
DO POSTERS WORK AS AN EFFECTIVE TOOL TO IMPROVE WORKPLACE SAFETY?

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There is a reason why workplace safety posters are one of the most popular methods for communicating safety messaging, supporting training and enhancing safety culture: They work, and can be an important part of an effective safety program.

Though seemingly simple, good posters have the ability to tap into the psychological principles of perception and cognition: human evolution and biology cause us to see and understand certain visual clues better than other types of communication, including text.

By utilizing these psychological principles, effective posters can promote retention and awareness of critical safety messaging that enhances and builds a healthy workplace safety culture.



Background

According to OSHA, numerous studies have examined the effectiveness of injury and illness prevention programs at both the establishment and corporate levels (e.g., Alsop and LeCouteur, 1999; Bunn et al., 2001; Conference Board, 2003; Huang et al., 2009; Lewchuk, Robb, and Walters, 1996; Smitha et al., 2001; Torp et al., 2000; Yassi, 1998). This research demonstrates that such programs are effective in transforming workplace culture and lead to five major benefits:

1. Reductions in injuries, illnesses and fatalities
2. Lowering workers' compensation and other costs
3. Improving morale and communication
4. Enhancing image and reputation
5. Improving processes, products and services

The design of effective programs takes thought and effort. According to OSHA, studies show that effective programs include “management commitment and leadership, effective employee participation, integration of health and safety with business planning and continuous program evaluation.” Research suggests that programs without these features are not as effective (Shannon et al., 1996, 1997; Gallagher, 2001; Gallagher et al., 2003; Liu et al., 2008).

In addition, any effective safety training program must appeal to multiple types of human learning styles (i.e. visual, auditory, participatory), so a combination of different media, channels and interactivity is needed to appeal to multiple segments of a workforce population.

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The Power of Visuals

Robert E. Horn, an award-winning scholar at Stanford University’s Center for the Study of Language and Information, explains: When words and visual elements are closely entwined, we create something new and we augment our communal intelligence ... visual language has the potential for increasing ‘human band-width’—the capacity to take in, comprehend, and more efficiently synthesize large amounts of new information.”

Psychologists explain the impact of visuals through the Picture Superiority Effect, which

states that concepts are much more likely to be remembered experientially if they are presented as pictures rather than words. According to the Dual-Coding Theory of human cognition (Paivio, 1971, 1986), memory exists either (or both) verbally or “imaginally.” Concrete concepts presented as pictures are encoded into both systems; however, abstract concepts are recorded only verbally.

An expert in instructional design, Matthew Leavitt, explains that the use of visuals “helps build mental models by directing attention to

important information, organizing that information in a meaningful way, and integrating verbal and pictorial models into comprehensive mental models.” (Leavitt, Matthew. *Learning from Visuals: How Well-Designed and Well-Used Visuals Can Help Students Learn*, Wiley)

“Showing people meaningful, content-based visuals, as opposed to text, lessens their cognitive exertion and improves over-

rall experience,” says renowned cognitive neuroscientist Dr. Stephen Kosslyn, former chair of the Department of Psychology at Harvard University. With more than 40 years of research, Kosslyn has focused on how the brain recalls visual stimuli in the form of mental imagery and how psychology can be used to facilitate effective visual communication.

Posters Can Be an Effective Education and Training Tool

Unlike any other workplace safety training and education material, a well-designed poster can tap into scientifically-proven psychological frameworks that enhance retention and improve learning impact.

Under the Feature Integration Theory (Treisman and Gelade, 1980), for example, visual features are registered by the human brain early and automatically

and are coded rapidly using the preattentive process.

Experiments show that these features include luminance, color, orientation, motion direction, and velocity, as well as some simple aspects of form. Well-designed training and education materials can incorporate such elements to maximize impact.

Posters can also help avoid “information overload,” a case in which too much information

is presented to be effectively processed and absorbed. Research shows that too much information will not only be ineffective, but can actually result in reduced understanding of material (Mayer, Heiser & Lonn (2001). *Cognitive Constraints on Multimedia Learning: When Presenting More Material Results in Less Understanding*. *Journal of Educational Psychology*, Vol. 93, No. 1, 187-198).

The Benefits of Safety Posters

Properly designed and integrated with other training and education techniques, posters excel at providing four specific benefits:

1. **Simple messaging.** Safety messaging that is simple is most effective, and posters excel at providing straightforward information in a bold, consistent way. "Safety messages that are overly detailed, contain too much information about too many procedures, and do not differentiate the more important activities run the risk of being ignored," says Prof. Kevin Real. "On the other hand, straightforward messages that are focused and prioritized can be powerful." (Information seeking and workplace safety: A field application of the risk perception attitude framework. *Journal of Applied Communication Research*, 36, 338-358).
2. **Demonstrate company commitment.** Posters are one of the most consistent tools to demonstrate safety culture in a workplace. They are highly visible and always present. "There are many benefits from developing a safety culture at your company - none of which is more valuable than employee loyalty," says Daniel R. Nobble, Plant Leader, Fiber-teq LLC. "When employees know you care about their personal well-being and you prove that to them in their workplace, it increases morale, engagement, awareness, motivation and productivity."
3. **Focus on positive behaviors.** Effective posters will promote positive behaviors in the workforce, which is the cornerstone of any effective safety program. In almost all cases, workplace injuries and fatalities are preventable. It can be said that people don't work in dangerous environments: they work in hazardous environments that we make dangerous by not following safe work procedures.
4. **Provide alternate channel,** The visual elements on a poster, placed in prominent positions in a workplace, are inescapable and unavoidable. In fact, there is no other medium that is consistent and ever-present. Research shows that information presented across different channels and in varying formats improves safety message retention and comprehension. Posters are an easy-to-implement, consistent channel for workplace safety messaging.
5. **Help maintain interest.** Every safety program needs to provide variation to maintain interest and focus. If humans are exposed to the same message in the same place repeatedly, we ultimately "tune out" and stop seeing the message. If, on the other hand, messaging is rotated and interesting, people take note of changes and stay engaged. Posters that are periodically rotated provide a simple, easy, inexpensive way to maintain interest in safety messaging.

