

# How to bridge the gap between families and the science of learning

An experience-based guide

by [Nora Turoman](#)  
May 15, 2019

*One of the greatest challenges for fostering learning in the 21<sup>st</sup> century is establishing genuine communication between educational neuroscience and the public. This post highlights some tried-and-tested strategies that can help scientists engage families and teachers, and that can be executed even under suboptimal conditions – for example, when new research groups are not attached to large developmental psychology or neuroscience departments.*

The emerging discipline of educational neuroscience faces many challenges. On the one hand, there is criticism from other disciplines, notably concerning the benefits the field offers for education. On the other, there is a lack of institutional support from both educational institutions and governments.

Nevertheless, the field continues to lead the discussion of how best to address issues that learners face in the real world. Mounting interest in educational neuroscience has led to the emergence of new research groups, but these groups may find themselves starved for resources unless they are ‘adopted’ by a major developmental psychology or neuroscience department or center. The research of our *Group for Real-World Neuroscience* has certainly had to contend with obstacles like those described above. Over the course of my own research, however, I have found public acceptance to be an even more important factor in research success.

Recruitment is critical to the progress of any study; put simply, if people are not willing to participate, the study cannot move forward. In the initial year of recruitment for our new group’s first developmental study, we received a response from a mere seven families out of a targeted 200. In the following years, the number of applications per year rose to over 50, but by that time we were reaching out to thousands of potential participants. While the situation had improved to some extent, it remained concerning that response rates never rose above 5 percent.

## **“One of the greatest challenges for fostering learning in the 21<sup>st</sup> century is establishing genuine communication between educational neuroscience and the public.”**

As our group interacted with more and more families, we grew increasingly convinced that their reticence to participate was based at least in part on a mistaken impression of what educational neuroscience research is all about.

For example, as my study investigated how attentional processes affect literacy and numeracy skills depending on the amount of schooling experience, we compared *groups* of 1<sup>st</sup>, 3<sup>rd</sup>, and 5<sup>th</sup> graders on EEG measures of attentional control and related these measures to literacy and numeracy scores. Though families were provided with this information, some still expected to receive a profile of their *individual* children’s brain and cognitive functioning in exchange for participation. Others tried to convince me that we were actually studying something other than what we said we were. For example, some believed that we wanted to “cure” students’ distractibility.

Other reasons for nonparticipation were quite fundamental and inextricably linked to our study’s design. For some potential participants, the deal breaker was that the study involved the use of EEG (which was unfamiliar and intimidating to many families), and others were bothered by the amount of screen time that was required (20-odd minutes of a computer-based perceptual task). Despite our best efforts, many new families were quite frightened by the lab and the experimental task, at least until the end of the experiment, when they realized that the equipment and the task were indeed as harmless as promised.

## **“Over the course of my own research I have found public acceptance to be an even more important factor in research success.”**

Clearly, there was a divide between our perceptions of the study and how it was perceived by our target population. That divide had disadvantages for both sides: For our part, we failed to achieve a high study participation rate; as for the families, they were prevented from learning more about a branch of science that shares the same goals they have for their children. The discipline of educational neuroscience aims to help learners reach their highest potential, and parents and teachers who are well informed about learning are best able to implement strategies for achieving that objective.

Several years into the project, my teammates and I have found that a few practical steps can help to bring researchers’ and families’ perceptions of educational neuroscience closer together. The following measures might promote recruitment even when resources for outreach are limited and there are no long-established recruitment systems in place:

1. **Create materials that speak to your audience.** The initial jump in recruitment in our project was largely due to a revision of the information sheet that we sent to public schools. This document started out as four solid pages of text, much of it prescribed by our ethics committee, but was trimmed down to a single, advert-style sheet containing cartoon

illustrations. Crucially, we retained only the information that potential participants *needed to know in order to participate*.

2. **Take part in events tailored for your audience.** It takes a lot of time and money to organize, publicize, and host public events that are entertaining and educational. If such resources are limited, taking part in existing events can be a successful workaround. In the case of our project, we found it very useful to set up a booth at the annual [Teddy Bear Hospital event](#) at our local university hospital centre. This event was designed to inform families, and particularly children, about various medical procedures, and we took advantage of the opportunity to explain the details of our study and answer any questions raised by the families.
3. **Be approachable to the public on their terms.** Educational neuroscientists and non-scientists share certain interests. Teachers, for example, want to know what makes some children more successful at learning than others, and parents want to know what kinds of stimulation are good or bad for their children. Part of the reason for mistaken ideas about [learning styles](#) or [panic](#) over screen time lies in the fact that science has failed to provide adequate answers. It is important to speak often, and in plain language, about relevant research and its results, but also to do so through channels that reach people – social media and web-based platforms, TV and radio, and local news. Aside from being active on Twitter and local traditional media, our group has recently taken part in initiatives that enable [educators to talk to scientists online](#), and [students to ask scientists about memory and learning](#).
4. **Capitalize on motivated families, who can serve as ambassadors for your project.** We would not have been able to implement any of the above-mentioned steps without the invaluable input of families that took part in our study. Such families have been indispensable for spreading the word about our experiment, letting us know why their peers would or would not be likely to participate, and providing feedback on our materials and details of the experimental protocol. In turn, we have incorporated what we learned from them into our recruitment and testing procedures. Not only is asking for input a golden opportunity to gain insight into the other side's point of view, but it is also important for building rapport and lessening the feeling of distance between researchers and participants.

It is our hope that such strategies will bring the science of learning and development into the mainstream, thereby supporting research directly, by encouraging participation, as well as indirectly, by demonstrating to institutions and policymakers that there is, in fact, public interest in this research.

**“The discipline of educational neuroscience aims to help learners reach their highest potential, and parents and teachers who are well informed about learning are best able to implement strategies for achieving that objective.”**

**This article was published on BOLD, the Blog on Learning and Development. If you would like to share it with others, please do not use this PDF but instead link to the original post at <https://bold.expert/how-to-bridge-the-gap-between-families-and-the-science-of-learning/>.**