

Why?

Using volunteers is a great way to break down the you/them glass wall. It shows that this is not a passive experience. It makes them relate to you as a real person, and you can demonstrate that you relate to them as real people too.

It can also be used for entertainment, humour, or just where you need an extra pair of hands.

Who?

Don't force people to participate! More likely though, you will have a number of people who are desperately keen to come up.

Sometimes you need someone who is super-confident, and a popular child can work well to engage the others' attention. But if you have multiple volunteers, then consider choosing the person your eye just subconsciously slid past - they are likely never picked. I used to like to pick the person sat next to the charismatic one who caught my eye.

Try to avoid giving someone a good appraising look but then rejecting them! Move your eyes quickly across the whole audience before making your decision.

Be sure to choose a mix of different groups / genders / ages / seating positions etc so that you are engaging with the whole audience and it doesn't look like you're playing favourites. Children like to see someone like them up there, and have a very strong sense of fairness. Beware picking the same person twice - if unsure, try saying "hands down if you've already volunteered".

If a school/group is going crazy with the hands up thing, getting up out of their seats, and behaviour is a bit sketchy generally, then saying "I'm going to pick .. someone who is sat nicely" is a good trick.

Ability and Disability

A friend of mine tells the story of calling a volunteer to the stage only to discover that the child had no hands. To their credit, they managed to adapt the demo so that the child could still help. (Flushed with success and relief, they then told the child to give themselves a big clap as they left the stage.)

Some people might have hidden disabilities. If you need them to have a particular ability, it is good to explain what this is before asking for volunteers. Eg "ok I need someone strong to help me hold this", "I need someone who has quick reactions", "I need someone to be my eyes".

Remember some people are unable to read or do simple maths. Again, just let them know what you'll be needing before they volunteer, and people can quietly choose not to put their hand up.

If there is a medical barrier to participation (eg magnets for pacemakers), again just say this up front. Never put someone in a position where they are asked to share medical information, even privately (they may have not shared such information even with their close families).

Welcome to the stage

It can be a scary place, stood up in front of your peers. Make sure they are confident of how to access the stage, and that you are there to give them a warm welcome with a smile and eye contact.

Getting everyone to join you in clapping them up (especially for larger audiences) is a useful way to fill the awkward gap while they make their way to you. The noise also gives you the chance to quietly give them a personal welcome / pep talk apart from that which the audience hears.

Always ask their name at the start - and do your best to use it.

You are now in a HUGE position of power over them, and responsible for their welfare. Monitor their happiness/confidence the whole time they're exposed on stage.

Help them by:

- Never making fun of their name / appearance / accent
- Avoiding turning your back on them or leaving them alone
- Ensuring they know exactly where to stand / what to do at all times
- Giving them positive feedback: "Great", "Exactly like that", "Perfect" etc
- Showing that you like them! You are impressed by them. Give them social kudos.

If they get a bit wobbly:

- Make eye contact and talk to them as if it's just the two of you, rather than talking to the audience.
- Cut the demo short if possible.

If they get very wobbly:

- Asking "are you OK to carry on" doesn't always work, as they may feel a social compulsion to say "yes". Try instead "Do you want to go back now?". If they nod then give them a big thanks/clap just as usual. Don't make a big deal of it or let them feel like they've let you down. If you need another volunteer to continue, be sure to pick them super quick. Don't make it a big deal.

Gender

Watch out for yourself preferentially choosing boys for physical roles, or girls for 'careful' ones.

It's really useful if you can train yourself to avoid using gendered language when referring to audience members. It's easy enough to say "pass them the ball", or "how do you think they did". This avoids a huge number of potential problems.

I have been *mortified* by my mis-gendering of a sturdy, short-haired female teacher as a man (and similarly a willowy long-haired boy as a girl). It can be genuinely hard to tell, even when you think you are sure!

Also of course using non-gendered language is also inclusive of people who are trans, or have other gender identities. The point is just not to make gender an issue, so that everyone can focus on the science

Avoiding gendered language also reduces stereotype fulfilment. This is a psychological phenomenon where people reminded of their identity will perform closer to the stereotype for that identity. This means that by reinforcing someone's female identity, you may well be reducing their ability in (stereotypically male) scientific thinking.

With that in mind, also avoid stereotyping your volunteers eg by admiring a young girl's dress/hair, or assuming that a boy likes cars. Let the interesting/valued thing about them be that they are individuals with scientific, enquiring brains.

The volunteer's task

Make sure they have something genuinely useful, and preferably interesting to do. If they have some agency over how the demo proceeds, that is ideal. If it's really boring but you genuinely need help, you can acknowledge this and make it humorous (eg "I need someone to help me with a really boring job!").

Take time to explain what you need very clearly. They are under stress and may not pick things up as quickly as they usually would. Speak clearly and while facing them - they may not be a native speaker, have a hearing impairment, and/or be partly lip-reading.

If at all possible, physically demonstrate/mime what you want them to do so they can copy your body position/movement.

If timing/precision is important, get them to demonstrate that they have understood by practicing / miming what they are going to do.

If they are doing something physically demanding such as holding something out straight in front of them, check periodically that they are ok with this. Think about whether you can give them a break during the demo to rest their arm.

Take time to pad out the demo to include a chance to talk to / involve them in what is happening.

Not like that ..!

Remember volunteers are not predictable and may not follow instructions! Consider this in risk assessment of all demos - what would happen / what would you do if they ignored your instructions?

If a volunteer is not following instructions because they didn't understand, don't make fun or otherwise embarrass/humiliate them for this. Communication is a two-way street and you're the one in the position of power. Just apologise for not making it clear (even if you think you did!) and take the time to explain more clearly.

If a volunteer is not following instructions even though they understand what you want, don't feel you need to tell them off. Parents can get super annoyed about other people telling their kids off, and anyway it's not appropriate to do so in front of the whole audience.

Instead, just explain clearly/directly that you need them to do it as you've asked, else you'll need to get someone else to help. If they continue messing around, then ask them to return to the audience and get someone else up. You can do all of this without being unfriendly. Smile as they leave, just as though it's the most natural thing in the world. Don't let it become an important/memorable moment compared to other parts of the show.

Thank you!

When you are finished with a volunteer, let them take their seat as soon as possible.

There's nothing more awkward than a volunteer standing alone on stage unsure whether they should have already left, while a presenter addresses the audience to recap what happened in the demo. If you get stuck in that situation, include them in the recap so everyone knows you're aware they're still there.

Always make it really clear when you are finished with a volunteer. Leave them with eye contact and a thank you. Saying something like "Thank you very much. Everyone give a big hand to Fred. You can go back to your seat." makes it clear what they need to do. Be aware that young children may not realise that the social convention is that they should leave the stage at this point.

It's nice to spend a little time watching them leave while smiling and clapping them so it doesn't look like you've washed your hands of them the moment they left your immediate area. Or, in a small audience, to make more eye contact than usual with them in the minutes following their demo.

AstroBoost

These resources are adapted from the Royal Astronomical Society's original AstroBoost project, which was funded by a STFC Spark Award. The project was managed and developed by Dr Jenny Shipway.