

Internship Program

a guidebook

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C I R T L

Center for the Integration of
Research, Teaching, and Learning

The Delta internship program is a project of the Center for the Integration of Research, Teaching and Learning (CIRTL). CIRTL is a National Science Foundation (NSF)-sponsored initiative committed to developing and supporting a learning community of Science, Technology, Engineering and Math (STEM) as well as Social, Behavioral and Economic Sciences (SBE) faculty, post-docs, graduate students and staff who are dedicated to implementing and advancing effective teaching practices for diverse student audiences.

For more information, visit <http://www.cirtl.net> or e-mail info@cirtl.net.

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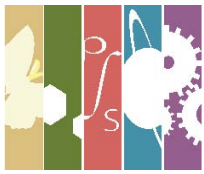
Parts of this guidebook benefited from material in the Creating a Collaborative Learning Environment guidebook written by Chris Carlson-Dakes. In addition, Section II was modeled after the "Internship-in-a-Box" program designed by CareerPhilly to help businesses and organizations in the greater Philadelphia region create meaningful internship programs and apprenticeships. Information about the Internship-in-a-Box program can be found at <http://www.careerphilly.com/AboutUs/content/InternshipInABox.asp>



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**Internship Program:
A guidebook**



Dear Colleague:

Those of our graduate students who choose to pursue academic careers may be doing research and teaching for more than 30 years. We know that your university has prepared your students to be superb researchers. We hope to assist you in preparing them to also be excellent teachers throughout their careers.

This guidebook stems from the work of a community of research-active faculty, graduate students, post-doctoral researchers, and academic staff in science, engineering, mathematics, and social sciences. We believe that the improvement of teaching and learning is a dynamic and ongoing process, just as is our disciplinary research. Our core idea is that improving our students' learning is a research problem to which each of us can effectively apply our research skills in an ongoing way. We see the goals of preparing our graduate students and post-docs to be skilled in research and in teaching as complementary, and as increasing the impact of a graduate education.

We are exploring these ideas by creating, implementing, and evaluating a program at the University of Wisconsin – Madison called the *Delta Program in Research, Teaching, and Learning*. This learning community comprises graduate courses, small-group facilitated discussions among graduate students through faculty, monthly dinners, teaching-as-research internships (both on and off campus), workshops in portfolio development and broader impact statements, and an overarching certificate program. (See www.delta.wisc.edu.)

Three core ideas form the foundation of both our learning objectives for participants and the overall design of our program: Teaching-as-Research, Learning Community, and Learning-through-Diversity. Very briefly, teaching-as-research uses research methods to advance teaching and learning through an ongoing process of discovery and change. Learning communities bring people together to share in their learning and discovery. Learning-through-diversity uses the rich array of backgrounds, skills and ideas in the community to enhance the learning of all.

We invite you to make use of this guidebook as best suits your needs. We provide complete programs that can be followed in detail if you wish. We anticipate that, in the spirit of all three core ideas, you will experiment and find new approaches to this work. We look forward to hearing your results so that we can continue the development of our programs and help others do the same.

On behalf of all of my colleagues, I wish you every success and look forward to hearing of your challenges and accomplishments!

Sincerely,

Robert D. Mathieu
Professor of Astronomy
Director, CIRTL
University of Wisconsin – Madison



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Section I - Introduction

Using the guidebook and general information

A. Using the guidebook

This Delta internship program guidebook is intended to be just that— a guide— an invitation to take lessons learned from the development and administration of our program and to adapt the program or some of its ideas for your own use. It's not *the* way to design an internship program, but it is a compilation of suggestions based on our development experience and our subsequent operation. This guidebook contains suggestions for planning, implementing, and evaluating an internship program, as well as resources for you to use in this process. The Delta internship program is constantly evolving as we learn what provides the most effective internship experience for our participants. That continued development will be reflected in future iterations of this guidebook.

The sections of this guide contain different levels of detail and complexity. Section I highlights some of the features of the Delta internship program at the University of Wisconsin-Madison. It also describes how the program integrates the CIRTl concepts of Teaching-as-Research, Learning Community and Learning-through-Diversity into both the program structure and its activities.

Section II outlines the steps involved in creating an internship program, including: identifying a program coordinator, assessing internal needs, allocation of resources and development of program materials, development and marketing of internship opportunities, processing intern applications, offering a concurrent seminar, and, finally, evaluation of the process. We've also included reflections on various topics that are based on our unique experiences.

Section III contains appendices where you will find examples of actual materials used by our program. We've included a sample focus group protocol for assessing the need on your campus for a teaching internship program. There is also a sample syllabus and weekly agenda for the seminar, which we offer along with the internship experience. Finally, we've included our program evaluation plan and a number of sample evaluation instruments for the parties affected by our program (e.g. interns, their faculty or instructional staff partners, and their degree research advisors).

In writing this guide, we found ourselves walking a fine line between providing just enough detail to get you started and giving so much detail that it seemed overly prescriptive. For some, this level of specificity may seem constraining. For others, it may be a useful tool to move ahead. Please use it in whatever way is most helpful for your context, modifying when and where it makes sense to you and putting your own touch on the framework presented here.

We welcome your thoughts on how useful this guide is. Please contact us with any feedback by e-mailing us at internship@delta.wisc.edu or calling 608/265-9969.

