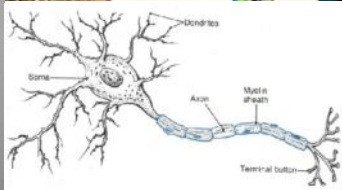


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Neuroscience Outreach Group: Growing in Networks...



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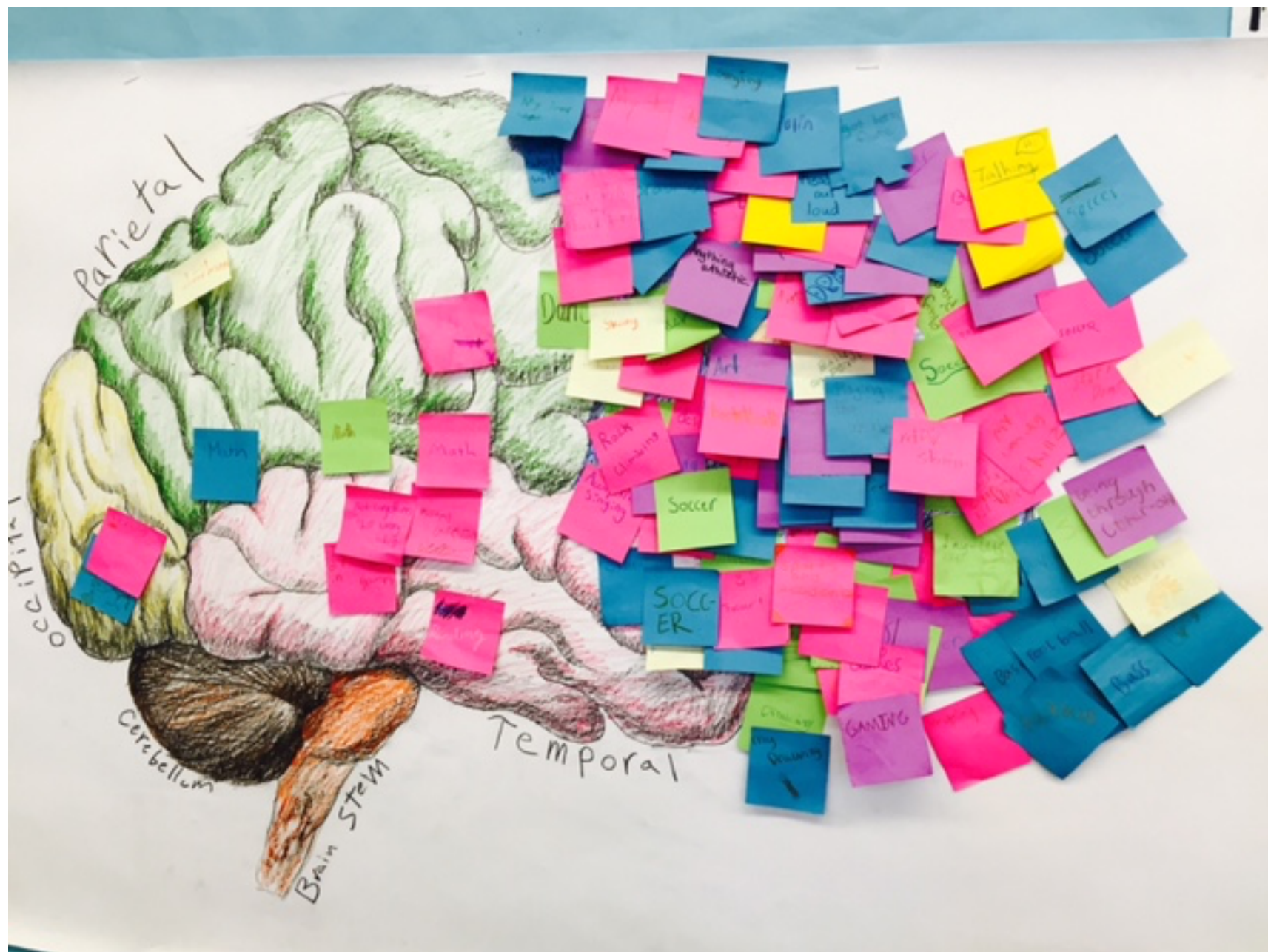
- Bill Griesar, Neuroscience Coordinator
- Jeff Leake, Arts Coordinator
- Dedicated volunteers from PSU, WSUV, OHSU, PNCA

Why art - and brains..?

