Beyond Food Safety Training: Changing Behavior

Kevin R. Roberts, PhD; Kevin L. Sauer, PhD, RDN; Michelle Alcorn, MS

The Center of Excellence for Food Safety Research in Child Nutrition Programs
Kansas State University
Objectives

1. Participants will learn about the impediments to behavior change following food safety training.

2. Participants will comprehend effective strategies for motivating employees to change their food safety behaviors.

3. Attendees will determine strategies they can implement to improve and promote food safety within their school.
Employee Behavior & Food Safety

Group Discussion

1. What is the role of employees in ensuring food safety in a school district?

2. What can managers do to increase the likelihood that employees will follow the plan?
Food-Safe Schools Action Guide

• Connections between behavior-based food safety programs and a food safety culture:
  • Strong leadership
  • Founded on people
  • Relies on strong partnerships
  • Focuses on the why
  • Effective communication
What is Culture?

- What does culture mean within an organization?
- Characteristics of culture
  - Shared knowledge, beliefs, values, attitudes, meanings
  - A way of life
  - Patterns of behavior
  - Learned behavior of a group of people
  - Transmitted from generation to generation
Achieving Food Safety

Traditional Approach—Command and Control
- Regulation
- Standard setting
- Enforcement

Food Safety Culture
- Behavior-based food safety management system
- Integrates food science and behavioral science
What is your district’s culture?

Food Safety Culture Quick Test
Our school district has a rigorous food safety policy that covers all food served in schools.

A. Yes
B. No
C. Needs Improvement
The district superintendent is committed to food safety.

A. Yes
B. No
C. Needs Improvement
There is evidence that teachers in our schools implement practices that support food safety.

A. Yes
B. No
C. Needs Improvement
The school nutrition program has a behavior-based food safety management program.

A. Yes
B. No
C. Needs Improvement
Food safety is a core consideration when making decisions about menus, procurement, service, and staffing.

A. Yes
B. No
C. Needs Improvement
Facilities and equipment support food safety.

A. Yes
B. No
C. Needs Improvement
Foodservice managers in my schools value food safety and serve as good role models.

A. Yes
B. No
C. Needs Improvement
Foodservice employees understand the Food Safety Program and implement it.

A. Yes
B. No
C. Needs Improvement
Parents and others view our schools as providing safe food for students.

A. Yes
B. No
C. Needs Improvement
Results: What did you Score?

A. Excellent  (9 to 5 points)
B. We are working on it! (4 to 0 points)
C. Ok, we have some things to work on (-1 to -4 points)
D. We really need to get started (-5 to -9 points)
Food-Safe Schools Action Guide

• Focus on “Creating a Food Safety Culture”
  • Part 1: Reviewing Your Current Food Safety Efforts
  • Part 2: Taking Action to Build Food-Safe Schools
    • Action Sheets—Requirements and Topics
    • Resources designed to help you move your food safety program forward
  • Part 3: Communicating with the School Community to Create a Culture of Food Safety
    • Communication Tips
    • Strategies for Communicating with School Community Partners
Employee Behavior & Food Safety

Discussion

• Training – pros/cons?

• School nutrition personnel would likely respond how to the following?
  
  1. Do you feel that proper handwashing is important?

  2. Have you ever been trained about proper handwashing?
Recent On-site Research

• Summary of study
  • 34 schools
    • 11 small districts in six states
    • 9 medium districts in seven states
    • 6 large districts in six states
    • 8 mega districts in seven states
Recent On-site Research

- Four areas of assessment
  - Facility Observation
    - General food safety practices, handwashing, food storage, temperature control, protection from contamination, and dishwashing.
  - Food Safety Observation
    - Employee handwashing, general food handling, cleaning and sanitizing.
  - HACCP Verification
    - Food Safety Program, training for personal hygiene, cleaning and sanitizing, and use of chemicals and standard operating procedures. Other assessment included menu item grouping, identification and documentation of control measures and critical limits, established monitoring procedures, and records.
  - Hand Washing Facility Assessment
    - Restroom facilities for students.
Key Findings - Overall

- HACCP plans and documentation
- Food safety training
- Storage temperatures
  - Cold food held, some improvement
- Employee health/other
  - Food & beverages
  - Bare hand contact
- Dishmachines/utensils/cleaning
Key Findings - Handwashing

- 31 school managers trained on personal hygiene and proper cleaning and sanitizing.
- 29 schools documented a Standard Operating Procedure for handwashing.
- Nearly all (36) hand washing facilities were conveniently located and accessible for employees.
- However...
# Key Findings - Handwashing

## Employee Handwashing Practices

<table>
<thead>
<tr>
<th>Observed Activity</th>
<th>Total Observations</th>
<th>Employee observed washing hands properly and when required</th>
<th>Employee observed washing hands improperly</th>
<th>Employee observed failing to wash hands when required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediately before engaging in food prep</td>
<td>137</td>
<td>51 (37.2)</td>
<td>30 (21.9)</td>
<td>56 (40.9)</td>
</tr>
<tr>
<td>Before donning new gloves or changing gloves</td>
<td>144</td>
<td>39 (27.1)</td>
<td>31 (21.5)</td>
<td>74 (51.4)</td>
</tr>
<tr>
<td>After soiling hands during food preparation or service activities</td>
<td>104</td>
<td>18 (17.3)</td>
<td>20 (19.2)</td>
<td>66 (63.5)</td>
</tr>
<tr>
<td>After handling soiled equipment, dishes or utensils</td>
<td>97</td>
<td>7 (7.2)</td>
<td>17 (17.5)</td>
<td>73 (75.3)</td>
</tr>
<tr>
<td>After touching body parts, coughing/sneezing; blowing nose; eating or drinking</td>
<td>79</td>
<td>3 (3.8)</td>
<td>12 (15.2)</td>
<td>64 (81.0)</td>
</tr>
<tr>
<td>Switching between handling raw animal foods and ready-to-eat foods</td>
<td>6</td>
<td>4 (66.7)</td>
<td>1 (16.7)</td>
<td>1 (16.7)</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>8 (100.0)</td>
</tr>
<tr>
<td><strong>Total Observations</strong></td>
<td><strong>575</strong></td>
<td><strong>122 (21.2)</strong></td>
<td><strong>111 (19.3)</strong></td>
<td><strong>342 (59.4)</strong></td>
</tr>
</tbody>
</table>
Key Findings - Handwashing

