What Is the Difference Between a Calorie and a Carbohydrate?—Exploring Nutrition Education Opportunities in Alternative School Settings

Abstract

Extension-based nutrition educators have indicated current curricula do not engage alternative school students' interests. The study reported here explored nutrition education opportunities at alternative schools in Oklahoma. Data collection involved focus groups gathering student perspectives regarding preferred teaching and learning styles, and nutrition topics of interest. Twenty-four students 15-18 years of age participated in the project. Students are interested in receiving nutrition education using practical approaches; experiential learning was the preferred learning style facilitated by hands-on teaching. Opportunities exist for Extension programming to meaningfully address nutrition-related issues in alternative schools by delivering participant-centered lessons using tailored materials and delivery methods.

Michele Norquest
Clinical Dietitian
Hillcrest Medical
Center
Tulsa, Oklahoma
mnorquest@hillcrest.com

Josh Phelps
Assistant Professor
University of
Arkansas for Medical
Sciences
Little Rock, Arkansas
Japhelps@uams.edu

Janice Hermann
Professor &
OCES Adult and Older
Adult
Nutrition Specialist
Oklahoma State
University
Stillwater, Oklahoma
Janice.Hermann@okstate.edu

Tay Kennedy
Associate Professor
Oklahoma State
University
Stillwater, Oklahoma
Tay.Kennedy@okstate.edu

Introduction

The U.S. Department of Education describes an alternative school as one addressing the needs of students that typically cannot be met in a traditional school setting (Hoffman, 2003). Alternative schools offer nontraditional education for at-risk students who have not succeeded in traditional schools. Data from National Alternative High School Youth Risk Behavior Surveys (ALT-YRBS) revealed "the prevalence of most risk behaviors is significantly higher among students attending alternative high schools compared with students at regular high schools" (Grunbaum et al., 2000, p. 15).

A major area of concern regarding school-aged youth is nutrition because it can affect many areas of the students' lives, including their schoolwork, homework, and overall health. Kubik, Lytle, and Fulkerson (2004) conducted focus groups with alternative high school students and found "the physical environment of most alternative schools did not support healthy eating... as a normative behavior" (p. 123). Most often students' food choices are based upon personal preference, taste,

convenience, cost, and availability, which tend to result in unhealthy food choices in the adolescent population (Kubik, Lytle, & Fulkerson, 2005; Neumark-Sztainer, Story, Perry, & Casey, 1999; Wright & Nault, 2013).

While students recognize "having good health is desirable," most give "little thought to the subject, recognizing neither its immediate benefits nor long-term importance" (Borra, Kelly, Shirreffs, Neville, & Geiger, 2003, p. 723). Furthermore, adolescents may not be conscious of the connection between diet-related health issues and life outcomes (Wright & Nault, 2013). Establishing healthy nutrition habits at an early age may help prevent obesity, type 2 diabetes, and other health-related problems from developing in youth and tracking into adulthood (Kubik, Lytle, & Fulkerson, 2005; Lytle & Kubik, 2003).

Extension-implemented nutrition education programs, such as the Supplemental Nutrition Assistance Program Education (SNAP-Ed) Oklahoma Nutrition Education (ONE) program, provide a means of promoting healthy dietary habits among adolescents. Through the Oklahoma Cooperative Extension Service (OCES), nutrition educators work with the federally funded ONE program to deliver nutrition education to limited resource audiences, including students in alternative school settings.

Purpose

Nutrition educators working with the SNAP-Ed ONE program in alternative schools in Oklahoma reported the current curriculum did not fit well with the alternative school students' needs. According to nutrition educators, the current curriculum did not provide the type of information or present it in a manner alternative school students find useful or engaging. In order to provide this particular audience with nutrition education that may positively affect their health, the project reported here identified nutrition education strategies and topics relating to specific wants and needs of alternative school students participating in a SNAP-Ed ONE program delivered through the OCES.

Methods

Focus groups were chosen as the method for collecting data pertaining to the area of analytic interest described above. Paraphrasing Archer (1993), "focus groups provide a way to get input for Extension… programming needs directly from [the target audience], rather than through perceived needs based on [observations of Extension personnel]" (Abstract section, para. 6). Focus groups provide an inexpensive, efficient and comfortable process for collecting data needed for new program development or re-development of ineffective programs (Archer, 1993; Gamon, 1992; Krueger & Casey, 2010; Malek, 2002; White, Arnold, & Lesmeister, 2008).

Each focus group was led by a trained moderator [Principal Investigator (PI)], while a trained assistant moderator (Co-PI) monitored the recording devices and took notes. Focus group discussions were transcribed into word documents by the Co-PI. During each focus group, students were arranged in a circle or a U-shape to provide the best discussion atmosphere. Students were informed they did not have to participate and were asked for written consent if they wished to participate.

A purposive sample of students was selected for the study. Twenty-four (12 female & 12 male) alternative school students (7th-12th graders) ranging in age from 15-18 years and who were

participating in the SNAP-Ed ONE program contributed to this project. Each focus group was comprised of six-14 students.

