

A Focus Group's Perspective of Food Handler Training and How it can be used to Facilitate Behavioral Change in the Workplace

Introduction

The Retail Food Safety Regulatory Association Collaborative (Collaborative) includes the Association of Food and Drug Officials (AFDO), the Association of State and Territorial Health Officials (ASTHO), the U.S. Centers for Disease Control and Prevention (CDC), the Conference for Food Protection (CFP), the U.S. Food and Drug Administration (FDA), the National Association of County and City Health Officials (NACCHO), and the National Environmental Health Association (NEHA). These agencies and organizations are working together to reduce the incidence of foodborne illness.

The Collaborative's work focuses on developing a national strategy for the adoption of the latest editions of the FDA Food Code, promoting and improving food safety culture, increasing enrollment and active participation and conformance with the Voluntary National Retail Food Regulatory Program Standards, improving foodborne illness outbreak investigations, improving food safety management systems at retail food facilities, enhancing effective communications and sharing of best practices among retail food protection partners.

The FDA cooperative agreement with the National Association of City and County Health Officials (NACCHO), with a subaward to the Conference for Food Protection (CFP), is currently in its second year of project years 2022 – 2024. The NACCHO-CFP work plan includes activities and deliverables across the six Collaborative objectives. One objective is to increase the number of retail food establishments that have a well-developed and implemented Food Safety Management System. Within this objective there are several deliverables, one of which is to enhance existing manager certification and food handler education and training requirements, in collaboration with Food Safety Manager Certification bodies, to include adult learning principles designed to better influence human behavior. The CFP and other members of the Collaborative are working on projects that aim to meet this objective. CFP's activities for the 2022-2023 project year focused on the food handler education and training requirements portion of the deliverable.

Research Strategy

To better understand the current methods and approaches for food safety training, the CFP convened two focus group meetings with 12 food safety professionals who have a wealth of experience in both retail food safety and teaching food handlers about food safety. When inviting individuals to participate in the focus group, the research team sought professionals who worked for foodservice establishments, retail food stores, food safety regulatory agencies, and professional associations representing the retail food industry. Their professional titles included:

- Senior Manager Brand Protection, Quality, and Regulatory Compliance,
- National Director of Safety,
- Food Safety & Quality Assurance Management,
- QA manager - Sr/Retail Public Health Advisor,
- Food Safety Manager, Retail Food Safety Director,
- Senior Director, Food and Product Safety Programs,
- Senior Regional Health, Safety, and Regulatory Liaison,
- Senior Food Safety Manager,
- Director of Training, Senior Consultant,
- Environmental Health Services Supervisor,
- Food & Facilities, and
- Environmental Health Coordinator.

The members of the focus group had a total of 193 years of experience working in retail food safety, and they had a total of 177 years of experience training food handlers. Their professional experience in food safety and conducting food handler training made them uniquely qualified to serve as subject matter experts for this study.

The focus group meetings were conducted to gather information about food handler training such as the:

- techniques most effective for teaching food safety and sanitation principles and practices to food handlers,
- barriers that must be overcome when teaching food handlers about food safety and sanitation,
- learning style(s) preferred by food handlers,
- type(s) of training materials preferred by food handlers, and
- time and place preferred by food handlers to conduct training programs.

Limitations

The results presented in this report are based on the opinions and perspectives of participants in a focus group that consisted of 12 food safety professionals with experience in both retail food safety and teaching food handlers about food safety. Information was

collected using a written survey tool and two virtual meetings of the focus group. A review of the literature pertaining to food handler training to support the opinions and perspectives of the focus group was not conducted as part of this project.

Summary of Focus Group Feedback

The members of the focus group were asked to provide feedback on nine specific items. A summary of their responses for each of these items is provided in this report.

Techniques that have been found to be the most effective for teaching food safety and sanitation principles and practices to food handlers

An effective food safety training program requires pre-planning. The instructor must know what topics to cover such as:

- proper handwashing and hygiene,
- temperature control,
- cleaning/sanitizing,
- not working when ill, and
- prevention of cross contact/cross contamination.

Instruction should teach food handlers basic food safety principles and practices and how they can be applied when performing duties and tasks on the job. Food safety should not be viewed by food handlers as a separate program but rather as an integral part of the tasks performed on the job.