• Facilitators
  • Accessibility of handwashing sinks
  • Adequate and accessible equipment and resources
  • Employee organization
  • Training

• Barriers
  • Time
  • Amount of handwashing sinks
  • Accessibility of handwashing sinks
  • Adequate resources
Key Findings – Sanitation/Other

- 31 managers indicated that they had training on personal hygiene and proper cleaning and sanitizing.
- 29 managers indicated that they offered training sessions for employees on the proper use of chemicals.
- However...
Key Findings – Sanitation/Other

- Two observations related to sanitation practices had an in-compliance rate less than 50%.
- In 46% of observations, the sanitizing solutions were not being changed as needed.
- Water only with no sanitizer added.
- Separate wiping clothes being used for contact surfaces, 43% of observations were in-compliance.
# Key Findings – Sanitation/Other

## Employee Food Handling Practices

<table>
<thead>
<tr>
<th>Observed Activity</th>
<th>Total Observations</th>
<th>In Compliance</th>
<th>Out of Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees do not contact ready-to-eat foods with bare hands</td>
<td>135</td>
<td>124 (91.9)</td>
<td>11 (8.2)</td>
</tr>
<tr>
<td>Food contact surfaces and utensils are clean to sight and touch and sanitized before use</td>
<td>110</td>
<td>86 (78.2)</td>
<td>24 (21.8)</td>
</tr>
<tr>
<td>Check internal temperature of food by inserting the thermometer stem or probe into the thickest part of the product</td>
<td>80</td>
<td>64 (80.0)</td>
<td>16 (20.0)</td>
</tr>
<tr>
<td>Sanitizing solutions are changed as needed</td>
<td>69</td>
<td>32 (46.4)</td>
<td>37 (53.6)</td>
</tr>
<tr>
<td>Separate wiping cloths are used for food and nonfood surfaces</td>
<td>68</td>
<td>29 (42.7)</td>
<td>39 (57.4)</td>
</tr>
<tr>
<td>Wash, rinse, sanitize, and air-dry thermometers before and after use</td>
<td>62</td>
<td>35 (56.5)</td>
<td>27 (43.6)</td>
</tr>
<tr>
<td>Check temperature of food at the completion of cooking</td>
<td>47</td>
<td>29 (61.7)</td>
<td>18 (38.3)</td>
</tr>
<tr>
<td>Dishes/Utensils washed &amp; sanitized using proper manual procedure</td>
<td>43</td>
<td>25 (58.1)</td>
<td>18 (41.9)</td>
</tr>
<tr>
<td>Check temperature of food at the completion of reheating</td>
<td>36</td>
<td>31 (86.1)</td>
<td>5 (13.9)</td>
</tr>
</tbody>
</table>
Key Findings- Sanitation

• Facilitators
  • Sense of responsibility
  • Adequate and accessible equipment and resources
  • Adequate facilities
  • Training

• Barriers
  • Time
  • Limited working space
  • Limited equipment
Summary of findings

• Effective food safety practices do exist
• HACCP plans exist
• Employees are informed

• Recommendation:
  • Reducing food safety risk is still key through:
    • Strong leadership
    • Employee behaviors
Strategies for Changing Behaviors

• Food safety training improves knowledge, but training alone does not improve most behaviors

• Workplace infrastructure
  • Clear communication of expectations and consequences when not followed

• Simple interventions such as persuasive signs and contests can help to improve behavior
Strategies for Changing Behaviors

- Behavioral Beliefs
- Normative Beliefs
- Control Beliefs
- Attitudes
- Subjective Norms (Environment)
- Perceived Behavioral Controls
- Behavioral Intention
Creating a Positive Habit
Creating a Positive Habit

[Diagram showing the cycle of Cue → Routine → Reward]
Target, Living up to Their Name
The Ballad of Paul O’Neill
Keystone Habits

• Keystone habits encourage change in the organization:
  • Produce small wins.
  • Encourage change by creating structures that help others thrive.
  • Help create a culture that embodies new values.
“Champions don’t do extraordinary things. They do ordinary things, but they do them without thinking, too fast for the other team to react. They just follow the habits they’ve learned.”

-Tony Dungy
Strategies for Changing Behaviors

• Focus on keystone behaviors and habits.

• Customize your food safety programs and training.

• Focus on what employees can do – not what only you as managers control.
Strategies for Changing Behaviors

• Emotional and motivational strategies to inspire employees to perform tasks properly.

• Integrating perspectives of various stakeholders such as school nutrition directors, supervisors, and health inspectors.

• Holding important people as role models who ensure employees have necessary resources like adequate facilities and equipment.
Reward & Motivation

- It is the WHY in human behavior.
- The reward is the reason habits exist.
- Motivation comes from within.