- Motivation and engagement
- Exploration, creativity, and discovery
- Personal relevance of STEAM material
- Internships, jobs and careers







Who is involved?



- *Academic priority* K-12 students
 - Portland/Vancouver Public Schools
- Art and neuroscience undergraduates
 - Pacific Northwest College of Art, Portland State University, Washington State University Vancouver
- Art and neuroscience graduate students
 - PNCA, PSU, WSUV, Oregon Health & Science University
- Working artists and scientists

Human development 😊







Skyview High School, Vancouver Public Schools, 7:00am!





Where do we go?

- K-12 schools
- Universities
- Retirement communities
- Hospitals
- Science museums
- Art museums
- Conferences
- Homeless shelters
- Bike shops, pubs
- *Thousands reached*

NW Noggin
**Collaborative neuroscience outreach
in Portland and Vancouver**

Graduate and undergraduate students from
WSU Vancouver, OHSU, PSU, and PNCA come together to deliver art and
neuroscience courses at Portland and Vancouver public schools,
conferences and public events.

Where have we been?

Locations shown on the map:

- Skysview High School
- Gardner School of Arts and Sciences
- CAM Junior and Senior High School
- MESA Day
- Cascade Middle School
- HeLa High School
- Madison High School
- Jason Lee Middle School
- Harrison Park k-S
- Franklin High School
- OMSI Brain Fair
- Patton Middle School
- Brain Awareness Lectures
- Sabin K-S
- Veio Cult Lecture Series
- Cascade Middle School

For more visit www.nwnoggin.org

NW Noggin: Collaborative neuroscience outreach in Portland and Vancouver - students, scientists and artists teach and learn about neuroscience through art

Griesar W.S., Leake J.

Growing In Networks

Science requires significant public investment, and engaging the broader community in formal and informal settings is key to communicating discoveries and building support for research. Urban areas are often home to universities with research and education programs in neuroscience, along with schools teaching science to K-12 students. There are also art colleges, organizations, and vibrant arts communities eager to contribute to STEM educational efforts (STEAM).

Yet despite a strong shared interest, these various students, disciplines and the broader public rarely interact. Here we describe a successful and innovative effort (nwnoggin.org) to involve them all in learning about the brain.

There are positive reasons to get together. Graduate students, particularly at institutions without an undergraduate program, such as OHSU in Portland, Oregon, may struggle to gain teaching experience. They are less competitive for jobs that require classroom expertise.



Undergraduates are curious about graduate opportunities in neuroscience, which may be lacking at their own university. They want to know what research involves, what experience they need to be competitive, and what studies are underway. The chance to work with graduate students teaches them about graduate school, and about currently funded research. Collaborative outreach also benefits undergraduates by reinforcing concepts learned in class.

In addition, studies suggest that, in middle and high school, students are either excited or discouraged by science. Building enthusiasm for inquiry into the natural world, including the brain, can enhance interest. Efforts to reach the public about scientific discovery contribute to fascination, understanding and support for more research and education. Effective integration of art increases engagement, makes learning relevant, and allows students to explore scientific concepts by creating objects they share with family and friends.

During the last academic year (2014-15), our students from OHSU, Washington State University Vancouver (WSU-V), Portland State University (PSU) and the Pacific Northwest College of Art (PNCA), developed and delivered their own short and long term courses to over 3000 academic priority K-12 students in the Portland/Vancouver area.

In addition, we partnered with a Portland "bicycle pub" (Velo Cult, velocult.com), and have offered monthly collaborative presentations from graduate students in neuroscience, psychology and art. These efforts have informed more than 500 community members about research, and trained graduate students to more accessibly describe their own work.



