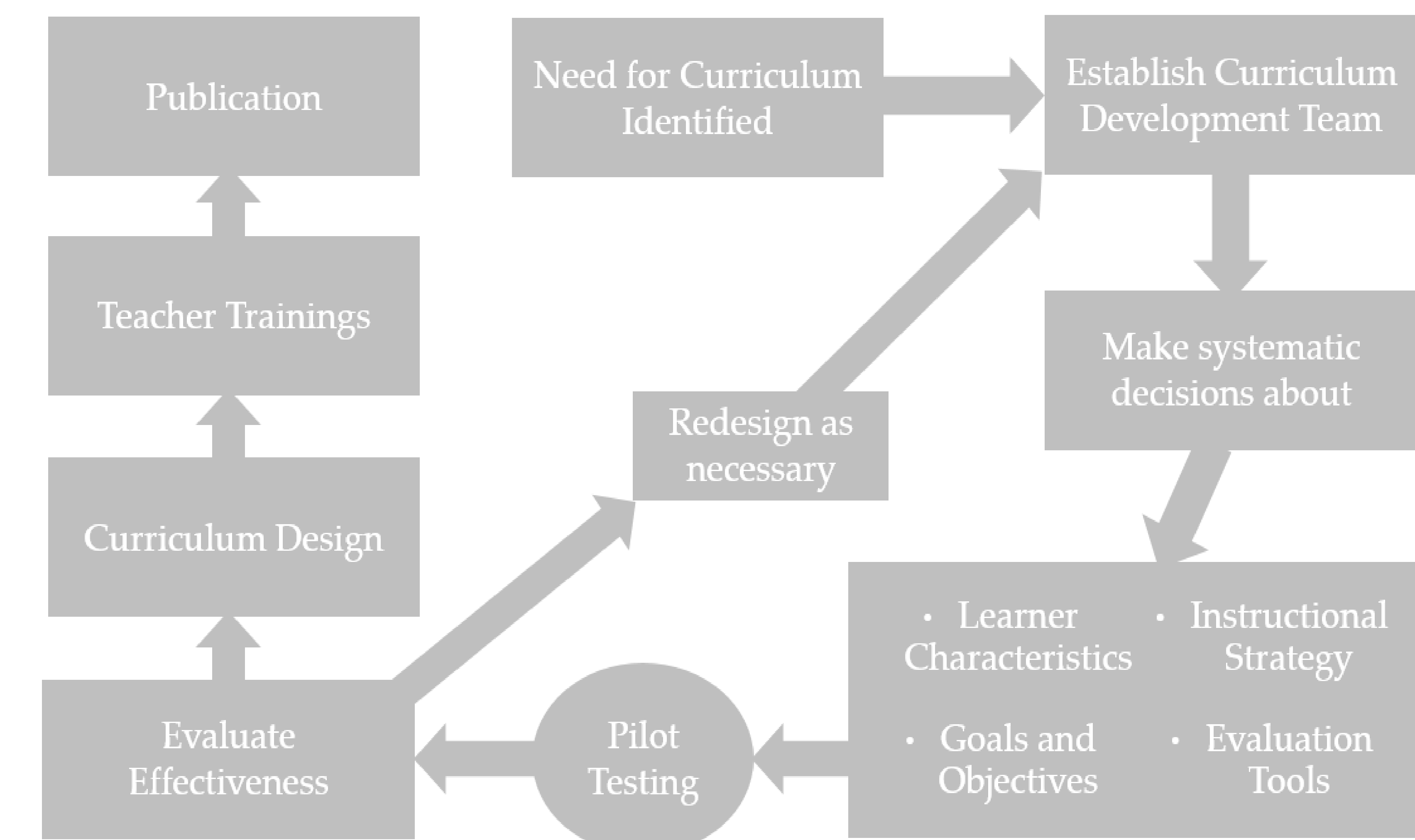
## Testimonials

"I learned so much and I used a knife for my first time."  
- Sean-Ryan Maloney, 6 year old participant at Millennium Family Entertainment Center

"He's learning and retaining so much information. I'm very pleased with the curriculum."  
- Mother of Participant with ASD at Millennium Family Entertainment Center

"My favorite part of this program was trying new foods and recipes."  
- Mike Yukawa, 46 year old participant at Millennium Family Entertainment Center

## Next Steps



## Acknowledgements

- The authors would like to acknowledge and thank the participating school districts and teachers who completed the initial needs assessment, the teachers who participated in the initial pilot, and the UC CalFresh Nutrition Program educators who were involved in piloting the *Learn it, Grow it, Taste it!* lessons.
- The authors would like to thank all of the individuals who participated on the Special Education Curriculum Development Committee and Kali Trzesniewski for her help with the preliminary data analysis for the pilot project.

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