B. The three pillars of CIRTL

The Center for the Integration of Research, Teaching and Learning (CIRTL) and its affiliated project at UW-Madison, The Delta Program, are grounded in three interrelated core ideas: Teaching-as-Research, Learning Community, and Learning-through-Diversity. These are described in greater detail below.

Teaching-as-Research

The improvement of teaching and learning is a dynamic and ongoing process, just as research in any STEM discipline is. At the core of improving teaching and learning is the need to accurately determine what students have learned as a result of teaching practices. This is a research problem to which STEM instructors can effectively apply their research skills and ways of knowing. In so doing, STEM instructors become the agents for change in STEM teaching and learning.

Teaching-as-research (TAR) involves the deliberate, systematic, and reflective use of research methods to develop and implement teaching practices that advance the learning experiences and outcomes of both students and teachers.

Participants in teaching-as-research apply a research approach to their teaching practice. Conceptual steps in the teaching-as-research process are:

1. Learning foundational knowledge
What is known about the teaching practice?
2. Creating objectives for student learning
What do we want students to learn?
3. Developing a hypothesis for practices to achieve the learning objectives
How can we help students succeed with the learning objectives?
4. Defining measures of success
What evidence will we need to determine whether students have achieved learning objectives?
5. Developing and implementing teaching practices within an experimental design
What will we do in and out of the classroom to enable students to achieve learning objectives?
6. Collecting and analyzing data
How will we collect and analyze information to determine what students have learned?
7. Reflecting, evaluating, and iterating
How will we use what we have learned to improve our teaching?

The application of teaching-as-research is meant to lead STEM instructors to a continuous process of discovery and change throughout their careers.

Learning Community

Learning communities bring people together for shared learning, discovery, and the generation of knowledge. Within a learning community (LC), all participants take responsibility for achieving learning goals. Learning communities are the process by which individuals come together to achieve learning goals. These learning goals can be specific to individual courses and activities or can be those that guide an entire teaching and learning enterprise.

The following four core ideas are central to the learning community process:

- *Shared discovery and learning*: Collaborative learning activities, where participants share responsibility for the learning that takes place, foster the development of a learning community. Rather than relying on traditional “expert-centered” lecture formats, practitioners should include collaborative learning techniques so learners can see their contributions to the learning goals.
- *Functional connections among learners*: Learning communities develop when the interactions among learners are meaningful, functional, and necessary for the accomplishment of the “work” within the courses or learning activities (rather than serving as “window dressing” or simply as “feel good” activities). Moreover, meaningful connections must extend throughout the entire learning community— among students, post-docs, faculty, and staff— rather than simply among cohort- or role-related peers.
- *Connections to other related learning and life experiences*: Learning communities flourish when implicit and explicit connections are made to experiences and activities beyond the course or program in which one participates. These connections help situate one’s learning in a larger context by solidifying one’s place in the broader campus community of learners and life experiences. These connections decrease one’s sense of curricular and personal isolation.
- *Inclusive learning environment*: Learning communities succeed when the diverse backgrounds and experiences of learners are welcomed in such a way that they help inform the group’s collective learning. Whenever possible, activities should be sought that help participants reach out and connect with others from different backgrounds than their own.

Learning-through-Diversity

The literacy and engagement of all students in science, technology, engineering, and mathematics is a priority goal for U.S. higher education. CIRTl seeks to contribute to this goal by enabling present and future STEM faculty to enhance the learning of all students whom they teach irrespective of, but not limited to, preferred learning styles, race, ethnicity and culture, gender, sexual orientation, disabilities, religion, age, or socioeconomic backgrounds.

CIRTl’s contributions to diversity in STEM are founded on the principle that excellence and diversity are necessarily intertwined. Faculty and students bring an array of experiences, backgrounds, and skills to the teaching and learning process. Effective teaching capitalizes on these rich resources to the benefit of all, which we call “Learning-through-Diversity.”

At the same time, CIRTl recognizes the reality that existing social and educational practices do not always promote equal success for all learners. Thus, creating equitable learning experiences and environments requires intentional and deliberate efforts on the part of present and future faculty. CIRTl is committed to developing a national STEM faculty that model and promote the equitable and respectful teaching and learning environments necessary for the success of learning-through-diversity.

To achieve these goals, CIRTl provides development experiences, programs and resources that promote the abilities of present and future faculty members to:

- Know the diverse backgrounds of their students and their implications for learning.
- Identify curricular, teaching and assessment practices that promote learning for all.
- Draw upon the diversity of their students to enhance and enrich the learning of all.

- Recognize existing inequities and promote an equitable, inclusive and respectful climate for learning.

These aims require specific attention of the practitioners to:

- *Practitioner-participant interactions*: such as inclusion and engagement of the ideas of all participants, respectful teaching behaviors, accessibility for all participants, and mentoring of less experienced practitioners.
- *Participant-participant interactions*: such as welcoming and respectful inclusion in collaborative work, respect for the ideas of all and recognition of their value, and accessibility in activities that occur outside of the primary learning environment.
- *Participant-content interactions*: such as how participants experience content, how content can be adapted and varied, and how exploring novel contexts for presentation can enrich the experience of participants and practitioners alike.