Two sets of focus groups (first and second sets) were conducted in each of two alternative school classrooms identified for this project, for a total of four focus groups. The first set of focus groups consisted of five females and five males at one school and seven females and seven males at the other school. These schools had established ties with the SNAP-Ed program and agreed to participate upon request.

During the first set of focus groups, a series of open ended, semi-structured questions (Table 1) was used allowing participants to explore issues important to them while framing the focus of the discussion. Prior to analysis of focus group transcripts, the PI reviewed the transcripts using the recorded discussions. Thematic analysis was completed to actively identify themes (Braun & Clarke, 2006). Data were examined question by question to maintain an analytic narrative. The thematic analysis process used was similar to a process described by Braun and Clarke (2006), providing "an essentialist or realist method, which reports experiences, meanings and the reality of participants" (p. 81).

Table 1.

Focus Group Question Set

1.	What is your favorite way to learn about something new?
2.	What are the reasons that you like learning this way?
3.	What is your least favorite way to learn about something?
4.	What are some reasons that you don't like learning this way?
5.	What do you think is the most important nutrition topic for teens to learn about?
6.	What are the reasons that you think this topic is important for you?

The second set of focus groups was conducted after the first set of focus group transcripts was analyzed. At one school, the second set of focus groups consisted of six of the original 10 members; at the other school nine of the original 14 members were present. This second set of focus groups was primarily used as a member check or respondent validation procedure (Harris et al., 2009). A member check or respondent validation involves presentation of results to participants followed by a discussion of the accuracy of the findings for improving accuracy, credibility, and validity of results (Harris et al., 2009). The second set of focus groups reviewed general themes or *topics* found through analysis of data collected from the first set of focus groups to assess whether participant comments matched with deduced results.

Results

Themes yielded through thematic analysis of the first set of focus group transcripts which are displayed next to associated questions and accompanied by bulleted extracts supporting theme development are presented in Table 2.

Table 2.

Themes Yielded Through Thematic Analysis of Focus Group Transcripts

Focus Group Questions	Themes and Bulleted Extracts
"What is your favorite way to learn about something new?" **"What are the reasons that you like learning this way?"**	***Experiential Learning*** • Students liked learning through experience; "being able to figure out how to learn"; "learn about it from different people so you don't feel stupid when you try to do it." • "Learning when we do not mean to learn… learning when we do not feel like we are learning." ***Virtual Learning*** (sub-theme) • Computers, TVs, and the Internet were mentioned as preferred methods to receive information; "it [TVs and computers] would make it [learning] easier." ***Real Learning*** (sub-theme) • The idea of working with others and engaging in hands-on demonstrations generated a lot of enthusiasm among the students; "in-person learning", "group work", "hands-on activities"; "being able to figure out how to learn."
"What is your least favorite way to learn about something?" **"What are the reasons that you don't like learning this way?"**	***Separated/Disconnected Learning*** • Students did not like learning independently based on past individual experiences of not having anybody show them how to do something; "being the last person to figure something out or just not being able to figure it out." • "Like if you do something bad and then you don't want to do it again, but like you learn it." • "Like when we are taught the same thing over and over again even though the way they are teaching isn't working."
"What do you think is the most important nutrition	***General Nutrition*** • Understanding what they are putting in their bodies and the

topic for teens to learn about?" **"What are the reasons that you think this topic is important for you?"**	connection to health; "what is the difference between a carbohydrate and a calorie?"; "how do you eat heart healthy?" ***Personalized Nutrition*** • Learn about topics that interest students; "why do people look to food as to make them happy... why do people eat their feelings?"; "what to eat to not get fat." ***Empowering Nutrition*** • Topics that would be useful in everyday life; "learning how to plan your own meals"; "grocery shopping... what to choose"; "learn how to cook."

Nutrition topics these students felt were most relevant to teens included: understanding the nutrients of foods and what they are putting into their bodies, staying motivated to stay healthy, how to decide what to eat, how to eat and not get fat, staying fit and staying healthy, grocery shopping, eating heart healthy, eating a healthy breakfast, and portion sizes. Students said they wanted information presented to them using technology; they wanted demonstrations and repeated activities so they could learn from a wide variety of teaching techniques. Students wanted relevant nutrition education; they wanted information suitable for their everyday lives. Students wanted this information presented in an engaging manner, and if at all possible, hands-on and applicable to their lives outside of the classroom. When these results were presented during the second set of focus groups as a process of respondent validation, students were in agreement with how their responses were represented.

