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## Why Bother?

### OPENING WORKSHEET

#### What does PUBLIC ENGAGEMENT mean to you?

When you think about talking with the general public about language, what are you picturing? The focus of this book is going to be on how to talk with the public in free-choice learning locations – museums, festivals, libraries. What do you imagine engaging with people in these settings might be like?

#### Why are you reading this book?

We assume you're reading this because you have some interest in communicating about language with nonexperts in public spaces. But let's go deeper and get personal. You know your own interests, strengths and weaknesses, and long-term goals. Why do **you** want to engage with a public audience? Write down three reasons that are meaningful to you.

This book is about how to talk with members of the general public about science, particularly in informal, free-choice settings. If you have a strong interest in language and how it works, and if you have a genuine interest in sharing that interest with nonexperts, then this book is for you.

Throughout this book, we're going to argue that the best way to engage the general public about language science (or really, any complex topic) is to have honest-to-goodness conversations with people, one-on-one and in small groups. We'll be giving practical advice for how to have good conversations, and we'll guide your development of what we'll call your **DOABLE DEMO**. By the end of the book, you should be able to use your doable demo to get such conversations going. But we also have a long-term agenda: We believe that engaging with the public in an accessible way should be a regular part of the job of working scientists.

If you're currently a working language scientist – whether you call yourself a linguist, a psychologist, an audiologist, a computer scientist, a speech pathologist, an anthropologist, an English teacher, or something else – this book is for

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you. We appreciate that people are interested in language for lots of different reasons and study it from many different perspectives. We've included examples throughout this book that span a wide range of language topics to illustrate how any part of language science can be used to engage with people. We also suspect that your training up to now didn't include much on how to talk with the public, and we hope you will see this book as a form of continuing education.

If you're still getting your training – whether that means you're a graduate student working toward becoming a full-fledged language scientist, or you're an undergraduate who has only recently discovered how amazing the study of language can be – this book is also for you. Engaging with the public is a skill, and the more you do it, the better you're going to get at it. We (both authors!) have taught many college students the core lessons in this book and we have a healthy respect for their ability to use them well. You don't need to be the world's leading expert on a topic in order to convey a sense of excitement about language. What you need is a willingness to try.

### Why Bother?

Most language science classes ask you to learn about how language is structured, how people use it, how children learn it, how it changes, what happens when it breaks down, and so on. Language science has been a very successful field for the last hundred (or more!) years, so there is a lot to know about. If you're passionate about language science, you can easily devote your entire life to learning the field. And traditionally, that's what most experts in the field have in fact done.

So if the science has moved forward so nicely without much engagement with the general public, why should we bother to do it now? One reason is that language is something that impacts our everyday lives in many ways. We believe that understanding how language works is critical for making certain choices, at both the personal and societal levels.

Should parents worry if their child uses a funny past tense form like *runned*? Is it OK to raise your child bilingual? What's the best way for a school system to educate multilingual children? Why is English hard to learn to read? Should we invest government money to encourage people to learn multiple dialects of Arabic? Why do computer assistants like Alexa and Siri regularly misunderstand people who use certain dialects of English? Can people tell what race you are from a telephone call? How can we help children born with hearing loss learn to read? To what extent do face masks make it difficult to understand what someone is saying?

Language scientists know the answers to such questions, and this information can be relevant to social issues such as parenting, immigration,

education, law, national security, and technology development. We would be delighted if the general public came to be more knowledgeable about all of these areas, and your public engagement just might move us toward that goal in a small way.

But the very act of public engagement does something else: It demonstrates that language is studied by scientific experts. There is a wonderful world of language out there, and there are guides who can help you navigate it. When an issue arises that touches on language, the public does have someone they can turn to for expert advice: language scientists.

Of course, if you need a more personal reason to engage with the public, the skills you need to do it well are relevant in many other situations. Knowing how to communicate effectively with a range of people is just plain useful. If your goal is to be an academic, the skills we promote here will come in handy. The average introductory classroom is just a room full of non-experts. The dean of your college is also likely to be a nonexpert in your field, and trust us, it's good to be able to explain to your dean why your work is interesting and worthwhile. Doing interdisciplinary work requires you to be able to talk with people whose backgrounds and goals differ from yours. Even talking with your fellow professors within your own department, you will find that background knowledge differs and it's useful to be able to explain your work in a way that builds bridges to others.

If your goal is not to become an academic, effective communication skills are just as necessary. Outside of the ivory tower, you are likely to interact with a very large range of people coming from very diverse backgrounds. Being able to explain complicated, technical information is highly prized. It is common practice for businesses to foster collaboration among teams of people with different skill sets, so being able to communicate with people who have different perspectives will help you succeed. The principles for being clear and interesting will help you give an excellent professional presentation in any field. Mastering the core lessons in this book will make you a more marketable commodity.