C. What is the Delta internship program?

The Delta internship program provides graduate students and post-doctoral researchers in the STEM and SBE disciplines at UW-Madison with opportunities to put their understanding of teaching-as-research, including learning-through-diversity and learning communities, into practice.¹

Delta internship projects are designed to give interns authentic teaching experiences, either in the classroom or in an informal science education or outreach setting. Internships can be created around a project started in a Delta course, interested students can devise their own projects, or the program has developed a number of exciting opportunities. Internship projects can include, but are not limited to:

- Adding an evaluation component to an existing course or laboratory;
- Developing an informal science education or outreach project;
- Curriculum (re-)design and implementation; and
- Instructional material design and implementation.

More information about opportunities at UW-Madison and other local and regional institutions is available at www.delta.wisc.edu (click on the "Internships" link).

Through the program, interns are paired with a faculty or instructional staff partner to address *real* teaching and learning problems. The word partner was chosen, instead of mentor, to reflect the notion that both the intern and faculty or instructional staff member can and will contribute to the relationship. For instance, the intern will come to the project with knowledge of teaching-as-research, an interest in using the diversity of participants' backgrounds and experiences to enhance the learning for all, and an understanding of how to use learning communities as a vehicle to improve participant learning. The partner brings disciplinary knowledge and his or her experience teaching to the table.

Time and money are issues for many, and so the program encourages interested students to overlap the internship with their other teaching responsibilities, as a Teaching Assistant (TA), for example. However, the internship is different than a TA-ship, because interns work in

¹ The program's initial focus was on STEM graduate student professional development and this focus is reflected in the program materials. More recently, the program has begun to market its activities more broadly to include participants from the SBE disciplines.

partnership with a faculty or instructional staff mentor on a teaching and learning issue in undergraduate education, informal science education and outreach, etc. The key idea is that the intern designs and implements a solution to this issue, and analyzes the learning that occurs as a result of the solution. Interns also attend a concurrent seminar and create materials for their teaching and learning portfolio. On average, interns can expect to spend on average about 3-5 hrs per week during a semester. This includes meetings with their faculty or instructional staff partner and attendance at the program seminar. Finally, funding for Delta internships varies among opportunities, Any money that is available is provided by the partner.

The internship experience is designed to meet the requirements of the required one-credit seminar and occurs in addition to the student's TA responsibilities. The seminar runs concurrent with the internship experience, and is meant to provide a community of peers similarly engaged in TAR projects to share resources and provide feedback. Post-doctoral researchers do not take the seminar for credit. Lastly, in addition to coordinating the seminar each semester, the program is responsible for developing opportunities on campus and at local and regional colleges and universities and for connecting graduate students and post-docs with these experiences.

This guidebook is designed to assist you in thinking about adapting the program or some of its ideas to fit your campus needs and culture.

D. Program goals

The Delta internship program was created around five goals for its participants. The following goals have been modified slightly from the original program goals, based on our experiences running the program.

1. Interns further develop their teaching and learning skills and interests by doing a teaching-as-research project. Participants will reflect on what they have learned as they integrate classroom theory into practice.
2. Throughout their projects, participants gain practical experience applying the concepts of teaching-as-research, learning-through-diversity, and learning communities. Interns will work in partnership with a faculty or instructional staff member to identify a problem in teaching and learning, then propose, design, implement, and evaluate a solution. As part of this process, interns will use learning communities to draw on the diversity of participants and enhance learning for all.
3. Doing a project results in improved intern and partner understanding about how to improve student learning through the use of teaching-as-research, learning-through-diversity, and learning communities. Interns benefit from their teaching practice, and their teaching-as-research efforts are directed at improving student learning in the classroom.
4. Participants benefit from hearing about the diversity of projects and experiences of other interns. Since participants come from across the STEM and SBE disciplines and the focus of their projects is equally broad, they have the opportunity to benefit from this diversity of perspectives.
5. Intern and partner(s) continue to be involved in the Delta learning community and use teaching-as-research after the internship. We hope that the intern and partner value their connection to the larger Delta learning community and continue to be involved and that teaching-as-research becomes a natural approach toward teaching and learning that persists beyond the boundaries of the internship.

E. Program requirements

The requirements for successful completion of the Delta internship program include the following:

1. Completion of the semester long teaching and learning course prerequisite
2. Application and acceptance to the program
3. Preparation and acceptance of a teaching-as-research proposal, developed in cooperation with the partner
4. Human subjects approval
5. Participation in an internship with the faculty or instructional staff partner(s)
6. Participation in the internship program seminar
7. Writing the reflective statement and a final summative report
8. Evaluation of the internship

Each of these requirement areas is now described briefly; a more detailed description can be found in the student internship program guidebook.

1. Completion of the teaching and learning course prerequisite

Students must successfully complete a semester-long teaching and learning course prior to the internship to ensure that all participants bring an understanding of the three CIRTl pillars to their internship project.

In practice, we've found that there is still a lot of variation between students. This is due to several factors: the Delta program themes are stressed to different degrees in each course; interns possess varying amounts of prior teaching or outreach experience, which in turn influences their internship project and their participation in the seminar.

2. Application to and acceptance into the program

An intern needs to submit the following items:

- Application form
- Curriculum vitae
- Form containing faculty degree research advisor's signature.

3. Teaching-as-research proposal

As part of the application process, the intern is required to submit a brief proposal outlining the intended internship experience. The first section of the proposal details the project design and is to be jointly developed by the intern and partner. The intern, however, is expected to write the entire proposal.