When teaching food handlers, it is critical that individuals understand:

- the “why” for what they are doing,
- “what if” something goes wrong, and
- “how” failure to provide safe food can impact them and the establishment where they work.

A focus group member said, “We have found that when talking about foodborne illness, a discussion of past foodborne outbreaks and their impact on individuals and businesses is something learners can relate to. We begin the discussion by saying, ‘Do you remember when a foodborne outbreak at company X happened?’ Then I let the group know what pathogen was identified as the cause of the outbreak and what factors contributed to it. Many students say they recall the episodes and the fact that the companies no longer exist.

We emphasize the same thing can happen to the company you work for if you don't faithfully follow the accepted food handling principles and practices. This kind of cultural relevancy can be valuable when dealing with a diverse audience.”

A fundamental principle of food handler safety training is to *keep it simple*. Add levity whenever possible and use language that learners can understand. Focus group members agreed that depending on the workforce, multilingual training is often required. Also, the literature reports that millennials and individuals in Generation Z have shorter attention spans. (1) Because of the shorter attention span, training works best when provided in multiple, short components. Thirty to sixty minutes is considered optimal for classroom instruction. If it is necessary to provide longer training sessions, provide breaks throughout the training to keep learners alert.

The preferred approach for teaching food handlers involves a combination of methods that accommodate different learning styles. Training often consists of a combination of in-person training (observations/demonstrations/doing/evaluation) along with written materials followed by on-the-job activities (demonstration and practice). Some examples of teaching tools and activities include:

- Printed Materials - books and other printed materials are an effective way to provide information for linguistic learners who read and retain the information they read. Some trainers prefer that food handlers read these materials prior to attending the first class,
- Hands-on Training - incorporates demonstrations and gives learners the opportunity to apply concepts they have learned. These demonstrations should use real life scenarios that reflect the work the food handler will be doing on the job. Demonstrations are especially valuable for teaching food handlers what to do and not do to promote food safety and sanitation. Demonstrations are especially valuable for individuals who are kinesthetic learners who prefer doing something rather than reading about it, and
- Interactive Training – makes the training engaging and the content of the training relatable. Resources that are commonly used during interactive training include short videos to demonstrate things like how to calibrate thermometers and use chemical test strips. These resources should focus on what is relevant and provide training that is appropriate to the food handler's assigned job duties in their workplace.

Though not a teaching technique, class size can influence learning. Large classes are sometimes necessary; however, a class size of 10 to 15 people is considered optimal for presenting information and getting feedback from learners. Small groups in a discussion format (not a lecture) provide the best opportunity to answer questions in the moment and see when learners understand the concepts and activities.

Several focus group members stressed that time is limited, and the old days of class lectures are gone for even high-level subject matter. One focus group member said, “We are homing in on visuals, digital, cell phone, mobile apps, getting rid of paper. The digital

age is here, and so I know I have a limited time to get my message out. This requires a lot of visuals and hands-on demonstrations when we're talking about the average food handler.”

Training does not end when the class is over, or the test is passed. Continuous training on the job should be used to reinforce key concepts related to food safety and sanitation. Posters, photos, and other printed materials posted around work areas provide constant reminders for food handlers while they are conducting various tasks. Another type of continuous training includes demonstrations performed by company Quality Assurance/Quality Control (QA/QC) staff during inspection visits or third-party organizations that are contracted to provide routine service and audits for the establishments.

An important part of food handler training involves teaching skills that are essential for reducing risk of foodborne illness outbreaks. Information about skills is provided below.

Techniques found to be the most effective for teaching skills related to food safety and sanitation to food handlers

When teaching skills to food handlers, instruction requires a combination of activities. These include providing information about how a skill is correctly performed, demonstrating how the skill should be performed, giving students an opportunity to demonstrate they can perform the task correctly, and critiquing how they did during the demonstration. When possible, have the food handlers teach the skill to others to demonstrate the ability to transfer the knowledge.

Some examples of skills that should be taught during a food handler training course include:

- proper handwashing technique,
- calibration of food thermometers,
- proper use of thermometers,
- proper use of test strips to measure concentration of chemical sanitizers,
- the use of date coding to promote First In First Out (FIFO) stock rotation,
- proper placement of foods during refrigerated storage, and
- proper techniques for cleaning and sanitizing.

