Conveying psycholinguistic concepts to general audiences: An interactive, problem-solving approach

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As scientists, we strive to conduct research that better explains the world around us, often with the goal of sharing that knowledge with others to enact positive change. However, many of us may feel unsure of how to share knowledge with the general public beyond academic publications. Conducting intentionally designed outreach activities in the community is one way to effectively share our knowledge and improve scientific literacy.

In this presentation, we discuss our approach to outreach, which directly involves audience members in the scientific process underpinning experimental psycholinguistic research and can easily be tailored for audiences ranging from elementary school through adulthood.

Our outreach activities are guided by four principles: (1) Inviting problem-solving to encourage engaged learning and scientific thinking [1], (2) Simplifying terms to focus on important concepts and make learning more accessible, (3) Addressing misconceptions about language by guiding the audience towards our intended take-away messages [2], and (4) Encouraging interaction throughout our activities by allowing the audience to work through the scientific process.

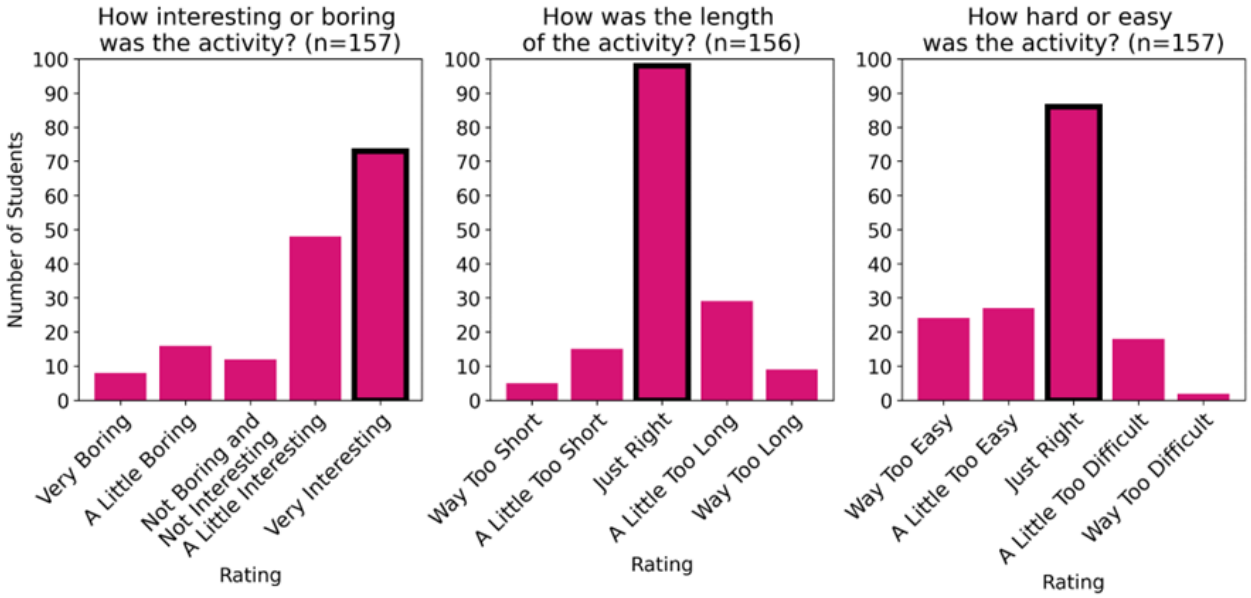
As an example of how we employ these principles, consider our 'How Do Bilinguals Choose What Language To Use?' activity on bilingual code-switching. The audience is introduced to a fictional Spanish-English bilingual student named Jorge and tasked with generating hypotheses that explain how Jorge chooses which language to use. Audience members follow Jorge throughout his day, observing when and where he uses Spanish, English, or code-switches between the two—updating their hypotheses based on the data they receive. In this activity, the audience guides our interactions: their self-generated questions and hypotheses determine what material we cover next as they work towards answering a scientific question. We address misconceptions about bilingualism by showing (rather than telling) that Jorge is an effective communicator in both languages and only code-switches with other bilinguals. The problem-solving process is made achievable through our guidance and simplifying terms (e.g., describing "code-switching" as switching between languages).

Structuring our activities in this way allows them to serve various goals, for both us as psycholinguists and for the communities we aim to reach. These activities increase public awareness of psycholinguistics and language science as a field and career option [3], while also addressing common and harmful misconceptions about language. The audience can engage in scientific thinking with a topic that they may not typically associate with science, allowing more students to gain confidence in their scientific abilities [4]. We also demonstrate how linguists study language descriptively, by showing that differences among individuals are celebrated and can be studied systematically.

We have successfully led outreach activities (in English) with elementary through college students, on Zoom, in classrooms, and at school STEM nights. A subset of our outreach participants (N=157) completed a survey about their experience, which indicated that they found the activities interesting and appropriately difficult (see Figure 1). Open-ended responses further suggested that audience members had learned the intended scientific and linguistic concepts.

In our demo, we will discuss our approach's effectiveness, show samples of our activities, and provide tools for others to employ our activities or create their own activities using our approach.

Figure 1. Audience responses to our post-activity survey about an outreach activity



Note. Elementary students (2nd through 4th grade) completed a survey after doing one of our guided outreach activities. Distributions of responses to the multiple-choice questions are shown here, although participants also answered a few open-ended questions which further suggested that our outreach activities were successful.

References

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