4. Human subjects approval (Institutional Review Board)

A number of interns elect to write up their experiences for publication, even though this is not a program requirement. To comply with university regulations, interns are required to take the university's Human Subjects Protection tutorial sometime during the semester in which they are taking the internship seminar, *unless* they intend to publish the results of their teaching-as-research project from the outset. Then they are directed to complete the tutorial *before* the project begins.

CIRTL holds an approved project-wide Institutional Review Board (IRB) proposal. If what interns are doing in their project constitutes “normal educational practices,” as defined on the university Web site, they are covered under the center’s proposal. They can then contact the internship program to obtain an official, date stamped informed consent form to use with participants in their project.

If an intern project involves videotaping, taped interviews with participants or minors, they are required to submit their own proposal to the university’s IRB for review. If needed, Delta internship program staff will serve as a principal investigator on these projects to expedite the process.

5. Teaching-as-research continued— working with a partner

Students have the option of either identifying their own faculty/instructional staff partner and internship experience (pending approval of internship program staff) or of seeking assistance from the program. Experiences can encompass a range of activities. Also, projects can also occur in a number of academic and non-academic settings.

Listed below are basic criteria for Delta internship experiences:

- Students and partners collaborate to define a teaching and learning question and devise, implement, and evaluate a solution for improving participant learning.
- The experience will be based on the three program themes: teaching-as-research, learning-through-diversity, and learning communities.
- Experiences can occur at UW-Madison, at other colleges and universities, or in the community.

To date, most intern projects have occurred on the UW campus, or at a local liberal arts college or technical college. It has been a challenge to get students interested in going off-campus to do internships at two and four year comprehensive campuses in the University of Wisconsin System, even though the program has developed a number of opportunities on these campuses.

6. Participation in the internship program seminar

For the internship program seminar, interns meet ideally during the semester in which they are doing their projects. Participants reflect on their experiences, provide constructive feedback on each other’s activities, and discuss topics relevant to their projects or their ongoing professional development. The seminar is discussed in greater detail below.

7. Writing the reflective statement and a final summative report

To complete the Delta internship, students need to write both a reflective statement and a final summary report. They are also asked to fill out an online evaluation of their experiences.

The Delta internship program uses these documents as an official summary of intern experiences and to evaluate the program’s effectiveness. The reflective statement should address how an intern’s thinking and practice changed as a result of their experiences. The summary report should also be something that the intern’s faculty or instructional staff partner can use the next time he or she uses the internship’s products in his or her own teaching, informal science education, or outreach activities.

F. Addressing the CIRTL pillars

The CIRTL pillars of teaching-as-research, learning-through-diversity, and learning community are infused throughout the Delta internship program, but are probably most prominent in the seminar. The seminar also provides program staff with a recurring opportunity to develop our own engagement in teaching-as-research. For example, past iterations of the seminar were designed around the *hypothesis* that interns will develop a deeper understanding and become proficient practitioners of teaching-as-research by observing it in practice *in addition to* talking about it *and* engaging in it along with their partner. Seminar activities were designed to challenge and deepen intern understanding of the CIRTL pillars and this understanding was assessed in various ways.

The seminar also serves as a learning community for internship program participants. Participants share responsibility for the learning that takes place in the seminar by being regular contributors to discussions and by planning and facilitating one seminar meeting. The seminar brings to light connections to other related learning and life experiences. Interns are required to create a teaching and learning portfolio to complete the Delta Certificate Program. During the seminar interns have been required to attend a Delta teaching portfolio workshop to help them think about how to turn their internship experiences into materials for the teaching and learning portfolios. The topic is revisited at a later date in the semester, as participants share portfolio materials and provide constructive feedback to each other. Finally, efforts are made to make the seminar an inclusive learning environment. For instance, interns come with diverse backgrounds (e.g. disciplinary and otherwise) and experiences. Intern projects are also very diverse. Interns are encouraged to share their experiences as they contribute the group's collective learning about what it means to do teaching-as-research.

An intern's understanding of learning-through-diversity is challenged and stretched in two places in the program. The first is when the intern writes the proposal as part of the application process. The program coordinator assumes the responsibility of making sure that interns plan to address this pillar by including activities in their projects to do so. The second place is in the seminar, when interns share their views of the concept with each other and the facilitators. We aim to model our understanding of the concept by getting to know the diverse backgrounds of our participants and in turn using teaching and assessment practices in the seminar that promote learning for all. Our attention is directed primarily at including and engaging the ideas of all of our participants and developing a climate in which there is respect for the ideas of all and recognition of their value.

Section II - Developing a Teaching-as-Research Internship Program

A. Unique features of a teaching-as-research internship program

What does it mean to create an internship program founded upon the principle of teaching-as-research? For one thing it means providing a place for students to put into practice the understanding of teaching-as-research that they have developed through their prior coursework. For our program, internships generally occur in either a traditional academic setting or an informal educational setting. Internship experiences are available either on the UW-Madison campus or off-campus and encompass a range of activities including, but not limited to:

1. Adding an evaluation component to an existing course or laboratory
 - A possible project might be to add real-time formative evaluation to an existing course to improve instruction. One could use an online assessment instrument (Student Assessment of Learning Gains <http://www.wcer.wisc.edu/salgains/instructor/>) to do this.
2. Curriculum (re-)design and implementation
 - A previous intern created a new curriculum for a summer engineering program that integrated chemistry, math, physics, and technical communication into a single engineering design project. The effectiveness of this integrative approach for improving learning was then evaluated.
3. Instructional material design and implementation
 - A previous intern worked at a local technical college to develop an online learning object to help students understand topics related to fuel cell technology. He then used this tool in the classroom and evaluated whether it improved student learning.
4. Developing the instructional potential of STEM research for the classroom or through an outreach project.
 - A previous intern also with the Internships in Public Science Education (IPSE) program designed a museum exhibit to explain concepts in nanotechnology to the public.