In-person training and demonstration is ideal, but video training can be effective if followed up with in-person reinforcement. When conducting demonstrations, make sure the activities are relatable to the learner. This can be achieved by providing demonstrations that

mimic what the learner is likely to see on the job. During the demonstrations, the food handlers should be able to visualize the skill, scenario, and environment where the skill will be performed.

One of the focus group members said, “Hands-on is a huge thing, because although you might say it, not everyone's going to comprehend what you're saying. But when you physically do it, then they go, ‘Oh, okay, now I've got it!’ And then you can help correct them as you go along. I find that they tend to remember it better by actually having those hands-on involvements, such as using and calibrating a thermometer, wiping the stem with an alcohol wipe, and inserting the probe in the proper place in a food item.”

An important outcome of food handler training is behavioral change by the worker in the workplace. The next section of this report provides information about techniques that can facilitate behavioral change.

Behavioral change is vital to food safety

According to former FDA Deputy Commissioner for Food Policy and Response Frank Yiannas, “Achieving food safety success requires going beyond traditional training, testing, and inspectional approaches to managing risks. It requires a better understanding of organizational culture and the human dimensions of food safety. One of the most common contributing causes of foodborne disease is unsafe behavior (such as improper hand washing, cross-contamination, or undercooking food). To improve the food safety performance of a retail or foodservice establishment, an organization with thousands of employees, or a local community, you must change the way people do things. You must change their behavior. In fact, simply put, food safety equals behavior.” (2)

Behavioral change frequently depends on the culture in a retail food establishment. It starts with top management and trickles down to the establishment manager, the department managers, and ultimately food handlers. Food handlers can learn how to do things correctly but may encounter problems if there is a culture that does not support food safety in the workplace. A member of the focus group said, “Sometimes food handlers are properly trained and possess the required knowledge and skills. However, when they report to work there is nobody there to ensure food handling skills are performed correctly. In this atmosphere, the food handler is likely to do whatever they see others doing even when they think it is wrong.”

Continuous Training has been found to be very effective for influencing behavioral change by food handlers as related to food safety and sanitation practices

Continuous on-the-job training should be used to reinforce the proper application of knowledge and skills in the workplace. This can be accomplished by conducting routine observations to identify problems and the need for retraining. Management staff should lead by example. They should be role models for employees by engaging in proper handwashing, use of food thermometers, and measures to prevent cross-contact/cross contamination. Managers should define expectations and expected outcomes and measure/report and debrief for improvement. Equally important, managers must be effective leaders who are good communicators who food handlers respect. Managers should make sure the terminology used for the evaluation/skill assessment is in sync with the duty being performed on the job. Finally, managers should recognize and reward individuals who perform skills properly and be prepared to provide additional training for those individuals who do not.

One of the focus group members said, “We use a third-party group to perform audits. The auditors can also provide training opportunities that change on a monthly basis to meet the changing needs in the establishment. Hands-on demonstrations where food handlers are asked to demonstrate skills with immediate feedback have been extremely effective at creating behavioral change.”

Behavioral change depends on culture

Regulators can play a role in promoting behavioral/cultural change in food establishments. Though inspectors are in food establishments only a few times per year, they can be role models and provide demonstrations for staff. They can help the operator and food handlers understand how foodborne illness can impact themselves, their families and the customers who frequent their business. Inspectors can also work with operators to incorporate measures for controlling risk factors into traditional cultural foods and recipes. A regulator in the focus group said, “Our best opportunity is giving operators options that are going to be practical and safer while retaining some of the (food safety) cultural competencies that we are trying to implement. If after you leave, they actually apply the changes and buy into it, that is behavioral change that is going to stick.”

Elements required to effectively influence behavioral change

Teaching learners to understand the “why” for what they are doing is important. To accomplish this the instructor must teach learners what to do without being overly technical, and they should talk with the learner and not at them. Whenever possible, the instructor should make the information personal. For instance, they can highlight how not following food safety principles and practices correctly can adversely affect the customer, their children/parents/guardians/grandparents. Another way to make it personal is by using examples of how past foodborne outbreaks have adversely affected the company/brand where the outbreak occurred. In some

instances, companies have lost business or even worse have gone out of business as a result of a foodborne outbreak. Situations like this have cost workers their jobs.

