



## Interview

### Interview with Nadine Vincenten and Marnie Gelbart: Media and Education: what does pgEd have to tell us?

#### Entrevista com Nadine Vincenten e Marnie Gelbart: Mídias e Educação: o que o pgEd tem para nos dizer?

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#### Abstract

Different experiences with the teaching of science and biology are always entry points for us to think about our teaching practices. They are doors that open before a scenario still permeated by a teaching based on the reproduction and memorization of the contents and that puts us the need to think alternative ways. Paths that lead us in other ways. In these wanderings, full of uncertainties, we have a meeting with media that has great potential to innovate and bring new possibilities for us teachers. What we want with this interview is just that: to socialize some experiences and experiments of the Personal Genetics Education Project (pgEd.org), linked to Harvard University School of Medicine, directed by Marnie Gelbart. Here in this interview with Marnie Gelbart (Director of Programs) and Nadine Vincenten (Science Associate) we aim to present some clues so that we can think of this teaching to come.

#### Resumo

Diferentes experiências com o Ensino das ciências e da biologia são sempre portas de entrada para que possamos pensar em nossas práticas docentes. São portas que se abrem diante de um cenário ainda permeado por um ensino baseado na reprodução e na memorização dos conteúdos e que nos coloca nesse necessário imbróglio de pensar caminhos alternativos. Caminhos que nos embalem por outros caminhos. Nessas andanças, repletas de incertezas, temos um encontro com mídias que têm um grande potencial para inovar e trazer novas possibilidades para nós professores e professoras. O que almejamos com essa entrevista é exatamente isso: socializar algumas experiências e experimentações do Personal Genetics Education Project (pgEd.org), vinculado à Escola de Medicina da Universidade Harvard, dirigido por Marnie Gelbart. Aqui nessa entrevista realizada com a Marnie Gelbart e Nadine Vincenten queremos apresentar algumas pistas para que possamos pensar nesse ensino por vir.

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**Keywords:** pgEd.org, Personal genetics education project, Media and education, Teaching practices, Science teaching.

**Palavras-chave:** Educação e mídias digitais, Práticas docentes, Ensino de ciências.

### **1. Can you describe pgEd profile?**

The Personal Genetics Education Project (pgEd) was founded in 2006 to bring awareness and dialogue about genetics to all communities, regardless of socioeconomic or educational background, cultural or religious affiliation, and ethnic or personal identity. Advances in genetic technologies are moving forward at a rapid pace. The cost of genome sequencing is declining, giving many more people access to their genetic information. Furthermore, technologies including CRISPR are making it possible to edit the DNA in human cells. These advances in genetics show great promise for human health. However, they also carry pronounced ethical, legal, and societal implications. For these reasons, pgEd is compelled by a sense of urgency to make sure that information and conversation about the benefits and implications of genetics is available to everyone.

### **2. What is the importance of pgEd's work in the educational context today? What are the fronts of action?**

Over the years, pgEd has developed a myriad of programs for engaging with different audiences, as we have realized that a one-size-fits-all approach will not reach everyone. Our roots lie in education in schools. We create lesson plans around a variety of topics (e.g. personalized medicine, the intersection of genetics and law enforcement, and the history of eugenics) that are freely available at [www.pgEd.org](http://www.pgEd.org). Further we organize teacher training workshops around the country and visit classrooms. pgEd's other efforts include holding Congressional briefings to inform policymakers, advising television and film producers, partnering with faith groups, as well as engaging with communities, particularly those that have been marginalized.

### **3. At the same time all of us can perceive and try the products resulting from science and technology nowadays, we cannot deny that some researches scare us. We are able to create clones, edit genes and, perhaps in a short time, mammoths. All these advances have raised ethical questions that set boundaries to scientific research. Then we would like to know how pgEd has been acting on this context.**

pgEd aims to talk about these controversial topics, and in our experience, these are often the topics that our audiences want to talk about. We provide information from many angles and through our dialogues with communities, further perspectives are added to the conversation. Our

goal is to promote awareness for genetics without advocating for it. In other words, we want to provide people with information so that they themselves can consider all different perspectives as they form their own opinions, and make decisions as patients, consumers, and voters.

