Florida
Research
Development
Alliance

"Linking-Relinking" Learning Object

Link to online version: https://fl-rda.org/linking-relinking-learning-object/

Title	Linking-Relinking
1-sentence summary	An activity to enhance awareness of teammates' areas of expertise and opportunities for collaborating.
Time to implement	45-60 minutes (for a group of ~5 people)
Purpose of tool	- Create an opportunity to check awareness of each team member's interests - Bring to light misunderstandings that can impact team expectations, collaboration, and progress - Help strengthen the capacity for interdisciplinary thinking and future collaborative endeavors
Example worksheet	
The steps	1. Before beginning the activity, customize the **worksheet template** with the number of columns needed based on the size of the team. Add additional columns to the provided worksheet for teams greater than three. 2. Introduce the activity as a way for team members to check in on their understanding of one another's expertise and help strengthen interdisciplinary and/or collaborative thinking. 3. Provide one copy of the customized worksheet to <u>each</u> team member and explain that over the next 10-15 minutes (for a group of ~5 people, longer for larger groups), working independently, they will complete the following steps:

The example worksheet shows:

Team Member 1:
My research interests:

Team Member 2:
My understanding of Team Member 2's research interests:

Team Member 3:
My understanding of Team Member 3's research interests:

(Repeat as many columns as needed)

Opportunities (e.g., problems, activities) I see for connecting my interests with Team Member 2's interests:

Opportunities (e.g., problems, activities) I see for connecting my interests with Team Member 2's interests:

(Repeat as many columns as needed)

	- Put your name at the top of the worksheet and fill in your research interests.
	- Write each of your team member's names and describe what you perceive their research interests to be in the appropriate boxes. (_Note: Do not request or look up information during this activity, but rather work from memory based on past experiences. There will be opportunity later in the activity for clarifications and expansions on members' interests.)_
	- Under each of your descriptions of a team members' research interests, describe potential opportunities to connect that you see between your interests and theirs in the appropriate box. These opportunities may involve areas where you connect on complex problems, ideas for future projects, etc.
	4. After everyone is done filling in the worksheet independently, explain that the team will now share responses over the next 30-45 minutes (for a group of ~5 people, longer for larger groups). Remind them that this activity is an opportunity to explore and expand our understanding of each other's areas of expertise, and also to generate ideas for future ways members may collaborate.
	   - Ask Team Member 1 to start by sharing their own research interests and then their responses regarding each of the other team members.
	   - After they share about their understanding of the interests of the other team members, along with possible opportunities for collaboration, the other team members are invited to provide reactions and clarifications to what Team Member 1 shared. Members should be encouraged to take notes within their worksheets when new interests or opportunities are uncovered during the discussion.
	   - After this open discussion, Team Member 2 will do the same as Team Member 1, sharing what they added to their table, with additional time for reactions and discussion as above.
	   - This continues until all members have shared what is in their tables and provided opportunity to others to react and reflect.
	5. At the conclusion of the exercise, thank all members for contributing reflections and ideas for new collaborative opportunities.

Key guidance	- Careful thought needs to be given when considering implementing this activity with a team that includes members across career stages, especially when **trainees** are involved. It could certainly be a productive thought exercise with any group, but if the goal is to develop feasible projects for future

	development, it may help to pair trainees with the lead faculty member they work with to complete the table together. • If **community partners** (or other individuals not familiar with researchers' work) are engaged, there may need to be some scaffolding in which brief descriptions of faculty members' research and interests are provided to be used as reference. This will likely also necessitate more time dedicated to this activity. • **Early-career faculty** may find this activity intimidating if participating with a group of senior investigators. It is important for the framing and facilitation of this exercise to highlight its exploratory and generative potential. Also, especially for early-career faculty less familiar with the work of their senior colleagues, it may be helpful to circulate CVs or do some introductions prior to engaging in this exercise.
The outcome	**Increased awareness** of team members' interests, capabilities, and potential areas of connection. This replaces existing assumptions and expectations in a low-conflict way that encourages shared learning. **A written product** for each team member that serves as a reference, reinforces understanding, and leads to new and improved collaborative activities.
Example use cases	This exercise is useful for teams at various stages of development. In the first use case described below, it can be utilized by an existing team to reinvigorate connections among members. For new teams (or teams with new members), the second use case, it serves as an opportunity to better understand each other and generate ideas for new collaborative activities. **Renewing Team Connections** There are a couple instances where an existing team may benefit from this exercise. First, for a team that has been working together for a while or wants to move in a new direction, this activity can provide members with "fresh eyes" on what their team members' interests are and opportunities for new directions in their collaboration. A result following the activity for a team like this may be potential changes to how each member engages with the team. Second, for a team with members who are feeling misunderstood or disconnected, this exercise is a soft reset that opens the door for better communication (and clarifications) about each member's areas of expertise and interests as well as how they would like to collaborate and contribute. A result for this type of team after completing the activity is a renewed sense of connection, understanding, and consideration, hopefully leading to ways for members to feel less frustrated and more engaged.