Some tools that can be used to facilitate behavioral change include:

- Using real world examples of how failure to follow prescribed food safety principles and practices has caused foodborne illness outbreaks or allergen reactions,
- Involving employees in the development process. For example, when trying a new chemical or procedure, get employee feedback on how it works. Let them be part of the assessment and provide feedback on the hazard or process,
- Using case studies – what would you do? Then have the team evaluate what the actions were and make improvements on,
- Helping operators and food handlers understand the ‘why’ behind food safety, and
- Explaining the higher-level risks of certain things – for example, is it more important to clean walls or to wash hands? Why is one of these activities more important than the other? It is all about context.

Achieving behavioral change after training

Food safety training alone does not influence behavior change. On-the-job training, incentive programs, positive/recognition messages from all levels of management and consistency will help drive behavioral changes. To achieve behavioral change there must be buy-in from all levels of management including the Chief Executive Officer. Effective communication from top management about the company’s commitment to food safety is an essential prerequisite to behavioral change.

Some of the most common steps required to achieve behavioral change are:

- Continuous training – A “once and done” approach does not work for most workers, Continuous training is required to reinforce what the worker was taught previously and how to apply it in the workplace,
- Positive Reinforcement – Provide positive reinforcement by recognizing workers who are following proper procedures and coaching to correct mistakes when they are observed. Incentive programs reward positive behavior, highlight achievements, and recognize when tasks are done correctly. Incentives can consist of positive/recognition messages from all levels of management, small monetary rewards, etc.,
- Creating an environment where people feel comfortable will help facilitate behavioral change. Workers should feel comfortable asking questions, challenging the norm, making mistakes, and being corrected, and
- Provide consistent feedback when providing positive reinforcement.

Dealing with Obstacles to Behavioral Change

Trainers must accept that some people may be resistant to changing their behavior and understand why they are resistant. It may be due to the beliefs of the individual or the food safety culture at the establishment they work at. One focus group member put this in perspective when they said, “All the training we provide ultimately does not work if the culture is bad. If you don’t have the right food safety culture behavioral change would not change.”

Another focus group member said, “Achieving culture change within an organization is not a short-term process. It must start with buy-in from ownership and then work down through managers and employees. In an organization that has many stores and employees this process can take years.”

Finally, a focus group member stressed the importance of empowering employees to function as food safety ambassadors. They would become the face of food safety in the establishment and would be recognized for their efforts.

Changing behavior is not easy or fast, yet according to the focus group participants, the end results are worth the time and effort.

The focus group also identified barriers that must be overcome when teaching food safety and sanitation to workers. These are summarized in the next section of the report.

Barriers that must be overcome when teaching food handlers about food safety and sanitation

To enhance the training opportunities for food handlers, trainers and training developers should consider potential barriers. These barriers exist whether training is done in a classroom setting, computer-based, self-paced with online modules, or using demonstration of practical skills in the actual work setting. Barriers that must be overcome when teaching food handlers about food safety and sanitation include, but are not limited to:

- language, literacy, and education levels,
- limited training resources; differing learning styles,
- cultural factors and norms,
- lack of buy in by management and the food handler, and
- time constraints; and high employee turnover rates.

These barriers are not unique to the training of food handlers. Trainers and training developers, whether in industry or regulatory, are continuously searching for ways to overcome these barriers. Training should be adapted to differing learning styles. Common learning styles are:

- visual where students learn by seeing something done,
- auditory where students learn by hearing about or discussion of something, and
- kinesthetic where students learn by demonstrating the knowledge or skill they have learned.

Trainers should know the characteristics of the individuals they are training and adapt the training to fit the learning styles, language, and culture of their trainees. According to focus group participants, English is a second language for some food handlers, making this a training barrier. Food handling training in the classroom and online may need to be offered in multiple languages. Literacy and education levels should be considered when developing training platforms, materials, flyers, visuals, etc.