The three CIRTl pillars, teaching-as-research, learning-through-diversity, and learning community must be integrated into all intern projects.

B. The benefits of an internship experience

An internship program offers benefits to the graduate student and post-doc participants as well as the faculty or instructional staff partner. For students, such a program offers a chance to develop the skills and apply the knowledge they have learned in campus teaching and learning courses to real world problems. Other benefits to student participants depend upon the specifics of their internship project and can include, but are not limited to, the chance to:

- Frame an experience as a teaching-as-research project
- Explore what TAR is in practice and how to use learning communities and the diversity of participants to enhance learning for all
- Talk to and connect with a group of peers who are also doing TAR projects and exploring these ideas in practice
- Become part of a learning community of one's peers
- Receive peer feedback on course materials/assessment instruments/etc. before using them
- Benefit from the structure and support of the Delta internship program and have access to its resources

Section II - Developing a program

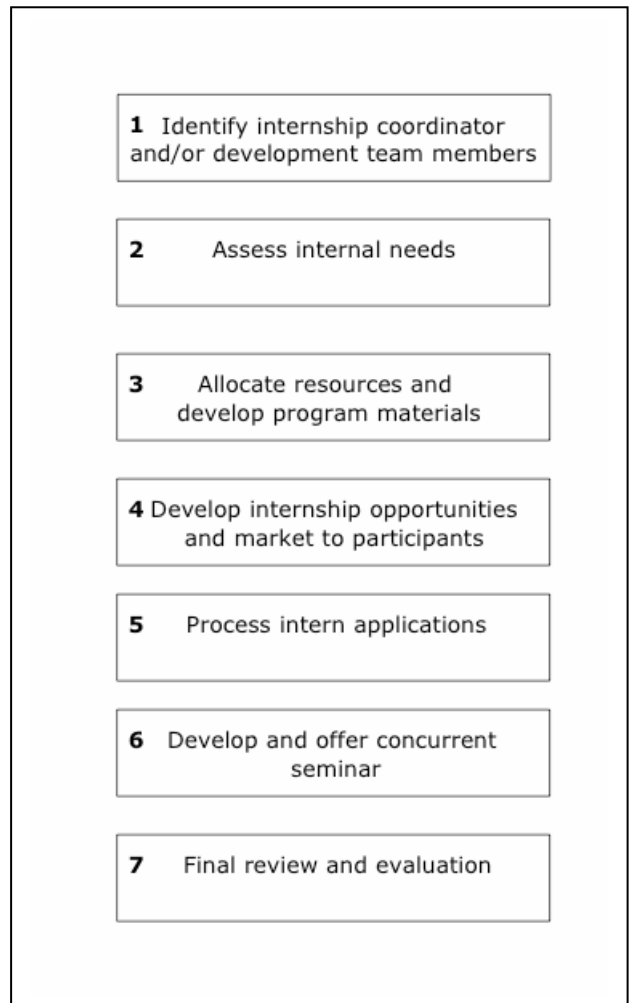
- Receive a letter of reference about one's teaching by working with the program staff
- Broaden the impact of one's research by connecting it to curriculum
- Create instructional materials and/or hands-on laboratory activities with potential use in other venues
- Develop the skills to articulate concepts that are central to one's discipline and research area to others outside one's field
- Explore different approaches to teaching material to a small or large group of students
- Develop the skills to effectively assess diverse learners
- Connect and exchange ideas with other graduate students and/or post-docs interested in teaching and learning issues

Benefits to faculty and instructional staff partners include, but are not limited to, the following:

- Working with an intern is a way to further define a problem in teaching and learning, implement a solution, and assess its effectiveness for improving learning
- This is a chance to work one-on-one with a graduate student or post-doctoral researcher who is very interested in teaching and learning
- Interns are experts in their STEM or SBE field of study
- Interns are enthusiastic colleagues with new ideas about teaching and learning in the classroom and/or outreach setting
- Working with an intern is an opportunity to build connections within the university, between departments and programs, or between universities for off-campus opportunities
- This is an opportunity to make a difference in someone's life and influence future faculty development

C. The internship process

The process chart at right details the steps involved in development of the Delta internship program. Our hope is that these steps could be used to develop or refine a similar program on your campus. Ongoing administration of the program involves steps 4 through 7, with periodic revisions to program materials (step 3) as required via feedback from participants and others. You can use this chart to track your progress as you develop or revise your own program. Each step will be discussed in greater detail below.



D. Identifying the internship coordinator and development team members

Internship coordinator and time commitment

The coordinator is responsible for implementing the various steps involved in creating and running a successful internship program.

An obvious question is, "How much time will this take?" The Delta internship program was designed with one half-time academic staff member co-leading a six-member development team and conducting day-to-day program activities. The program is currently coordinated as part of the Delta Program in Research, Teaching and Learning by a half-time academic staff member with a graduate student Project Assistant and undergraduate student hourly support. Time is a realistic constraint, but if providing graduate students and post-docs with this type of exceptional professional development opportunity is a campus priority, you will be rewarded many times over for finding the time to make it happen.

