Digital Literacy to Promote Sustainable Healthy Eating Behaviors and Messaging in Diverse and Underserved Populations Report for Toni Jennings funding

Investigator

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Abstract

Typically, students in high poverty and low socio-economic areas face food insecurity and in turn do not always consume healthy and nutritious foods. The result of not eating and living a healthy diet can increase the risk of long-term chronic illnesses including but not limited to obesity, diabetes, and heart disease. In Central Florida, one in five families face food insecurity affecting approximately 47% of the students in schools in Central Florida (Second Harvest Food Bank). Because of the vast amount of food insecurity in Central Florida and the health risks for children consuming an unhealthy diet, there is a need for a program to inform and teach children in underserved populations the importance of a healthy diet and lifestyle.

The Digital Literacy to Promote Sustainable Healthy Eating Behaviors and Messaging in Diverse and Underserved Populations partnered with school programs in underserved areas to promote sustainable healthy eating for students in grades 3-5. Students learned the principles and messaging of the Slow, Go, Whoa program (Werner et. al., 2012 and completed a variety of activities with a culminating digital literacy activity of creating a one minute video about making healthy food choices.

The program was inclusive of all learners. The program was completed 3 times throughout Orange and Seminole counties with great success. The grant afforded answers regarding effective and ineffective activities related to health knowledge and behaviors. Further, many students were able to use mobile multimedia devices for the first time.
Setting and Participants for site 1:

The program took place at the XXXXXXXXXX School in Pine Hills – Orlando, Florida. The school is located in an urban food desert meaning there are no grocery stores that sell fresh produce and meat within a 2 mile radius. There is a convenience store within a two mile radius that mainly sells beer, wine, milk, boxed food and lottery tickets. Most students live within a two mile radius of the school.

Students completed 8 sessions that were 48 minutes in duration. Student participants were in 2nd through 5th grade. The content was taught as part of the student literacy block in their multi-graded classrooms. There were 17 second and third grade students in one class and 25 fourth and fifth grade students in the other class. The physical education teacher admittedly did not teach health, diet, and nutrition. The school does not have a formal curriculum for health and diet in their Elementary school. One hundred percent of the students are on free lunch. One hundred percent of the student populations are recipients of either the Step Up or McKay Scholarship programs. The geographical setting for the school was urban.

Setting and Participants for site 2:

The program took place at the XXXXXXXXXX during in conjunction with girl scout troop meetings in Orlando, Florida. The participants lived in the western area of Orange County but attended school all throughout the county at Public, Public Charter, and Private School. The 8 participants at this site were all female and self-described as gifted students. All of them were enrolled in gifted education programs they were in fifth and sixth grade. All of these participants had smartphones and identified as being technologically advanced. Only 2 of the 8 had ever made an edited video. The geographical setting for the girls scout
Setting and Participants for site 3:

There were 4 students in the final site that attended a summer school program at a school in Seminole County for students who needed intensive communication therapy. These four students were in 4th and 5th grade and had varying exceptionalities. One student self-identified as being autistic. The students were involved in 6-8 sessions and did about ½ of the activities as the other groups. The student/teacher/therapist ratio was one to one some days and two to one other days. The geographical setting for the school was suburban.

Methodology

The study was a mixed-method study. Data was obtained through surveys, interviews, video observations, and pre and posttest. The pre and posttest was employed to answer the research question/s:

- Research Question 1: What are the effects and relationship between student-created video following the ICSDR model and students' healthy eating and lifestyle messaging?
- Research Question 2: How does completing the program influence food and diet knowledge and behaviors among students?
- Research Question 3: What are the students’ and others perceptions about program activities?
- Research Question 4: Does student-created video regarding health literacy have an impact on the students and others?

Process

1. Students were pretested for knowledge.
2. Students were then introduced to the go, slow, whoa messaging. Go foods are those foods that are great to eat at every meal, slow foods are those that can be eat in moderation, and whoa foods should rarely be eaten.

3. Students participated in many hands on activities with real food and the go slow who icons related to the messaging.

4. Activities included but were not limited to recording audio about their favorite meal, taking pictures of plastic and real fruits and vegetables and identifying them as go, slow, whoa foods.

5. Students wrote narratives related to go, slow, whoa messaging.

6. Students created graphic organizers related to foods.

7. Students created plates of what they ate for dinner and wrote a narrative related to the plate they drew.

8. Students then chose video assignments, completed scripts, and storyboards to make a movie with a go, slow, whoa message.

9. Students then recorded videos and in some cases edited the video to make a message related to their video assignment.

10. Students took a post test and completed a survey, and were interviewed throughout the video development process.

**Results**

At Site 1.

Currently, the data that is analyzed is the narrative related to the paper plate graphic organizer. Students drew on a paper plate what they ate for dinner the previous evening or
at their last previous meal. Students then labeled the foods as go, slow or whoa foods. In second and third grade, 80% of the students correctly identified the foods as go, slow, whoa they ate for dinner the previous evening. In fourth and fifth grade, 95% of the students correctly identified the foods as go, slow, whoa foods they ate from the previous evening.

When analyzing the types of foods these students documented as having eaten the previous evening overwhelmingly these students identified that they ate more whoa foods than any other type. For instance, one class did this exercise on a Wednesday morning and many of the students commented that Tuesday night is five dollar pizza night at a national pizza chain. Their caregivers chose pizza for dinner because of the cost to feed the family. The other class did the same exercise on Thursday and their illustrated paper plates reflected fried chicken. The student identified a five dollar chicken box that many of their caregivers purchased Wednesday night dinner. Few students in each class had multiple go foods on their plate.

Other data will be analyzed from all of the sites to answer the research questions. The potential expected outcomes for this study included:

1. Determining effective activities that contribute to the transfer of health knowledge and behaviors in students in grades 3-5.

   **Results:** Several of the activities were identified by the teachers and the students as helping them to understand more about health knowledge. Students indicated that making the video was the best part of the class.

2. Students ability to identify and choose healthy food choices and lifestyle choices could increase.
**Results:** According to the students they knew more about their healthy food choices. Initial analysis of the pre and posttest indicates that all students knowledge of healthy food choices increased.

3. Students digital literacy could increase.

**Results:** Students at each of the sites indicated an increase in their digital literacy. Some students used a mobile device for the first time. While other students in the girl scout group learned more advanced editing skills.

An unrealized benefit of the research included 7 graduate and doctoral students worked on this research project from various aspects.

**Future of the Research**

When the rest of the data has been analyzed we hope to ascertain aspects of video development among students that contributed to their health knowledge and how home language and culture is reflected in the students stories. A desired outcome for the future is to replicate the study in other geographical locations and with other populations to learn more ways to increase health literacy among all populations.

We remain perplexed and continue to seek answers relative to working with the economics status of our underserved students and the consumption of healthy foods. We feel the economic status is a mediating factor in students changing their behaviors. One of the next aspects of this research is to foster a collaboration between parents/caregivers and students to teach the parents and caregiver together with the students to learn the go, slow, who messaging.