Due to different cultural factors and norms that exist, there may be existing food handling practices and personal hygiene habits that are not considered acceptable practices by the FDA Model Food Code. Even for the experienced food handler, relying on past experience can give them a false sense of what they actually know. Therefore, food safety messaging must seek to overcome previously learned practices and habits.

The lack of food handler buy-in where they don't see the value of what they are learning can be a barrier for trainers and food establishment owners and operators. The food employee may view food safety as overly complicated. In this case, teaching by addressing the "What is in it for me?" and "How does it impact me?" perspectives can help.

Developing a food safe mentality takes time and is a constant work in progress. According to the focus group members, time constraints can be a barrier to food handler training. The impact of time constraints can be reduced by:

- not presenting too much food safety training information at one time,
- incorporating training into something done on the job,
- focusing on skills and practices essential to a specific position or workstation, and
- building safe food handling practices – such as proper handwashing, prevention of bare hand contact with ready-to-eat foods, and food temperature checks – into a routine process or recipe so food handlers don't have to stop and perform an extra step.

According to focus group participants, a high employee turnover rate is a major barrier for the food industry. Employee turnover makes the continuum of a food safety environment and food safety culture more difficult to maintain because new food handlers require continuous training.

The next section of this report will provide information about the teaching styles preferred by food handlers.

Methods for teaching about food safety and sanitation that are preferred by food handlers

Blended courses with in-person and virtual components that offer a combination of computer-based training, classroom instruction, and demonstration offer the most effective means to teach food handlers. Trainers can use this approach to teach the same food safety topic by recognizing and accommodating different learning styles. It is a means to provide the most appropriate tools and resources to help reinforce key concepts.

Demonstration and classroom instruction provide the opportunity for students to ask questions at the time of training to get clarification - something computer-based and non-interactive training lacks. Although the most effective, demonstration and classroom instruction is the most inefficient in terms of labor, time, and space constraints, especially for larger businesses. For this reason, computer-based training tends to be the fall back, so improving the digital experience for the learner is essential.

Alternative and supporting tools for training like micro-learnings, short videos, personal stories, simplifying the science behind the food safety rules, photos of what right looks like, etc. These training tools take note of generational differences and can be used effectively for seasoned as well as new hires to reinforce food safety and sanitation skills and practices.

Types of training materials food handlers prefer in conjunction with food safety and sanitation training

The types of food safety training materials and tools used during food handler training programs depend on the needs and preferences of the learner. According to the focus group members, food handlers often prefer a combination of print and digital materials with translations to other languages available when possible. When using digital materials, trainers must consider if the learner has accessibility to digital tools and how comfortable they are with using digital technology. Training materials should be customized to reflect what the trainee will be doing and the settings/locations they will work in.

Some examples of materials and tools used include the following:

- Pictures to demonstrate right versus wrong,

- Short video clips,
- Flash cards,
- Gamification,
- Memes,
- Case studies with some type of “wow factor”, and
- Print versions of job aids/posters/cue cards.

When using digital materials, the trainer must make certain the delivery technology, program content, and language is appropriate for the learners. Decisions must be made to create a new or modify an existing video by adding subtitles or translations. If the trainer prefers to show food safety videos, the ideal option would be to shoot videos in their own establishments. This will help the learner see how food safety principles and practices are applied in their work environment.

Locations that food handlers prefer when participating in food safety training programs

Creating an optimal space for instruction is important when training food handlers. Training space should enable trainees to maximize learning consistent with their job responsibilities and position held. Many factors affect creating an optimal learning environment such as space constraints, access to the location, distractions, work rules, and job responsibility.

Conventional food handler training is typically conducted in a training room that is separate from the work environment. This option accommodates a larger number of people and provides less distractions.

In some instances, front-line employees feel more comfortable when training is held in their work environment with hands-on demonstrations. These individuals prefer training that is customized to their specific job and provides an opportunity to ask questions at the time of the training. Training in the workspace can be difficult due to space constraints and distractions.

When selecting a training location, the sponsor should choose locations that accommodate the use of tools and devices for presenting information and conducting hands-on demonstrations. In addition, consideration should be made of how a person is able to attend a training course. Arranging training sessions somewhere other than the work location may be difficult for them to participate in. Additionally, there may be legal issues with having employees perform work training from home or using their own devices.