The coordinator of our program does the following: processes all intern applications, provides feedback on proposals by request, facilitates a bi-weekly seminar each semester together with a faculty or instructional staff partner, is available to observe and provide peer feedback to interns implementing their projects, develops opportunities through one-on-one conversations with faculty and instructional staff, develops the opportunity descriptions, develops materials to market the program to interns and partners, gives formal and informal presentations on the program on campus and to other interested institutions, evaluates the program, and revises program materials and approach based on the formative feedback collected.

Development team members and responsibilities

Creation of the Delta internship program was supported with the time, talents and intellectual contributions of a dedicated development team. Faculty, academic staff, graduate students, and postdocs from our campus and a faculty member from a local partner institution volunteered to be team members. The team met consistently (usually every other week) during the year of program development and less frequently once the program was operational. Involving a faculty member from a local partner institution in the design and development process was a great idea. That faculty member became an enthusiastic advocate for the program on her campus. The program has since placed a number of interns there, with more to follow in the future, as interest continues to grow among faculty and instructional staff there.

In general, the Delta internship program development team made decisions integral to program creation. The most effective use of team time was working meetings, where team members offered comments and suggestions on everything from the conceptual underpinnings of the program to the design and content of general program materials. As the program moved from development to implementation, the role of the development team changed. The group has begun to serve in more of an advisory capacity, giving less attention to administrative details of program operation.

E. Assessing internal needs

Needs of potential participants

The internship program was always intended to complement the teaching and learning courses offered through Delta, by providing a venue through which students could develop their skills and apply the knowledge they learned in these courses to real world problems in teaching and learning. Early on in program development, we held a focus group composed of our campus' STEM graduate students and postdocs. We wanted to learn two things: 1) Was there interest in or a need for a teaching internship program on our campus? And if so, 2) How could we create

the best program? Our goal was to solicit and incorporate as many ideas from potential future participants as possible into the program. A sample protocol is included in Appendix A.

Our focus group allowed us to learn the following things. Participants felt that there was a need for a teaching internship program on our campus, but that creating a successful one would be a challenge. Participants in our focus groups were already involved in a number of different teaching and learning activities in addition to their disciplinary research. This suggested that the intrinsic value of gaining practical teaching experience brought them to the table to talk. Two ideas seemed to dominate the conversation. First, the Delta internship program would need to develop a good reputation and be widely recognized both on campus and nationally for it to really benefit participants. Second, monetary remuneration for interns could be an important incentive for participation, particularly for student from departments and programs where teaching assistant and research assistant positions pay the bills. These findings may or may not be specific to our campus, but it was important to discover the opinions of this group.

Needs of faculty and academic staff partners

We've also found it important to address the needs of the faculty and instructional staff members who will serve as partners for interns by offering internship experiences tied to their own teaching activities. Much of this assessment is achieved through one-on-one consultations with potential partners as the internship opportunity is being defined.

F. Allocating resources

The allocation of resources has proven important to creating an environment in which interns can succeed. Delta decided at the outset *not* to provide financial compensation for interns to give the program the best chance for long-term sustainability on campus. Some of the opportunities we have since developed come with financial support, particularly when we connect with other programs. The lack of monetary support is offset by the time resources the program allocates to support interns in their projects as well. You will need to think carefully about the allocation of financial, time, and material resources as you develop your program. Below are questions you may want to consider.

Financial resources

- Will interns be paid for their experience, reimbursed for travel associated with the internship, or provided housing for off-campus opportunities?
- If so, what is the source of funding?
- Is it a sustainable source of funding?
- Will funding limit the number of interns your program can handle at any given time?
- How will the program coordinator be paid?
- If the program coordinator is supported by administrative or student help, what is the source of funding?

Time resources

- Will the program coordinator be supported by administrative or student help?
- Will the program coordinator be available for one-on-one consultations with interns before, during, and after their participation in the program?
- How will internship opportunities be created and updated?
- Will the program coordinator be available for one-on-one consultations with faculty and instructional staff partners before, during and after their participation in the program?
- Will the program specify that the faculty or instructional staff partner set aside regular time for meetings with the intern?

- What are the program expectations for time an intern will devote to the project, given his or her normal degree requirements?
- How will the internship program and opportunities be marketed to potential participants (e.g. Web site, print materials, etc.)?
- Who will be responsible for maintaining a program Web site and/or creating and distributing marketing materials?
- Who will facilitate an accompanying seminar each semester that interns implement their projects?
- Who will be responsible for updating and revising program materials (e.g. Web site, print materials, etc.)?
- Who will be responsible for program evaluation?

Material resources

- Will the program provide any direct material resources to the intern or partner (e.g. access to a computer and/or software for qualitative data analysis)?
- Will the program provide any print resources to the intern or partner (e.g. guidebook) or will they be available online?

G. Developing program materials

The Delta internship program is supported by a number of materials. For instance, the program guidebook, application forms and instructions, frequently asked questions for interns and partners, and opportunity descriptions are available online at www.delta.wisc.edu or in print form upon request.

During the early planning stages, the Delta internship program development team reviewed many internship programs across the nation to gather ideas and examples of best practices. A number of programs were particularly useful in creating the conceptual foundations of the Delta internship program as well as materials like its guidebook and application forms.

