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Scientific elevator speeches: a communication and critical thinking tool

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What problem was addressed?

Research mentors at our institution noted that trainees struggle with articulating and presenting key concepts of their work to researchers of other disciplines. Possible reasons include lack of critical thinking about the implications and impact of their research and difficulty organising ideas effectively and translating scientific jargon to everyday speech. Such barriers can impede collaboration in translational research and effective communication with faculty members, administrators, potential employers and funding agencies.

The Scientific Elevator Speech (SES) helps trainees communicate and present research to a general audience in a clear, engaging and concise way. In 90 seconds, researchers introduce themselves and describe the context, research question, approach, findings (if any) and potential impact of their work, and indicate future steps.

What was tried?

An SES programme was developed for trainees at the University of Texas Health Science Center. Participants included undergraduate through to postdoctoral trainees conducting research in basic, population and clinical sciences, from a variety of disciplines.

The programme offered instructional workshops and a competition to motivate participants. Participation in each component was voluntary. The workshop component, developed and led by a faculty member with expertise in scientific communication, involved two 90-minute sessions. The first workshop focused on content and structure of the SES, and the second on styling the SES to be engaging and audience appropriate by using hooks, analogies, anecdotes and everyday language. For the competition, 10 finalists presented their SES to an audience of peers and faculty members. A panel of judges awarded prizes to the top scoring speech and a People's Choice award was also given.

What lessons were learned?

Thus far, over 300 trainees have participated in the workshops, the competition or both, and other institutions have requested workshops. Although the competition gave participants an incentive, deadline and opportunity for public speaking practice, the value of the SES

exercise lay more in the process of composing the speech than in delivering it. The brevity and simplicity of the SES required critical thinking and clarity to identify the broad goals, methods and overall implications of the research. Participants realised that they had gaps in understanding their projects. In evaluations and unsolicited feedback, they expressed that the SES exercise was surprisingly challenging and that the writing process pushed them to a more analytical and coherent understanding of their research.

The process of styling the SES was also valuable, as it drew attention to audience analysis in scientific communication. Many of the more senior trainees (doctoral and postdoctoral) found it unexpectedly difficult to let go of technical jargon and expressed anxiety about appearing ‘unscientific’ by excluding discipline-specific terminology. This opened the door for conversations about distinguishing between occasions where a technical and guarded style is more useful and others where a more accessible and engaging style is more useful. The use of analogy and anecdote afforded participants the freedom to think creatively.

The exercise of thinking critically, translating jargon and summarising key concepts combined with the exercise of thinking creatively and considering the audience's needs led participants to engage and reconnect both cognitively and emotionally with their work.