Whether you're motivated by a desire to improve society, your field, or yourself, this book is for you.

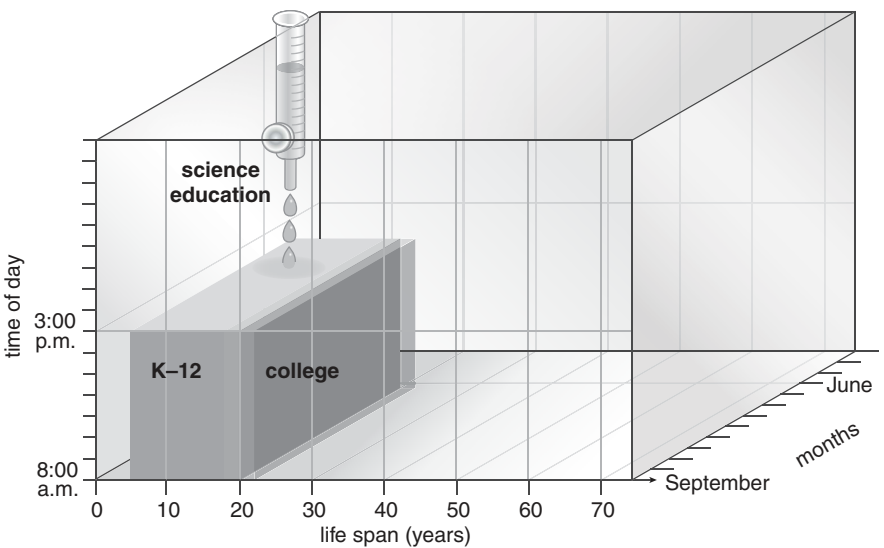
## Talking with the Public in Informal Free-Choice Learning Environments

One distinctive thing about this book is that it will focus on talking with the public in INFORMAL FREE-CHOICE LEARNING ENVIRONMENTS. Before we tell you why we chose to focus there, let's be clear about what these environments are.

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What we have in mind are places such as festivals, libraries, and museums. These are places where people visit in order to have fun and learn a little something. They are *informal learning* environments because they are not in classrooms with a podium or a screen at the front of the room. That means you don't get the usual tools of a classroom to work with – no quizzes, no reading assignments, no homework, no grades. Also, these environments aren't structured like classrooms, where students are often sitting in specific places and the main talker is typically the teacher. These locations are *free-choice* because visitors come and go freely. You might be in a crowd or in front of a booth or behind a cart, and you will need to capture the interest of people passing by and sustain that interest long enough to inspire new thinking about language. If people don't like what you're doing, they will freely choose to go somewhere else!

What kinds of people go to these locations? All kinds. And lots of them. People spend a lot more of their lives outside of school than inside school, and they do a lot of their lifetime learning in informal free-choice locations. The graph in Figure 1.1 comes from research by scholars of free-choice science learning, John Falk and Lynn Dierking. It shows how much exposure people get to any kind of science education over their lifetime. As you can

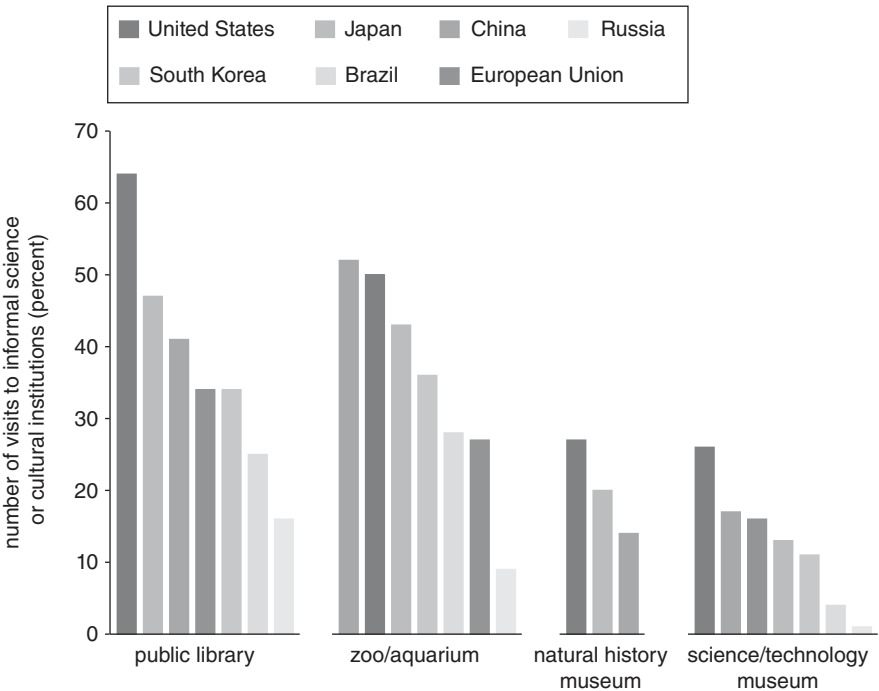


**Figure 1.1** Amount of time Americans spend in different learning environments  
*Note.* This elegant figure from Falk and Dierking (2010) shows that Americans may spend on average only about 5 percent of their whole lives in formal classrooms. The amount of time they spend getting formal science education is so small, it can only be shown in droplets. Used with permission.

see, at least for Americans, most of that isn't coming from standard schooltime.