A listing of national programs can be found in the Innovative Programs database (<http://ed-web2.educ.msu.edu/JHernandez/main.htm>), which is maintained by the Center for the Integration of Research, Teaching and Learning. The database contains a repository of existing innovative national STEM programs and programs related to teaching and faculty development.

H. Developing internship opportunities and marketing to participants

Opportunities

Our approach to developing internship opportunities involves one-on-one meetings with interested faculty and instructional staff, whom we call “partners.” Partners are often enthusiastic to offer internship experiences that are tied to their own teaching and learning activities. During these meetings we discuss their perceived needs, whether the project relates to their classroom, teaching laboratory, or informal science education, and outreach activities. The opportunity description is then developed by the program coordinator and posted on the program Web site (see appendices D and E). Information from the opportunity descriptions is also used in marketing efforts to potential interns (e.g. e-mail and/or print flyers (see appendices B and C).

We think of the internship project description as a job description. The more detailed information you can provide, the more likely you are to interest a student. The description can include the following:

- Partner contact information
- Start/end dates

Section II - Developing a program

- Compensation
- Listing of skills or desired background expertise
- Benefits to the intern in choosing the opportunity
- Description of the intern's tasks and responsibilities
- Information about the project (e.g. course, laboratory, informal science education, or outreach activities)
- Teaching-as-research question(s) guiding the project
- Benefits to the partner of working with an intern on the project

Note: More students are coming to us with their own project ideas than those who are taking advantage of the opportunities we have developed. In the future we will direct our marketing efforts not only at raising program awareness, but also at connecting course participants with existing internship opportunities. To this end, we have begun marketing internship opportunities in the prerequisite Delta courses. Our hope is to have students begin to think about these internships as the project topics for the courses.

When the program coordinator works with a prospective intern to turn her ideas into an internship, it is a chance to match the student with an existing opportunity. It is also an occasion to address a student's long-range interests. For example, a student interested in teaching in a small liberal arts environment might benefit greatly from an off-campus opportunity.

The role of the faculty or instructional staff partner

Throughout the internship, we hope that the intern and partner meet regularly. The partner should plan to make a time commitment to the intern's experience. This commitment will vary with the nature of the project. Both parties will benefit as an intern will share new ideas about teaching and learning based on their Delta course work with their partner, and, in return, the intern will benefit from the teaching experiences of their partner.

When developing an opportunity with a potential partner, be sure they understand how we view their responsibilities in working with an intern. As a partner, we stress that they will need to be:

- Actively engaged in defining the teaching and learning problem and creating a solution (through ideas, feedback, etc.)
- Providing a "big picture" perspective to help the intern see how his or her work fits into the project as a whole
- Interested in the intern's activities and willing to provide guidance as well as constructive criticism
- Supportive, available, and able to maintain regular meetings to discuss progress on the project and any difficulties encountered

This working relationship also provides an opportunity for the intern to learn from his or her partner in many other ways. The intern can refine his or her teamwork and communication skills. It can be a time for the partner to offer guidance about aspects of professional work ethic and departmental culture, such as time management and striking a balance between excellent teaching and continued research progress. The partner can assist the intern in learning from his or her mistakes to overcome challenges. In addition, because interns may be

interested in exploring academic life in another campus setting, the partner might help the intern make other professional contacts by seeking opportunities to introduce the intern to other departmental faculty and staff. The partner can answer general questions about faculty life in their department or on their campus, if different from the intern's. After the internship ends, the partner might offer to provide a letter of reference for the intern detailing his or her teaching and learning activities within the project.

Meaningful project work

The Delta internship program provides graduate students and post-docs in the STEM and SBE disciplines at UW-Madison with opportunities to put their understanding of teaching-as-research, learning-through-diversity, and learning community into practice. This is an opportunity for them to build on what they learned in their Delta coursework by applying it to real world problems. Attention is given to the nature of interns' project work to prevent them from becoming a source of free labor. There are several elements of meaningful project work to consider:

- Meaningful tasks are those designed to challenge interns to apply their knowledge or improve their skills.
- Setting goals together allows interns to break larger tasks down into actionable items with goals for completion. Setting milestones provides a sense of accomplishment once each has been achieved.
- Time frame: Many interns will implement some part of their project during one semester. However, this is often bracketed by time spent on project development and analysis and reflection. Keeping this in mind will permit the intern and partner to outline reasonable goals and tasks for the project.

Often, when defining a project, the internship coordinator will meet with the intern and partner. The goal of this meeting is to create a project that best matches everyone's needs and goals.

Marketing

We've found that there is no single best way to raise awareness of the program and recruit student participants. Mass e-mails work for some, flyers and direct mailings work for others, while word of mouth is effective once you've built up a core of past participants. Departmental presentations and broadly advertised informational sessions are also effective forums for raising interest, though they can be time-intensive.

Since our interns are *required* to take a one-semester Delta teaching and learning course as a prerequisite to participating in the program, we've targeted our marketing efforts at students in these courses each semester. One thing we've discovered more recently is that interns are coming to the program with ideas they've developed as course projects. Our future marketing efforts will be directed at not only raising awareness of the program, but also at encouraging course participants to connect with internship partners early on so that they can develop their internship ideas as course projects prior to actually starting the internship.