Posters Can Be a Key Component of Effective Integrated Learning

Researchers at the Harvard Graduate School of Education's Zero Project have been studying integrated learning across a range of settings. They have found interdisciplinary understanding to be crucial for modern-thinking students, and define it as a rich set of teaching, learning and technological components.

These can include different pedagogical strategies, including direct teaching, a combination of theoretical and practical knowledge and various formats. Regardless of the tools or channels, however, a positive attitude and behavior on the part of management remains critical: no one will respect a message in any form if it is not taken seriously and delivered with enthusiasm by those in positions of leadership and influence.

Application in the workplace setting suggests that messaging and learning should cut across learning media and delivery options and include lectures or talks, simulations, exercises, passive reminders and practical applications. This undoubtedly places a greater burden on safety training supervisors and managers, who must now integrate messaging, visuals and ideas across a mix of channels and a variety of media.

Posters have the ability to deliver critical components of an integrated program, including permanency (posters are always visible), accessibility (posters require just a glance), immediacy (they require no log-in or meeting) and situational relevance (posters can be visible in workspaces where accidents happen).

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Should You Make Your Own Safety Posters?

Many safety professionals rationally ask whether they should produce their own safety posters and messaging. After all, such tools look relatively simple, with few words and simple graphics.

So, should you make your own safety posters?

You should consider doing so – but only if you can develop materials that accomplish each of these objectives:

1. Engage employees. Messaging that fails to engage is ineffective. In a crowded world in which people are bombarded with messaging on a constant basis, it is essential to cut through the clutter and catch people's attention. Effective posters must engage people, enabling the messaging to take root.

2. Communicate effectively. The overall message, language, tone, colors and print quality all contribute to message effectiveness (or ineffectiveness). Posters comprise a visual communication tool, and require attention to detail.

3. Demonstrate company commitment. Unfortunately, many “home-made” safety

posters provide the exact opposite impression: that the company cares so little that it is unwilling to invest in professional messaging so as to make safety a priority.

4. Utilize visual communications best practices. Not all image-based stimuli are created equal. Research shows that interesting but conceptually irrelevant or off-topic pictures in educational or training material can actually have negative effects on learning (Mayer, Heiser & Lonn, (2001), Cognitive Constraints on Multimedia Learning: When Presenting More Material Results in Less Understanding, Journal of Educational Psychology, Vol. 93, No. 1, 187-188; Tversky & Morrison, 2001; Mayer, 2003)

5. Maintain interest. People become immune to messaging that becomes stale. So even the most effective communication tool needs to be changed and refreshed. Best practice suggests changing safety posters at least monthly in order to maintain interest and focus.

For these reasons, most professionals choose to work with an established outside expert that professionally develops workplace safety posters.

Why Use Cartoons When Safety Is Such a Serious Matter?

Some safety professionals believe that the use of cartoon characters or other “entertaining” messaging detracts from the serious issue of safety. As a serious subject, safety should always be treated with decorum and solemnity, say such professionals.

Safety is a matter of life and death, but humor can be a powerful medium in cutting through a cacophony of voices and messaging to help change behavior and raise awareness for positive ends. Effective behavior modification requires carrots and sticks – as well as variety – so an effective program may make use of multiple messaging styles to appeal to different people and a variety of workplace demographics (e.g. ages, levels of education, primary languages, etc.) Remember that safety messaging is primarily intended to speak to your workforce, so consider what is likely to catch their attention and interest, rather than gauge what appeals to you as a manager.

Obviously, every safety professional needs to assess their own workplace culture to determine suitability for various styles and types of messaging. But cartoons should not be necessarily dismissed out of hand: they can be more effective at conveying positive behavior, retention and cognition than other styles or methods.



Best Practices for Displaying Safety Posters

- Select posters that are relevant for your business.
- Prominently display posters where employees are likely to see them.
- Consider using a frame or other method to bring attention to the posters.
- Replace or rotate posters periodically to maintain interest. Recent research shows that 74% of safety professionals believe safety posters should be changed no less than quarterly (50% believe it should be done no less than monthly, and 16% believe it should be weekly or bi-weekly).
- Use the posters in your safety training as a visual aide. For example, if you plan to display a poster on safe lifting, use the poster first in your training, then display it on the wall.

Conclusion

In summary, an effective poster program can help you engage employees, enhance a culture of safety and get important messaging to any people in a facility or workspace. Posters can be excellent sources of information and can provide consistent reinforcement of important messaging that is inescapable and may not be achievable through other media or methods.

In particular, posters can excel at: Engaging employees, communicating effectively through the use of simple messaging, demonstrating company commitment to safety, providing an alternate channel that reinforces other safety training and maintaining continuing interest in safety awareness and messaging.

References

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