This research also found that the percentage of people from all around the world who had visited an informal learning location was high. From these same researchers, the graph in Figure 1.2 shows that a high percentage of people visit public libraries, zoos/aquariums, natural history museums, and science/technology museums. Language science fits well in at least three of these places (and you might even bring language science into a zoo/aquarium through a connection with animal communication!).

Beyond major institutions that are devoted to informal learning and free-choice settings, there are many event-based opportunities as well. Many organizations host science festivals, and language science makes for a terrific booth. Language science can fit into other kinds of festivals – arts festivals,



**Figure 1.2** Attendance at several types of informal learning venues  
*Note.* This graph from Falk and Dierking (2010) shows that all kinds of informal learning venues are popular around the globe. Moreover, Falk and Dierking suggested that the fact that the US public visits science-oriented institutions at particularly high rates may account for why American adults have similar proficiency in science to other adults worldwide even though American children tend to lag behind: Americans learn science in informal venues all through their lives. Used with permission.

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food festivals, children's festivals, and cultural festivals all have room for language connections. Often for these kinds of events it's worth tailoring your focus to fit the event, but with the breadth of topics that language science covers, that's rarely a problem.

What's more, if you are connected to a university or college, it's likely that your home institution has events that would welcome you. The events might target local students (freshman orientation and meet-your-major fairs are great!), or they might be events intended to reach the wider community. Either way, they offer some infrastructure to support engagement with the public. Toward the end of this book (Chapters 18 and 19), we'll offer some more specific suggestions for places you might practice your new public engagement skills, and provide some advice for how to be a good partner with institutions or groups you might want to work with.

Our own public engagement efforts have centered on free-choice learning environments (see the Worked Example Box in this chapter). We like them for many reasons. First, they allow us to reach a lot of people, both in terms of raw numbers (as you saw above, lots of people go to these kinds of locations) and in terms of types of people (not just college students, but families; and in many of the venues, families from diverse backgrounds). Second, they are great places for our students to get training in how to talk with the public. Most of the interactions we have at these locations are relatively short (often fifteen minutes or less), which means our students get many opportunities to practice. They also get feedback from the people they talk with – there is nothing more satisfying than hearing someone walk away saying, “That was so cool!” Finally, we believe the challenge is worth it! To paraphrase a famous song by Kander and Ebb, “If you can make it in a free-choice learning setting, you can make it anywhere!” For most people, talking with the public doesn't come naturally, and mastering the relevant skills takes effort and practice. But your communication abilities and public speaking confidence will improve dramatically.

### What You Won't Find in This Book, at Least Not Directly

There are lots of different ways to engage with the public around language science. As we laid out above, this book focuses on something we have a lot of experience with: encouraging informal learning in free-choice

environments. But often when we tell people that we train people to talk with the public, they assume we're doing something different – like helping people talk to politicians, or helping people create a podcast or a social media page. We think reaching various kinds of nonexperts and using different media are worthwhile, and if that's what you're interested in, we encourage you to do it. But it's not what **this** book is about. The core lessons of this book will be useful if you talk to politicians or create online materials, but they aren't targeted toward those goals. And we certainly appreciate – and we hope that you do as well – that there are going to be differences between working with the general public at a festival and talking to your local elected representative.

LINGUISTIC ACTIVISM is another sort of public engagement that has a strong presence in the language sciences. Many researchers, especially those whose work depends on linguistic data from distinctive speech communities, have a tradition of giving back to those communities. Sometimes these efforts involve creating educational materials to help preserve a local language or dialect; sometimes they involve combating prejudice against the community; sometimes they involve celebrating the history and culture of the community. We have the greatest respect for these activist efforts, but that's not what this book is about either.

Our emphasis is much more general than most linguistic activism. We believe that just about every dimension of language science is worth sharing broadly, from highly theoretical topics in syntax and phonology to experimental results in language processing and acquisition to the sociolinguistics of identity. We will recommend that you tailor your messages to the needs and interests of your audience, and that can mean being sensitive to the cultural background of the people you're talking with. But we're not expecting that your activities will be embedded within a specific community or that your language science topics will necessarily be connected to classic issues of social justice or combating prejudice.

