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Promoting Health Education and Literacy in Rural Tennessee: The Go-Packs Pilot Project

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Abstract

Little Milligan Elementary School in rural Carter County, Tennessee was provided with health literacy resources in the form of health education Go-Packs—easily implementable lessons contained in a small storage tote—as part of the community project requirement of the James H. Quillen College of Medicine Rural Primary Care Track Curriculum. These Go-Packs included detailed lesson plans and accompanying materials that were designed to facilitate health education in the classrooms by providing easily deployable lessons for the teachers to utilize. Four Go-Packs were provided for hygiene, oral health, tobacco use, and nutrition that teachers used to augment instruction during teachable moments that arose in their classrooms. Our objective was to determine whether the development and implementation of these Go-Packs increased the amount of health education delivered to the students and determine what barriers persist to provide health education in the classroom. Participants were randomly assigned a number which they placed on their pre and post surveys. A focus group was also conducted to better understand the faculty's experience utilizing the Go-Packs and where improvements could be made. A paired sample *t*-test showed no significant differences in pre and post attitudes of teachers at the school. The focus group and survey questions identified the need to improve the usability of specific Go-Packs, map the Go-Packs to state mandated curriculums and target Go-Pack usage towards non-core instructors.

Needs Assessment

This need assessment included from data collected via Community Commons and from conversations with key informants in Carter County: the school system, the juvenile court, the sheriff's office and the local drug coalition.

Key indicators:

43.2% of Carter County public school students are overweight or obese (BMI over 25), compared to 39.6% of the surrounding Tennessee counties

33% of the population of Carter County currently smokes compared to 26.2% of the surrounding counties

31% of adults in Carter County have poor dental health

The water supply to LMES is not fluoridated

Project Description

•**Goal:** Increase health literacy at LMES in rural Carter County by increasing the amount of health education by providing prepared resources for the faculty.

•**Inclusion Criteria:** Faculty and/or Administrators 18 years or older at Little Milligan Elementary School.

•**Exclusion Criteria:** Non-instructional staff.

•**Participants:** 13 Faculty and Administrators

Principal Areas of Intervention (Based on Faculty Input): Personal Hygiene, Oral Health, Nutrition, Tobacco, Physical Activity

Our project received approval from the ETSU Institutional Review Board on July 28, 2017.

Implementation

- Go-Packs were assembled on Sept 5, 2017 and included curriculum, handouts, and other relevant learning materials placed inside a tote labeled by topic
- Nutrition: Serving Up MyPlate: Yummy Curriculum by the USDA, teacher guides, parents handouts, nutrition songs and games.
- Tobacco: Get Smart About Tobacco Curriculum by Scholastic divided for grades 3-5 and 6-7.
- Hygiene: Scrubba Bubba curriculum by More Health.
- Oral Health: Smile Smarts Dental Health Curriculum by American Dental Association and a mouth model for demonstrations. 200 toothpaste and toothbrushes to be given to students.
- A teacher in-service was conducted on Sept 8, 2017 introduce the Go-Packs to the faculty. (Picture below)
- Teachers volunteering to participate in our study completed a pre-intervention survey
- Our goal was to make this a self-sustaining project. We also completed periodic "check-ins" to monitor use
- All Go-Packs contained a USB drive with electronic copies of printed materials.



Evaluation

We evaluated project effectiveness using data from

- Pre- and post-surveys administered to faculty and staff
- Sign-out sheet for quantitative use data of each kit
- Focus groups to discuss use of kits and health of LMES

Quantitative Analysis: Mean values were calculated for each survey question prior to the implementation of the Go-Packs and at the end of the study. A paired samples *t*-test was utilized to determine if a significant difference exists between the pre- and post-survey data.

Qualitative Analysis:

- Qualitative data was transcribed into a Word document
- Five authors reviewed the transcript for accuracy
- We coded data into main categories and subcategories
- Students met to discuss the categorization of data
- Continuous revision and discussion with faculty advisers continued until group consensus has been reached

Results and Discussion

The pre-survey confirmed that the main barrier to teaching health is finding adequate time within the dense curricular demands of the classroom. All faculty that participated in the pre-survey (n=13) reported neutral, disagree or strongly disagree with the statement that their students understand their health. The majority of faculty reported that they felt in control of teaching health in their classrooms, that their students were engaged when discussing health topics and were comfortable teaching health topics.

A paired sample *t*-test was conducted on the pre and post survey data provided by five participants. There exists a significant discrepancy between the total number of participants and the number of participants whose data was available for using a paired samples *t* test. We were unable to properly track all of the participants and only five of the post-surveys could be matched to pre-surveys.

A Cohen's D value of 0.2 is considered a small effect size, a value of 0.5 is considered a moderate effect size and a value of .8 is considered a large effect size.

Pairs	<i>t</i> value	Significance	Cohen's D
Teacher Frequency Teaching Health	0.910	0.414	0.407
Teacher Comfort Teaching Health	-2.138	0.099	0.956
Students Understand Health	-1.826	0.142	0.817
Teacher Control of Teaching Health	1.206	0.294	0.539
Teacher's Adequate Time To Teach Health	0.302	0.778	0.348

Future Directions

1. Have a "Parent Involvement Night". Provide healthy dinner to the parents of students at LMES and have the parents/ families rotate through the different Go-Pack stations to learn about health topics.
2. Match the Tennessee State Standards (TN Ready) to available Go-Packs.
3. Add drug and alcohol lesson plans and activities to the Tobacco-Free Go-Pack.
4. Develop Internet Safety and Body Image Go-Packs.
5. Provide more materials (e.g. toothbrushes, toothpaste, soap, etc.).
6. Expand the concept of Go-Packs to organizations outside of schools

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