**4. Still talking about science and technology advances we can say that both entered our lifestyles and, certainly, we have another way to exist in the world. One point that we highlight in this context: education is no longer satisfying itself with simplistic and decontextualized approaches. This way, we realize that pgEd has used different kinds of Medias to do your job. We would like to ask you to talk a little bit more about the subjects that you approach, which medias have you been using and how you make the relations among the subjects, the media and education.**

pgEd's approach to public engagement is guided by the principles of empathy, humility, inclusion, and transparency. In line with best practices in public engagement, pgEd initiates long-term dialogues with the public and frames science in an audience-appropriate manner. For example, when engaging with high school students we found that approaching genetics through the lens of sports works well. By identifying the appropriate framework, people become invested in the conversation: they speak up, state their opinion, are curious to know more, and they hear what other people have to say.

To address the ethical questions that are at the heart of the interaction between genetics and our society, pgEd takes a multidisciplinary approach where we draw from the social sciences to try and paint a complete picture. Furthermore, we are always thinking how we can be inclusive of more people through our use of media. For example, one thing we are working on right now is designing a color scheme that is inclusive of people with different forms of color blindness. But we also think of inclusivity through the topics we discuss and the representation of different communities in our materials. We are taking steps, but we still have a long way to go.

**5. We looked on the pgEd site and we saw the way you are acting in museums, libraries and cafés. We believe that with the incredible raise on the amount of science and technology that surround us today, it is necessary to raise discussions about it in different spaces. However, it is also necessary to have an adequate mediation to reach the target audience and make sure the place is not going to be transformed in a classroom. We would like to ask how pgEd has done that and how you have used the media to achieve your needs.**

As we said, the key here is the facilitation of dialogue. To not have a one-way conversation where a teacher dictates a lecture. Instead it is important to create spaces for respectful conversations and genuine

partnership. In an effort to reach audiences from all different walks of life, pgEd strives to meet people where they are, quite literally in fact. We go out and meet people in their own communities: schools, places of worship, local libraries, and so on. This allows us to build rapport with people for facilitating frank dialogues, to understand their values and concerns, and to create opportunities for the voices of these communities to be heard.

**6. Considering the professor's work, we researched on pgEd site and we saw a lot of tools available for download that can be useful in classrooms. Then, professors can adapt and use these tools in their classes. Our question is: how have you approached them? How have you received their feedback or suggestions and what have you done to supply these demands?**

In writing our lesson plans, pgEd tries to ensure that they are accessible to teachers from many different disciplines: science, health, history, humanities, business, law, psychology, and so on. The reason being that genetics in some shape or form touches upon all these different fields. To ensure our materials are understandable, accessible, and useful for teachers, we collect feedback in a variety of ways. We teach the materials ourselves when we visit classrooms to assess their impact. We present the materials at teacher training events, where we can get direct feedback. And we also stay in touch with teachers that visit our workshops to hear about their personal experiences in working with pgEd's materials. We have heard from some teachers that they use pgEd lessons as a reward for their students, after completing a difficult assignment or unit. Or that their students have talked about pgEd topics to their families or friends or even in a college interview. These stories for us are some of the best evidence of success that we can imagine.

The resources we create are living and breathing and are always being updated to reflect new developments as well as on-going efforts to make them accessible to a wider audience. Teachers know their students best, so we anticipate that they will adapt our resources to be a good fit for their classroom. For example, while the questions that our materials address are universal, many of the examples that we give draw from stories in the United States. As pgEd hears interest from groups in other nations to work together, we anticipate that our resources will need to be adapted so that they are relevant to the language and also the cultural and social context of the community.

Sent on: 25/April/2019

Approved on: 20/November/2019