We do, however, think that the kind of engagement we're promoting in this book can be seen within the activist tradition. Ultimately, the goals of this engagement are to encourage a field that is committed to communicating with broad audiences, and to creating a public that is more informed about language science. But we see these as very long-term goals. What you will be doing with each conversation with a nonexpert is contributing in a small, incremental way to these long-term goals.

It’s Language Science All the Way Down

The science content that we know best is language science, and the examples in this book emphasize language and how it works. But language science is not only important as our core content; it has also created some of the most important insights for how to effectively communicate with others. As you’ll see in the upcoming chapters, our advice draws heavily on two foundational results from language science: Grice’s principles of COOPERATIVE CONVERSATION and the information processing principle of GIVEN BEFORE NEW.

We’re not trying to suggest that you need a degree in linguistics to prepare to talk with the public. If you’ve taken an introductory course on linguistics, you’ve likely run across both of our core ideas. If you’ve taken a course on informal science learning, you will likely have met these ideas there too. But communication is a part of language science, and it shouldn’t be a big surprise that our field has helped uncover how communication works, and what can make it work better (or worse). We take our science seriously and encourage you to put some trust in the results of the very field you are interested in. We consider it a privilege that it is **our** science that we draw on to guide our efforts.

How to Use This Book

We think of this book as a guidebook for communication, and it can be used in a few different ways. We’ve organized ideas into bite-sized chunks, so if you’re looking for ideas about how to avoid using jargon, or about how to make your work relevant to others, or want advice on where to go to do public engagement, you can jump to the chapters that emphasize those topics. If you read the book straight through, you’ll get the full story, from theory all the way to very practical advice. If you want a slightly deeper dive into details – including pointers for more to read – you can check out the further reading section at the end of each chapter. Each chapter ends with a worksheet designed to help you make a demo that should be doable by the end of the book. Collectively, these worksheets will help you develop an activity on language science that you can use with the public in a free-choice learning environment.

<b>CRITICAL TAKE-HOME MESSAGE</b>
Informal learning venues are good places to reach a lot of people. This book will help you engage people with language science at these locations.



**WORKED EXAMPLE BOX****Who are we? Why do we bother?*****Laura Wagner***

I'm a professor in the Department of Psychology at the Ohio State University. My PhD is in linguistics, and I have spent my career doing interdisciplinary research, mostly involving children's language development. My bread-and-butter research is on children's understanding of aspect, and I have also worked on children's developing understanding of indexical information such as social register and regional dialect.

A number of years ago I helped start the Language Sciences Research Lab (<https://u.osu.edu/thebln/language-pod/>). The lab is embedded inside of my local science museum, the Center of Science and Industry (COSI) in Columbus, OH. I collect my regular research data at the lab (alongside several other language scientists), and the visitors to the museum are my participant pool. Museum visitors can just watch, or ask questions about what we're doing, or participate in live research. At the lab, we think of our research as a form of public engagement: One of our missions is to demystify science for the public by showing them what the actual practice looks like, from the inside (Wagner et al., 2015).

Because of the special location, the lab is also a permanent museum exhibit that attracts hundreds of thousands of people every year. And that's more people than even our team of scientists can work with! So we also use the lab as a platform to engage with the public using just the kind of activities featured in this book. Another one of the lab's missions is to show people the range of things that language science has discovered and help people to experience the wonder and joy of language.

I think there are lots of societally important reasons to do this kind of work (and we laid those out in the chapter), but I think that what really keeps me doing it is how much fun it is. I love to think about language and science, and people regularly say things that are surprising and make me think about both of them in new ways. For example:

One of our demo activities uses an iPad app that lets you record someone speaking and then play it back for them (the app is called Singing Fingers and is produced by the MIT Media Lab). It's great fun to use with little kids because they get permission to shout on the museum floor and hear their own voices. One of this app's features lets you play the recorded sounds backward as well as forward, and that leads to some fun discussions about coarticulation effects and how we can only produce sound in the forward direction. I once watched a student doing this activity, and she started with a thought-provoking question to a young child. The child had just recorded her name, and the student asked,

(cont.)

“Do you think your name will sound the same backward as it did forward?” The child said her name, then turned around so her back faced the student and said it again. She triumphantly returned to the student and confidently announced that her name did in fact sound the same when she said it backward.

I cracked up laughing, as did the student. But truly, the child was a natural experimentalist and taught me something about space-time metaphors in the process. You don’t need to be an expert in order to have insight or to come up with the perfect example. Every time I go out on our museum floor is another chance for me to learn something cool (and often to get to laugh while I do it!).



**Figure 1.3** The authors on the job

*Note.* Cecile (left) and Laura (right) at the Family Science Days festival of the American Association for the Advancement of Science (AAAS), 2016.