Type: Innovative Idea

Shop Safety Checklist – Got the App?

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Introduction / Need for Innovation

Shop safety is an old topic but continues to be an important one for agricultural mechanics teachers. McKim and Saucier found that more importance is placed on safety by newer teachers (2013). Newer teachers may not be as knowledgeable as veteran teachers. Many publications are available covering facilities and safety instruction (Pennsylvania Department of Education, 2002; Washington State Department of Education, 2002; Utah State Board of Education, 2002; Virginia Department of Education, 2019; Alaska Department of Education and Early Development, 2001). However, most of the focus of teachers appears to be on training students to work and use tools safely. Teachers have been long encouraged to give safety instruction, test their students, and file the results to demonstrate their diligence. However less emphasis has been placed on the shop environment. In many schools the shop teacher may be the only expert in these matters. In these more litigious times, there is an elevated need to evaluate facility safety and document the evaluation. The evaluation process should lead to a higher awareness of facility condition and correction of deficiencies.

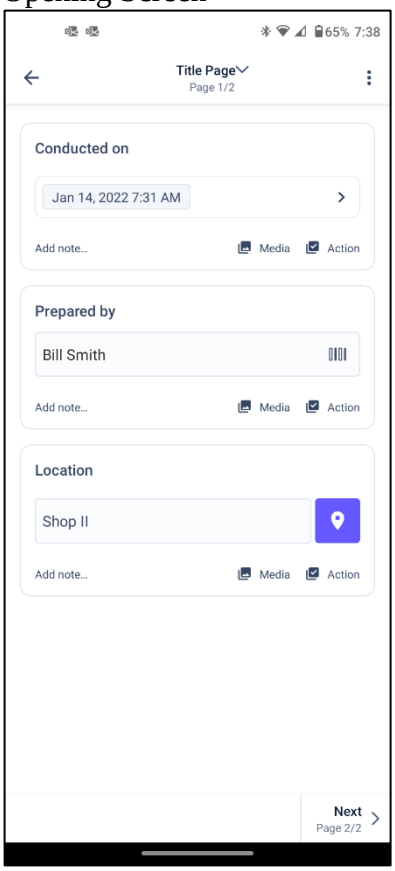
Bear & Horner (1986) proposed a checklist for shop facilities in their teaching methods book. The California Ag Teacher's Safety Guide (2017) has a checklist for shop facilities. Shop safety recommendations and checklists can be found in other CTE safety guides as well (see references).

How It Works

iAuditor (iAuditor, 2021) is an online web based tool used for industry safety inspection. It includes a phone/tablet based app than can be used for field inspection.

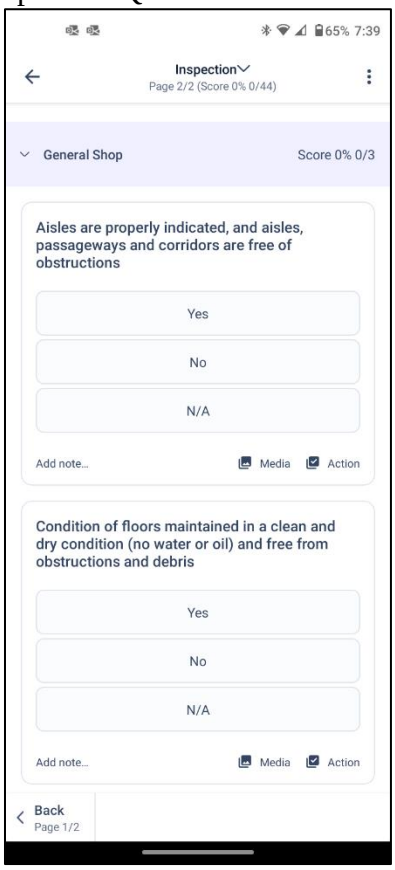
A checklist was developed based initially on the list provided in the California Ag Teacher's Safety Guide (2017) and modified to include new items and in consultation of other sources (see references). Checklists were created as Word documents and imported into iAuditor. The process was simple and required only minor editing. In iAuditor two checklists were created; an annual checklist which is a comprehensive checklist designed to be used annually and a periodic checklist which was a subset of the larger list containing only items that were likely to change during the year (e.g., “aisles clear of debris”). The checklist was broken down into sections such as General Shop, Woodworking, PPE, and Fire for easier use. Each item can be answered Yes, No, or N/A. Photos (media), actions, and notes can be added to each item for additional documentation. The inspection results (including photos) are stored on the iAuditor web site and can be exported in a PDF report. A percentage score of passing (Yes) items is provided as part of the inspection. Shop teachers were recruited to test the app and added to the “team” in iAuditor. To use the app teachers simply installed

Figure 1
Opening Screen



it using the Play Store or the App Store, then opened the template to start the inspection. Figures 1 and 2 show sample screens (Android app).

Figure 2
Inspection Questions



Results to Date

iAuditor was tested in four secondary schools and the author's shop. Feedback was solicited using a Google form. All participants used the iPhone app and the author used the Android app. All participants had multiple shops at their schools such as a wood shop and metal fabrication shop. Teachers ranged in experience from 1 to 33 years teaching shop. The average time for the annual inspection was 28 minutes and for the monthly inspection it was 8 minutes. Participants commented that time would be reduced with additional use as they became more familiar with the app. Participants reported that the app was very easy to install and use, the reports were useful, and overall the app would be very helpful to improving shop safety. All participants commented that they would like to customize the checklist for specific shops by removing unused items.

The consensus of the participants was the phone app made the process easy and documentation over time would make them more aware of the conditions in the shop. New teachers thought that having the vetted checklist provided additional credibility to the process.

A guide to using iAuditor was created based on the experience of the initial testing of the app. The guide outlines how to set up an account and get the facilities and monthly checklist templates. Suggestions for use and customization are provided in the guide. See: http://agedweb.org/TeacherResources/facilities/.

Future Plans/Advice to Others

iAuditor appears to provide an easy to use method to make and document periodic safety checks of shop facilities. The app allows teachers to take a pro-active approach to facilities safety and requires very little investment of their time. Teachers are encouraged to customize the checklist for their individual needs (e.g., removing items that don't apply to a particular shop). An additional guide to editing the template in iAuditor is being produced. The concept of using this tool could be expanded to other school facilities such as greenhouses and farms. Checklists for these facilities are provided in the California Ag Teacher's Safety Guide (2017) and other publications. While this idea was implemented in secondary schools it is applicable to college and university shops as well. Pre-service programs could use the app as part of their training programs, for example in a teaching ag mechanics methods course or during student teaching.

Cost

iAuditor is free for up to 10 teachers per account. This should cover even larger departments. The actual checklist used for this exercise is posted on the site (no charge).

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