

Safety Friday: Do in-class
safety presentations impact
student behavior and
perceptions of
laboratory safety?

Paul Morgan
Anne M. Wilson



The project

Used industry example of safety beyond the laboratory

“Safety Friday” Fall of 2011

“Safety Friday; Introducing General Safety in an Undergraduate Chemistry Course” Anne M. Wilson. *Professional Safety; Journal of the American Society of Safety Engineers*, **2014**, November, 60-61.

But, is it working?



The Evaluation

- Compare a “Safety Friday” class to a “typical” class
- Survey on safety
 - Check boxes
 - Free response
- Safety Friday, n = 38
- Control, n = 44
- Additional questions on Safety Friday

Safety Friday and Lab Safety

- 10 videos
- 1 lab safety
- 9 general safety
- Most were less than 5 min
- Variety of safety topics pertinent to group, local situation, time of year, etc.
- Assignment to create their own safety video



Videos:

Topic	Liked	Favorite
Lab safety	13%	0%
Active shooter	50%	18%
Surviving a water crash	32%	3%
Dumb ways to die	95%	55%
Roundabout safety	24%	3%
Halloween safety	42%	3%
Safety slideshow (ladders)	11%	0%
Thanksgiving safety	74%	16%
Airline safety	58%	8%
Holiday lights	11%	0%

Safety Friday:

Answer	% Response
Gives me the opportunity to learn about safety in a broader context	82%
Is a fun break from organic chemistry	97%
Is not really worth my time	0%
Is something I have shown a student who is not in this course	58%
Is something I heard about from a previous student who took this instructor	11%
Is cute, but I don't really see the point	0%
Is not something I see applying to my life	8%



How has Safety Friday impacted your lab behavior?

- Gloves! (X11)
- I am safer in my independent research
- Making sure plugs are safely plugged in
- I am more aware in the lab setting (X11)
- Overall more cautious (X6)
- How important safety really is (X2)
- Correct attire! (X2)
- Safe chemical handling

- They were not about lab
- Not really, I'm already safe

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How has Safety Friday changed your behavior?

- More aware of my surroundings (active shooter) (X6)
- Helping hang holiday lights (X3)
- I helped deep fry a turkey (X2)
- Overall common sense and awareness (X20)
- I notice unsafe things more (X2)
- Safety has come up in conversation
- I know how to drive in roundabouts

- I have not needed to use any of them

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Was making your own Safety Friday video useful?

- Made me look up information on something I took for granted (X12)
- Opportunity to be creative (X7)
- Encouraged me to get involved and work with a team
- Easy way to get points (X3)
- Increased awareness (X4)
- Nice study break (X4)
- Something I could use (X5)

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When it comes to safety in organic chemistry:

	Safety Friday	Control
Correct attire is important	100%	98%
Safety eyewear is important	100%	100%
Good laboratory hygiene is important	89%	98%
Wearing gloves is important	95%	77%

“when necessary”

“under certain circumstances”

When it comes to safety in organic chemistry:

Safety Friday:

Discard materials properly

No food in lab

Behavior

Control:

Pay attention to instruction/what you are doing (X4)

Wearing gloves is important when chemicals require/sometimes (X2)

Always have a clean and safe lab environment

Keep your head out of the hood

Don't chew gum in lab

Keep the hood down so that fumes don't get into the lab (X2)



Results

- All our students think appropriate attire is important
- All our students think safety eyewear is important
- More Control students think that good laboratory hygiene is important
- More Safety Friday students think that wearing gloves is important
 - Glove use at “appropriate” times
- More Control students mentioned hoods
- More Control students mentioned paying attention to ones’ work



In organic chemistry:

	Safety Friday	Control
My professor is concerned about my safety	97%	100%
Laboratory safety is important to my professor	95%	98%
My professor has explained what to do to keep myself safe in lab	84%	100%
My professor has intervened when I was not doing something safely	84%	82%

“made suggestions on how to be safer”

Results

- All the students feel the professor is concerned about their safety
- All the students feel the professor thinks safety is important
- The Control group felt they had more explanation of what to do safely
- Both the Safety Friday and Control group felt the faculty member intervened when the student was doing something unsafely



In other situations:

Other sciences classes I have taken are as concerned about safety

Safety Friday: 58%

Control: 86%

I have used something I learned about safety in another class

Safety Friday:

Chemistry and biology

Biology (X3)

Microbiology

Control:

General chemistry (X7)

Biology

Intro to ethics & healthcare



In other situations:

I have used something I learned about safety elsewhere

Safety Friday:

Gloves with biohazards

Hazards of sep funnels

Hanging lights at my frat

Control:

Using chemicals at home

Being cautious with
liquids and chemicals

In the dorms with other
glasses I own



In other situations:

I have used something I learned about safety off campus

Safety Friday:

Went through a roundabout (X2)
How to fry a turkey (X4)
Putting up Xmas lights (X2)
Halloween safety for siblings
Hospital volunteering
How to use a ladder correctly
Airline safety

Control:

Using chemicals at home
High school labs
When working in a kitchen
or other hazardous area
Having hair pulled back out
of the way of chemicals



Results

- For the Safety Friday group, “other situations” was more broadly defined (more inclusive)
- For the Control group, “other situations” were far more centered on lab or lab-like settings
- The Safety Friday group saw more “other situations” for safety than the Control group



Overall Conclusions

- Safety is something that the students in organic chemistry feel that we do well
- Students feel that the faculty members are concerned about safety overall and their safety in particular
- Safety Friday contributes to an overall sense of student safety, not just centered in the laboratory
- Student perception is that Safety Friday makes them more aware
- “Entertaining” safety videos are more popular

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Overall Conclusions

“Safety Friday makes me get out of bed and come to class on Friday mornings”



Thanks

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