Guide to supporting a science center–based Youth Advisory Research Board (YARB)

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OMSI
Oregon Museum of Science and Industry

What is a Youth Advisory Research Board?

A youth advisory research board (YARB) integrates two well-established methods of working with youth: Youth Advisory Boards and Youth Participatory Action Research. Youth Advisory Boards give young participants an opportunity to implement real, observable change at institutions such as informal science education centers. Youth Participatory Action Research asserts that young people are experts that can create knowledge, and is a powerful tool to promote social change (Cammarota & Fine, 2008; Ozer, 2016; Powers & Allaman, 2012). The combined Youth Advisory Board/Youth Action Research Board model forms the Youth Advisory Research Board, abbreviated to "YARB." A YARB is a great way to introduce youth voices into your organization.

A YARB is different from "typical" youth programming in science centers. Most youth programming is very structured with youth learning "demos'' and facilitating exhibits. The YARB program is focused on a socioscientific topic, in this case, climate impact education, and leaves room for the youth to co-create relevant programming to engage their communities and to advise the museum from the ground up. If youth start with the assignments to help their communities learn and to help museum professionals learn, the education approaches with communities and the input for the museum are much more diverse than without the youth leadership.

Benefits of a Youth Advisory Research Board

Benefits for youth

- Youth find the programming relevant and engaging when they create the programming. Youth grow research skills and experience the importance of evidence-based decision making.

- Youth foster leadership, interpersonal, and job readiness skills.

- Youth grow a deeper understanding of the issue they are exploring, such as climate change.

- Youth socialize in a community of like-minded people.

- Youth experience a program that supports their empowerment and agency.*

Benefits for your organization

- Staff gain fresh ideas and approaches to programming and functions.

- Staff increase their sense of urgency to act, especially on climate change or a similar sociopolitical issue.

- Staff learn to work with youth.**

- Staff learn to support youth empowerment.*

- The organization grows an empowered future workforce.

*Shagott, 2023; Maton, 2008; Zimmerman, 2000

**OMSI, 2023

Top 10 hints and tips for supporting a Youth Advisory Research Board

1. Pay the youth.

2. Build on the Informal Science Learning Professional Competency Framework (Morrissey et al, 2020).

3. Build on the evidence-based model of YARB member empowerment (Shagott et al, 2023).

4. Focus on a content theme. Socioscientific themes that your local youth have identified, and your science center can prioritize, fit well with a YARB.

5. Identify relevant science center staff to support the program and make sure they have the bandwidth to participate.

6. Use external advisors and partners for key areas of support. For example, external advisors and partners might be active in the socioscientific area of interest, part of an ecosystem of social action, or skilled in a technical area. These externals can help provide trainings, resources, or networking connections for the youth. Have at least one advisor available for every theme of interest (such as climate change or racial inequality) if the science center lacks capacity.

7. Facilitate sessions to identify clear shared goals set from the beginning with the youth, and select activities that help reach those goals. Be clear how the training and programming support the youth's goals and work.

8. Create communication pathways for youth. Work with the youth to set channels for regular check-ins between youth and their peers, science center staff members, and external contacts so all are apprised of progress and help ensure youth have the resources and support they need.

9. Leverage the science center's existing staff trainings on science communication, content, research and evaluation to plan the YARB trainings. Plan interactive training sessions, rather than theoretical lectures, where youth can apply what they learn.

10. Plan for youth turnover. Set up overlapping recruitment and onboarding structures so new youth are mentored by continuing youth.

How to support youth as Advisors
Give youth opportunities to implement
real, observable change at science centers.

Identify projects at your institution that can use youth advice.

Consider projects that are good matches for youth
- Talk to each youth about their interests and the types of skills or experiences they want to exercise and stretch.
- Projects that are good matches for youth include those that are targeted toward youth, that may affect the youth directly, or where changes can be seen on a short timeline.
- If possible, initially assign youth to a short, small project to establish the working relationship and norms between the youth advisor and the staff advisee. Then assign the youth a larger project for a longer period of time.
- Implement youth advisor feedback as much as possible and communicate to the youth advisor how the feedback was or was not incorporated and why, and how and when they might see their influence.

Consider projects that have the personnel buy-in needed to work with youth advisors
- Work with staff the youth trust as a bridge, so they feel comfortable giving frank and honest feedback. When youth are integrated into larger project teams, assign one staff member to be the bridge, taking extra time to orient youth to larger programming or institutional considerations, background information, etc. The bridge person should be available and serve as a 'safe' person to give and receive feedback.
- Provide the project team members, including the bridge person, with specific guidance on working with youth (OMSI YouthCARE team, 2023). The team members need to refresh themselves on how to engage youth and how to manage youth/adult partnerships.

Provide structures needed for the youth advice to be actionable.