Conclusions

Opportunities exist for Extension-based programs to address nutrition related topics in alternative school settings; what needs attention is the content of materials taught and methods used for teaching to this particular audience. Modes of delivery and information must be relevant to the learning processes and the wants and needs of alternative school students. Tailoring nutrition education to alternative school students is important for many reasons (Borra, Kelly, Shirreffs, Neville, & Geiger, 2003; Wright & Nault, 2013). One reason is to provide functional education that facilitates positive behavior change toward living a healthier lifestyle (Kubik, Lytle, & Fulkerson, 2005; Lytle & Kubik, 2003). Within the alternative school setting, this is of particular importance because students may be facing adult-type scenarios at a younger age, such as parenthood, and having a greater level of responsibility within the home. These examples were revealed through focus group discussions when students mentioned personal experiences with teen pregnancy and responsibilities of shopping and cooking for their households.

Another reason for tailoring nutrition education to alternative school students is to demonstrate the flexibility and usefulness of Extension-related programs and services. Extension-based programs, such as the SNAP-Ed ONE program, serve the community and should meet the needs of community members. Addressing nutrition education opportunities in alternative school settings is an avenue for

actively engaging in Extension's role of being a "living, evolving, market-driven organization that responds to society's changing needs" (Bull, Cote, Warner, & McKinnie, 2004). Demonstrating relevance of Extension programing to a young at-risk audience may promote use of other Extension programming and services among this cohort throughout their lifetimes.

Findings from the project reported here demonstrate the importance of investigating the needs of a target audience when developing or re-developing Extension-implemented programs. Extension personnel responsible for program development or re-development should engage the respective target audience when possible to give voice to community members served by Extension programs.

References

Archer, T. M. (1993). Focus groups for kids. *Journal of Extension* [On-line], 31(1) Article 1TOT2. Available at: http://www.joe.org/joe/1993spring/tt2.php

Borra, S. T., Kelly, L., Shirreffs, M. B., Neville, K., & Geiger, C. J. (2003). Developing health messages: qualitative studies with children, parents, and teachers help identify communications opportunities for healthful lifestyles and the prevention of obesity. *Journal of the American Dietetic Association,* 103(6), 721-728.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.

Bull, N. H., Cote, L. S., Warner, P. D., & McKinnie, M. R. (2004). Is Extension relevant for the 21st century? *Journal of Extension* [On-line], 42(6) Article 6COM2. Available at: http://www.joe.org/joe/2004december/comm2.php

Gamon, J. A. (1992). Focus groups-a needs assessment tool. *Journal of Extension* [On-line], 30(1) Article 1TOT2. Available at: http://www.joe.org/joe/1992spring/tt2.php

Grunbaum, J. A., Kann, L., Kinchen, S. A., Ross, J. G., Gowda, V. R., Collins, J. L., & Kolbe, L. J. (2000). Youth risk behavior surveillance. National Alternative High School Youth Risk Behavior Survey, United States, 1998. *Journal of School Health,* 70(1), 5-17.

Harris, J. E., Gleason, P. M., Sheehan, P. M., Boushey, C., Beto, J. A., & Bruemmer, B. (2009). An introduction to qualitative research for food and nutrition professionals. *Journal of the American Dietetic Association,* 109(1), 80-90.

Hoffman, L. (2003). U.S. Department of Education, National Center for Education Statistics, *Overview of public elementary and secondary schools and districts: school year 2001-02*, NCES 2003-411, Washington, DC. Retrieved from: http://nces.ed.gov/pubs2003/2003411.pdf.

Krueger, R. A., & Casey, M. A. (2010). *Handbook of practical program evaluation* (3rd ed.). San Francisco, CA: Jossey-Bass.

Kubik, M. Y., Lytle, L., & Fulkerson, J. A. (2004). Physical activity, dietary practices, and other health behaviors of at-risk youth attending alternative high schools. *Journal of School Health,* 74(4), 119-124.

Kubik, M. Y., Lytle, L., & Fulkerson, J. A. (2005). Fruits, vegetables, and football: findings from focus groups with alternative high school students regarding eating and physical activity. *Journal of Adolescent Health,* 36, 494-500.

Lytle, L. A., & Kubik, M. Y. (2003). Nutritional issues for adolescents. *Best Practice & Research. Clinical Endocrinology & Metabolism,* 17(2), 177-189.

Malek, F. (2002). Using the focus group process to assess the needs of a growing Latino population. *Journal of Extension* [On-line], 40(1) Article 1TOT2. Available at: http://www.joe.org/joe/2002february/tt2.php

Neumark-Sztainer, D., Story, M., Perry, C., & Casey, M. A. (1999). Factors influencing food choices of adolescents: findings from focus-group discussions with adolescents. *Journal of the American Dietetic Association,* 99(8), 929-937.

White, D. J., Arnold, M. E., & Lesmeister, M. (2008). Using focus groups to evaluate youth development program direction. *Journal of Extension* [On-line], 46(6) Article 6RIB3. Available at: http://www.joe.org/joe/2008december/rb3.php

Wright, W., & Nault, K. (2013). Growing youth food citizens. *Journal of Extension* [On-line], 51(3) Article 3IAW2. Available at: http://www.joe.org/joe/2013june/iw2.php