	Sparking New Opportunities
	A relatively new team may use this activity to learn more about each other and brainstorm ways to work together. Alternatively, an existing team welcoming a new member may want to explore various ways to connect with their expertise. Importantly, some prior knowledge needs to exist among team members about each other's interests in order to conduct this activity, but not much is needed as the activity itself provides more opportunities for learning. CVs or other reference documents may be circulated ahead of time, or extra time provided in the session for reviewing these documents, if members know little or nothing about each other's interests. Misconceptions may grow within teams over time, and a lack of understanding each members' broad capacities can limit the team's full collaborative potential, so using this activity early in the team's development can enhance its outcomes.
Q&A:	
- When should this be applied?	As noted in the above use cases, this activity can be helpful for both **relatively new and established teams**. Importantly, some prior knowledge about fellow team members' interests and expertise is needed in order to complete this activity. While "research interests" are used in the worksheet, the interests label can be expanded by deleting the word "research" or recharacterizing it with other adjectives relative to the purpose of the team. For example, a group of faculty looking to co-teach a course may change it to "teaching interests" or think more broadly about "interests and access to resources." This activity works best with **relatively small teams** (~5 members). More time and supporting resources (i.e., information about members' expertise and interests) may need to be provided to larger groups, especially if they are less familiar with each other.
- When *not* to use this?	This tool is most helpful for teams that plan to continue working together and would be less useful for teams who already have a set project idea. This tool can be used more than once with the same team, but using it too frequently with the same people will reduce its impact and could be perceived as unnecessary or a "pop quiz."
- What should I do next?	If used in a **relatively new team**, the documented research interests of team members serve as a quick reference guide as members get to know each other. The noted opportunity intersections serve as brainstorming ideas for potential collaborative activities, which can be explored in future meetings.

		If used in an **existing team to gain fresh eyes**, the renewed insights will hopefully improve collaboration efficiency and communication, and spark new initiatives among members. As above, potential collaborative ideas can be discussed in future meetings.

If used in an **existing team with members experiencing frustration or feelings of being disconnected**, it may be helpful for the group's leader or a member who identified their discontent to follow up with them soon after to see if the activity was helpful and if any changes are needed as a result of the discussion. |
| - | What evidence or sources is this based on? | From the team science literature this activity relates to "**transactive memory**." According to the NRC report on ***Enhancing the Effectiveness of Team Science**,* transactive memory is "shared understanding of 'who knows what'" (p. 64). This helps a team in tailoring how they communicate with each other based on each person's background knowledge, knowing who has the capacity to be tapped for various tasks, and charting future directions for projects based on the teams' diverse expertise.

This type of exchange within a team also enhances "**knowledge integration**" and a team's "integrative capacity." These team characteristics relate to a team's ability to combine their diverse areas of expertise and skillsets into a productive collaboration that creates new knowledge. See a relevant citation below.

    • Salazar, M. R., Lant, T. K., Fiore, S. M., & Salas, E. (2012). Facilitating innovation in diverse science teams through integrative capacity. *Small Group Research, 43*(5), 527-558. |
| - | What if I want to learn more? What are other complementary tools? | For another framing of this activity, among many other topics related to team science, access the ***Collaboration and Team Science Field Guide***. In particular, Chapter 7 discusses communication on a team and is relevant to this activity's topic. The "Debate, Discussion, Dialogue" table (pp. 75-76) notes the benefits of engaging in dialogue on a team, with members working together toward a common understanding. As applied to this activity, the common understanding relates to each other's expertise and interests. |

Linking-Relinking Worksheet

For guidance on using this tool: https://fl-rda.org/linking-relinking-learning-object/

Team Member 1: My research interests:		
Team Member 2: **My understanding of Team Member 2's research interests:**	**Team Member 3:** **My understanding of Team Member 3's research interests:**	*(Repeat as many columns as needed)*
Opportunities (e.g., problems, activities) I see for connecting my interests with Team Member 2's interests:	**Opportunities (e.g., problems, activities) I see for connecting my interests with Team Member 3's interests:**	*(Repeat as many columns as needed)*

Linking-Relinking Example Worksheet

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<table>
<tr>
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Team Member 1: Benito Watson
My research interests:

- Water quality
- Benthic ecosystems (seagrasses and corals)
- Remote sensing (RS)
- GIS tools and techniques to monitor coastal ecosystems

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Team Member 2: Margo Henry
My understanding of Team Member 2's research interests:

- Metabolomics
- Machine learning
- Chemistry

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Team Member 3: Kara Zhang
My understanding of Team Member 3's research interests:

- Coastal communities
- Undergraduate research
- Environmental assessments (water quality)

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Team Member 3: Josefina Case
My understanding of Team Member 3's research interests:

- Bacteria in estuaries
- Water quality parameters (e.g., salinity, turbidity)
- Use of molecular biological tools

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Opportunities (e.g., problems, activities) I see for connecting my interests with Team Member 2's interests:

- Integrating large-scale observations and big data analyses (RS, GIS)

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Opportunities (e.g., problems, activities) I see for connecting my interests with Team Member 3's interests:

- Leveraging students in data collection
- Benthic and water quality assessments along the east coast

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Opportunities (e.g., problems, activities) I see for connecting my interests with Team Member 3's interests:

- Environmental factors related to bacterial outbreaks, including seagrass decline

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