Duration and frequency that food handlers prefer when participating in food safety training programs

Training for new employees is typically conducted within a few weeks of hiring, and the duration varies depending on the company's protocol. Sometimes the orientation training combines food safety training with other topics. The duration based on the focus group participants is typically from two to four hours. One respondent indicated that if the orientation training is too long the information can be overwhelming to the new employee.

When it comes to refresher training there are some programs that have two to three hours of annual training. Knowledge retention is best with frequent breaks, time to process the information, and activities that involve active learner participation. According to the focus group there is a movement towards microlearning. This approach presents topics in short segments that don't exceed 10 minutes. These segments are frequently followed by quick check-ins to provide additional training or reinforce key knowledge and skills. Others have videos on demand and utilize QR codes and company tablets to access the training. Content should be interesting, fun, and focused.

On-the-job training should be conducted by a person who knows the food safety aspects of the job and should last until the food handler has mastered the skills necessary to do the job correctly. Depending on the learner and the task, retraining may be required to ensure the learner is able to do the job safely.

Additional training may occur through creative means such as once-a-week "toolbox" or "mini bites" that provide a single topic that the manager will share with the employees. This allows training on issues that have been identified on inspections or used to reinforce food safety topics. Other creative means to get food safety messages out to the employees are to use short training videos and short catch phrases during screensaver moments to remind employees to improve food safety practices. These often point the employees to resources, food safety topics and myth busting concepts.

Do you measure the effectiveness of your training programs and if so, how do you do this?

Based on feedback from focus group members, the effectiveness of training can be measured in different ways. The most common way of measuring the effectiveness of training is whether or not the trainee is able to pass an exam that assesses knowledge. A second way to measure training, which is deemed to be better but used less often, involves observations of the food handler performing their duties on the job. A third way of measuring effectiveness is to measure compliance to training topics based on third-party audit and

inspection performance. For example, a training topic is provided and in the next quarter the audit company measures if there is improvement on that training topic. The use of dashboards to gather information regarding pass/fail rates, reduction in health department and internal food safety audit violations, and decreases in customer complaints are also being used to measure effectiveness of training programs. Information from these dashboards can also be used to determine if additional training is necessary.

Audit and inspection tools are available and data are being collected. However, according to focus group participants digital systems and technology need to be developed to analyze the data and provide statistics on the likelihood that certain behaviors can lead to certain results. This data would be valuable if it could predict actions and behaviors of food handlers and how these actions and behaviors can contribute to or prevent foodborne disease outbreaks. This development of metrics can help predict and follow up that the food handler applies food safety training in the work environment.

Training is an important component of food safety in the workplace. According to a focus group member, “The default question when a mishap occurs is ‘was the person trained’? Equally important is determining the root cause of why the mishap occurred in order to put into place the required corrective actions.

Some companies tie food safety observations into the management’s bonus structure to keep this concept at the forefront. Through programs like this, identification of training needs and providing continuous training can become priorities for the establishment.

Conclusion

The importance of food safety training is well documented. Some potential benefits for retail food establishments that have a properly trained workforce include meeting customer expectations, scoring higher on regulatory inspections, having better worker morale, and an enhanced food safety culture.

According to a focus group member, “Creating a strong food safety culture in the workplace is essential for ensuring that the food we produce reaches the consumer in a safe and healthy state. A strong food safety culture is not just about following rules and regulations - it's about creating a shared commitment to food safety among all employees to follow best practices, report potential problems, and strive for continuous improvement. A strong food safety culture emphasizes the importance of food safety throughout the organization, from the top down, and is supported by clear policies, procedures, and training.”

For training to increase knowledge and change behavior it should be engaging, interesting, fun, relevant to the task at hand and have practical application. The language used in the training should not be overly technical, and training information should be relevant and

specific to the daily work tasks related to the food handler's position. The use of digital technology, graphics, checklists, and reminders can reinforce good food safety practices.

Embracing a food safety culture and having trainers that connect to the food handlers are keys to success. The use of stories and personal experiences begins the connection process. Effective training uses these connections for knowledge transfer and behavior changes. Finally, continuous training and oversight on the job are required to provide constant reminders of key concepts and skills related to food safety and reinforce desired behavioral change to ensure workers are correctly applying what they have learned on the job.

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