

Integrating Engineering in Middle School Science - Grohs Supplemental Material

Appendix A: Evidence-Based Reflection Tool for Interorganizational Collaboration

Guidelines: This tool can be used both as a personal reflection on the process of collaborating and to spark discussion among partners. Though it may be introduced in the early stages of establishing a partnership, these concepts and reflection questions are meant to be considered continually throughout an ongoing collaboration.

A. Collaboration is not set it and forget it.

In any project, the best laid plans often bear little resemblance to the ultimate outcome. Unforeseen circumstances require improvised changes to be made. Preparing ourselves for change as an inherent component of collaborating with multiple organizations might help us better weather the ups and downs of partnership.

Reflection Questions

- How comfortable am I with uncertainty?
- How have I been involved with or impacted by changemaking within my own organization?

B. Collaborators have different views of success at any given point in time.

While there is no shortage of metrics by which to compare the progress of relationship building in a collaboration, remember that everyone has their own frame for viewing collaborative success.

Reflection Questions

- What aspects of this collaboration are most important to me?
- What would my peers say is most important?

C. A Collaboration is only as good as its people.

It's easy to talk about collaboration and organizations in the abstract, but networks of interacting people make up these entities. Building lasting relationships requires investment from individuals willing to span organizations and be mediators of partnership.

Reflection Questions

- What do I see as my role in the collaboration?
- Who around me acts as a bridge between our organizations? At what level do they operate?

D. Just because an organization is getting something new doesn't mean collaborative work is value added by default.

Collaboration can be a gift tied to significant responsibility. While it might be tempting to assume that because an organization stands to gain significantly from a collaboration and that costs to them will be negligible, there can be hidden tensions to participation.

Reflection Questions

- How does collaboration impact my (and my partners') day-to-day work?
- When is adding a new collaboration too much of a good thing?

E. Collaboration requires identifying what your unique expertise is bringing to a project.

Even in partnerships that appear to be charity-focused at face value, strong collaborators leverage the strengths of all partners.

Reflection Questions

- What strengths do I bring to the partnership as an individual? As an organization?
- What are my partners' strengths and expertise?

F. Unequal costs and benefits are okay if collaborators agree on the balance.

Particularly in collaboration towards a social goal or one that stands to benefit the community at large, an unequal balance of costs and benefits among organizations may be the most logical structure. However, all partners must agree on this shared purpose and its implications.

Reflection Questions:

- Who should benefit the most from the collaboration?
- What are my expectations for this primary beneficiary in terms of resource contribution?

G. Balancing costs and benefits gets easier as collaborators build trusting relationships.

Many of the reflective questions in this guide become easier to answer as relationships develop over time and partners begin to feel more comfortable with the promises and expectations around their collaborators' contributions.

Reflection Questions

- Who do I trust in the partnership to contribute what they promised and why?
- How would I or my partners react to additional, unanticipated work?