The youth advisor and the staff advisee should work within a "big picture" framework
- When a youth advisor is appointed to a project, the staff advisee should share the overall project goals with the youth. Then, the youth advisor and staff advisee should co-develop goals on the youth advisor's contribution to the larger project's goals.
- The staff advisee should provide the youth advisor with the background on the project, the team, and the work that was done before the youth joined the project.
- The staff adviser should work with the youth advisor to build a timeline within the duration of the advisor's term; the timeline will be used to discuss work plans and accomplishments related to milestones and goals.
- The youth advisor and staff advisee should have regularly scheduled check-in meetings (at least once per week).

- Youth advisors should not be assigned to complete busy-work, nor should they be expected to work completely independent from the team! Find a happy medium of guidance and direction, while still giving space for youth creativity and passion.

Provide and be open to feedback
- Give ongoing straightforward feedback; be clear if behaviors and performance need to change, or if they are going well! Don't be afraid to be critical; youth are paid for their contributions.
- Provide specific, depersonalized feedback. Don't expect prior knowledge on how to "have a job" (i.e. email and meeting etiquette).
- Be willing to invite and accept feedback from youth. What is and isn't working? Be willing to adapt in response to youth feedback, as well as to communicate frank explanations for when and why you cannot adapt.

Support professional growth.

Be clear and explicit
- Set clear guidelines for deliverables the youth will produce. Give youth advisors examples and/or templates of expectations when possible.
- Let youth know exactly how their work will be used.
- Frame youth work within the larger context. How does it contribute to institutional or departmental goals? How will work products be used after youth end their tenure with your organization?
- In the context of a youth advisory research board, this advisor role might be about 2–4 hours within a 20 hour week.
- Establish a scope of work, timeline, deliverables and outcomes for each project, with clarity on how youth input will be incorporated.

Support professional skills
- Help youth develop Informal Science Learning Professional Competencies (Morrissey et al, 2020).
- Support practical job skills like timeline and project management. Co-create timelines, working back from goals. Ask questions to encourage youth ownership of deadlines, timelines, and tasks.
- Start with clear and *explicit* expectations for work and communication, for both yourselves and the youth. Get very granular with this—youth don't know staff advisee standards unless staff advisees tell them directly.
- Establish and model professional norms, including email responsiveness, communicating when they cannot meet, quality of work, meeting etiquette, etc.

How to support youth as researchers

Young people are experts that can create knowledge
and are a powerful tool to promote social change.

OMSI's story

The material in this guide was compiled by Oregon Museum of Science and Industry (OMSI) staff members working with youth from 2020 – 2022 on a project called, *Youth Lead the Way: Engaging Informal Science Education in Climate Action*. For this project, youth were part of a youth advisory research board. Members of the board advised science center staff on climate-related projects, and researched and developed activities, called climate stories, to engage their communities with climate impact education.

To develop climate stories, the youth were required to conduct their own research and evaluation. OMSI leveraged its staff to provide support, initially through introductory training sessions facilitated by the research and evaluation leads. As the youth developed their climate stories, it became clear that they needed personalized support on conducting research. Although not initially planned, research and evaluation advising sessions were created a month after the program started to advise each group on the research they might conduct and how. These sessions helped focus the youth and gave them an opportunity to talk to experts about their work.

In order to support youth as researchers, we learned the importance of having advisors available for consultation. For us, this included in-house resources as well as project advisors and partners. We learned that ongoing research and evaluation advising was needed so youth could confer at each step or stage of their research and evaluation process

Recommendations for supporting youth as researchers

- Tap into resources you have at your organization. If you have an **in-house research or evaluation** department, ask those staff members to work with youth. If not, reach out to **faculty or graduate students** from a local university, or staff from **partner organizations**.

- Secure a few weekly hours with pertinent staff from the beginning to provide trainings and specialized support on research and evaluation methods for the YARB.

- Establish ongoing "Research and Evaluation Advising Sessions" at the beginning of the program to provide cohorts with individualized support.

- Identify people who can instruct and support youth as researchers.

Research, evaluation, and inquiry topics to cover

Many youth have little or no research and evaluation experience. Talk with them to find out what they know and where they could use support. The following topics provide a great foundation.

- Literature reviews

- Logic models

- Research and Evaluation Fundamentals

    - Asking Research questions

    - Primary vs secondary research

    - Inductive vs deductive research

- Data collection

    - Ethics of working with human subjects

    - Qualitative, quantitative and mixed methods

    - Collecting data: surveys, observations and interviews

- Reviewing, analyzing and presenting data

    - Team-based inquiry techniques: reviewing, sorting and grouping data (Pattison et al., 2014)

    - Using Google sheets

    - Cross tabs

    - Useful analysis functions such as Sum, Count, Sort, and Lookup

    - Data visualizations such as graphs, word clouds, and concept models

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