

Poka-Yoke or Error-Proofing

Have you ever had to repaint a wall, or steam clean a sofa, because your child thought it made a great canvas for his or her latest crayon masterpiece? Crayola crayons were invented in 1903 and parents have been dealing with this problem ever since. Or they did until a few years ago.

That's when Crayola® introduced a new way of coloring. Wax crayons are replaced by markers and *magic* coloring books. The markers only color in the books! They don't mark on walls, carpets, furniture, or kids! That's *poka-yoke* – making it difficult or impossible to make a mistake.

There are different degrees of poka-yoke, from passive to assertive to aggressive and finally absolute. Take the example of an online order form. The webpage might have a comment on the top saying something like "Please submit the following information". That's a passive approach. Alternatively, it might be set up with red asterisks (*) calling attention to required information, a more assertive means of calling your attention to the desired response.

An aggressive approach might be programming the webpage so that you must enter five numbers in the zip code field. Letters or less than (or more than) five digits would prevent you from moving on to the next page until you correct the error. But even then you could enter any series of five numbers and they wouldn't necessarily be the correct zip code for your address, would they?

An absolute poka-yoke would be to tie the order form in with the US Postal Service's zip code locator system. It could then compare your street number and name along with the name of your city and state to the database of zip codes and, if necessary, change what you enter to the correct data.

There are many other examples of poka-yoke in our everyday lives. The chime that sounds to remind you to fasten your seat belt, or turn off your headlights is one. The out of balance sensor in your washing machine that interrupts the cycle if all the clothes end up on one side of the washtub is another. In the office we have out of paper sensors in our printers that stop the printing process so toner isn't wasted printing on nothing but the printer drum. Even the caller id on our telephones is a form of poka-yoke. How often have you misdialled a number and immediately hung up when you saw the name of someone other than the person you were trying to reach pop up on the screen?

Fax machines and printers usually have little diagrams molded into the paper feed area showing us whether we should put our original in face up or face down. Some offices have motion detectors connected to the light switches that turn off the lights when no-one is in the room.

The busier we become and the more we multi-task to meet our customer's needs, the more helpful these little reminders and warnings become. A great way to identify the need for poka-yoke is to think about common little mistakes we make often. Consider the reason you're able to make the mistake and then try to develop ideas for poka-yoke techniques you could implement to prevent future errors.

Can you think of any examples?