Fort George Brewery

Skyview High School



Gardner School of Arts and Sciences



CAM Junior and Senior High School



MESA at WSUV



Boys and Girls Club



Cascade Middle School



HeLa High School



Velo Cult Lecture Series



Sabin K-S



P:EAR center for homeless youth



Brain Awareness Lectures



Portland Art Museum



Franklin High School



Harrison Park K-S



Jason Lee Middle School

Patton Middle School



OAEA Conference



OMSI Brain Fair

Where have we been?

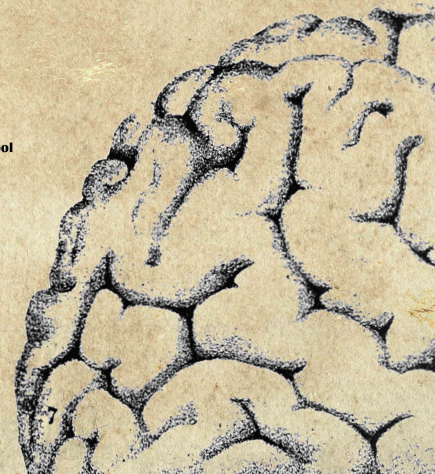
During fall of 2014, and throughout 2015, we have continued to engage in STEAM outreach efforts in Oregon and Washington. We've brought undergraduates and graduates from OHSU, WSU-V, PSU and PNCA to formal and informal settings, including K-12 schools, art museums, homeless youth organizations, theaters, breweries, conferences and bike repair shop pubs, for short and longer term educational experiences.

Our outreach work with Velo Cult has proven to be an effective and popular way to get the general public excited about research discoveries, and train graduate students to more clearly describe their taxpayer-funded efforts to the community at large. Most recently we have partnered with the Portland Art Museum, engaging in public lectures and workshops on the brain's response to art, and designing gallery spaces and interpretive materials for large scale exhibits. More information is available at: nwnoggin.org

Our outreach activities have been funded by grants from the Portland Alcohol Research Center at OHSU, the Regional Arts and Culture Council (Multnomah County), the WSU Vancouver College of Arts and Sciences, and by \$1/pint sold during our community presentations, courtesy of Velo Cult.



nwnoggin.org



Society for Neuroscience, Washington, DC





Society for Neuroscience, Washington, DC



STEAM Outreach: Four types

Classroom visits



Multi-day instruction



Public events 🍺



Summer Programs (MESA, PPS)









Why Art Integration?

It's about how people learn



Inherently differentiated



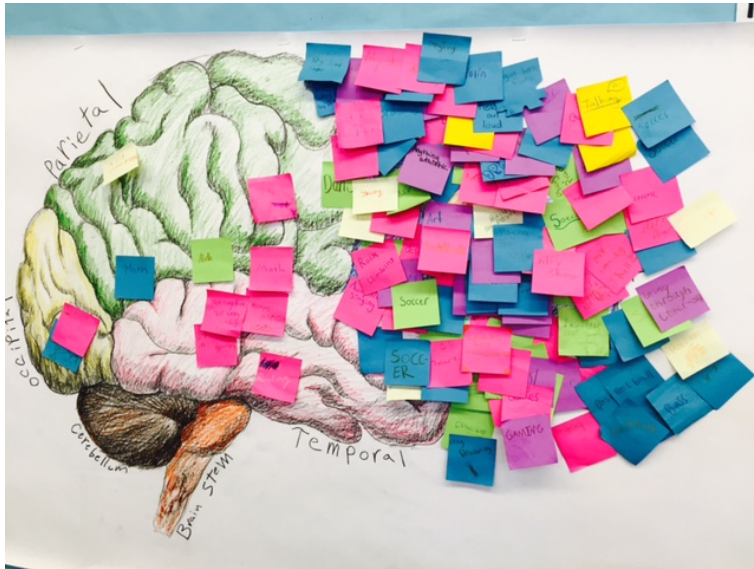
Multi modal



Personally relevant



Art projects that...



Serve as examples of concepts



Illustrate concepts



Allow students to explore a concept

Artists and art students often reference other fields within their own work

