Promoting Science Literacy Through Research Service-Learning (RSL)

An Emerging Pedagogy with Significant Benefits for Students, Faculty, Universities, and the Community

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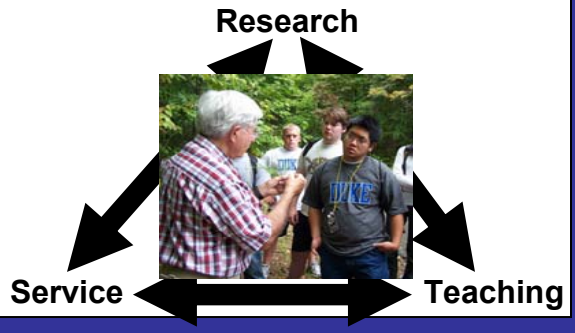
Students as colleagues

RSL → active learning → more engagement → civic responsibility

- RSL promotes learning by:
  - Engaging students in all aspects of planning and implementing research projects
  - Applying course content to "real world" problems
- Coursework has significance beyond the classroom
- Students have a real, invested audience

Faculty as collaborators

RSL lets faculty combine three aspects of academic life in one course, enriching the experience for themselves and their students



Science Literacy

Courses that focus on "covering content" are less likely to promote science literacy than courses that teach:

- Science as a way of thinking
- The strengths and limitations of science
- Diversity and unity of the natural world
- How to use scientific knowledge

Research as Service

RSL teaches students to:

- **Ask questions** relevant to the research needs in their community
- **Work with faculty and community partners** to design and implement research projects to address these needs.

Students learn basic research skills, such as how to:

- Review literature
- Identify research questions
- Take field notes
- Collect and analyze data
- Interpret results

Margined madtom (*Noturus insignis*) from aquatic survey

Students learn to critically reflect on the

- ethical,
- intellectual,
- personal, and
- civic aspects

of their experiences, while also producing a tangible research product (usually a paper) for their community partner.

Neuse River Waterdog (*Necturus lewisi*), an endangered salamander

White-footed mouse (*Peromyscus leucopus*) from small mammal survey

Communities as partners

Park Ranger with Duke student researcher

- In the RSL model, "the community" is viewed as a partner, not as a host or a location.
- Faculty and students work with the community to decide what research needs to be done, and how to do it

Community benefits from:

- New perspectives
- Increased people-power

For example, in two years our RSL course produced:

- 47 student researchers
- 1400 volunteer hours
- 1500 research hours, paid through summer grants

Crayfish identification with state biologists

Colleges and universities building reciprocal partnerships

An "engaged campus"

- Prepares students for lives of civic responsibility
- Contributes knowledge to local and global communities
- Creates new knowledge with the community
- More likely to be perceived as a good neighbor

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