Much program effort and time also goes into marketing the programs to faculty and instructional staff on campus and at local and regional colleges and universities. Delta offers a faculty workshop to assist in effectively designing successful broader-impact initiatives for National Science Foundation proposals. By proposing to work with Delta, faculty leverage Delta's courses and internship program, providing multiple avenues for faculty to accomplish their proposals. This has been a very successful avenue for raising faculty interest in the program. A similar workshop is offered for graduate students and post-docs.

Several times each semester the program sends e-mails reminding all current and past program participants about the internship program and highlighting upcoming internship opportunities. A sample marketing e-mail can be found in Appendix C. A general marketing flyer, available to participants in Delta activities, as well as at departmental presentations and informational sessions, has also been included in Appendix B.

Internship opportunities are also advertised on the Delta Web site (Appendix E). One or two internship opportunities are showcased on the Delta program's home page and rotated every couple of weeks. Opportunity descriptions are available online in PDF format for interested students.

I. Processing intern applications

In order to be eligible for a Delta internship, interested students must have completed one semester-long Delta teaching and learning course or its campus equivalent. The internship experience itself is a prerequisite to the Delta Certificate. As such, students are not formally screened, though they do undergo an informal screening as they negotiate potential projects with faculty or instructional staff partners. The program coordinator is also available to provide feedback on internship project proposals, which serves as another checkpoint before students officially begin their projects. In the proposal, intern candidates address elements of project design (see program guidebook in Appendix J), which include:

- Identifying the teaching and learning question or problem to be addressed
- A review of the literature
- The proposed teaching-as-research strategy for addressing this problem
- The roles and responsibilities the intern and his or her partner will have in the project
- A proposed timeline for activities

Having the program coordinator review intern proposals guarantees that all incoming interns are thinking about accomplishable elements of teaching-as-research projects and a realistic timeframe. The final part of the application process is a signatures form broadly defining the goals and expectations of the program for the intern (see Appendix J). The form requires signatures of both the intern and his or her research/degree faculty partner. Signing provides formal recognition that each has read and understands the requirements of the Delta internship program. This is also to ensure that the student realizes that the internship will be pursued alongside his or her regular graduate degree requirements and that the partner supports the student's involvement.

J. Developing and offering a concurrent seminar

Depending upon program design, the scope of internship projects can vary greatly, and for many students, the internship can be their first "real" teaching experience beyond serving as a teaching assistant. Offering a seminar concurrent with the internship projects provides a forum for interns to connect with peers involved in a similar experience. Students in our program tend to place great value on the seminar.

Delta offers a one credit seminar each academic semester. It was created as a place for participants reflect on their experiences, provide constructive feedback on each other's projects, and discuss relevant topics. The seminar also helps participants reflect on translating their experiences into material for their teaching and learning portfolio. It meets every other week during the semester for 1.5 hours.

The internship experience itself is not funded by the program, but is offered for credit. Our only concern was awarding credit fairly, given the anticipated variability, in terms of scope and depth, of intern projects. Students can count the credit toward a distributive minor in their graduate degree. Because the seminar is for credit, participants feel responsible for completing assigned work, though we strive to keep out-of-class work minimal because interns are engaged in project-related activities. This is one of many areas where student feedback has helped shape the program.

In addition, a for-credit seminar allows students to more easily overlap their internship with a teaching assistantship. A Delta internship is conceptually different from a TA position, in that the intern, in partnership with a faculty or instructional staff member, designs and implements a solution to an issue in the classroom or an outreach setting and analyzes the learning that occurs as a result of the solution (teaching-as-research).

The seminar is designed to create a learning community of interns who are all actively doing teaching-as-research projects. Shared discovery and learning is promoted through the class collectively deciding which topics will be addressed throughout the semester and by having each student plan and facilitate one session. Functional connections are fostered through discussions and activities that will help interns implement their projects more effectively. The contributions of all participants are valued, and all are engaged in an exploration of what it means to do teaching-as-research well. Connections to other learning and life experiences are identified by having each intern attend a Delta portfolio workshop and introduce the topic to the seminar at a later date. The seminar acts as an inclusive learning environment by incorporating the interns' diverse backgrounds and experiences in project-based discussions.

One of the ongoing challenges of the seminar is that participants possess different amounts of previous teaching experience and different levels of teaching-as-research understanding. The most effective way to address this has been to bring it to the forefront, which makes for a rich discussion and presents opportunities for participants to learn from their peers. Students who attend the seminar after completing their internship projects because they completed their projects in the summer (if no summer seminar was offered due to insufficient interest) or because their schedule precludes taking the seminar concurrent with project implementation can also be an obstacle. Having participants contribute to the syllabus for the semester enables the facilitator to be sure that everyone's needs are addressed.

Appendix F includes: a sample syllabus, the tentative schedule for the semester before and after student input, and the first few facilitator-generated individual class agendas. This material is representative of a semester in which students planned and facilitated sessions. Students created agendas for the sessions that they facilitated, however, examples are not included here.

Appendix G includes: a sample facilitator-created syllabus and accompanying individual class agendas. The facilitator created all of the materials in the second set. They are representative of a semester in which students were involved in the planning of individual class sessions, but were not part of the session implementation.

K. Final review and evaluation

Assessment is an important part of teaching-as-research and a clear assessment approach is necessary to determine whether or not students are learning. Your assessment should focus on how well your program is meeting the needs of interns. You may also want to evaluate whether the needs of interns' partners are being met.

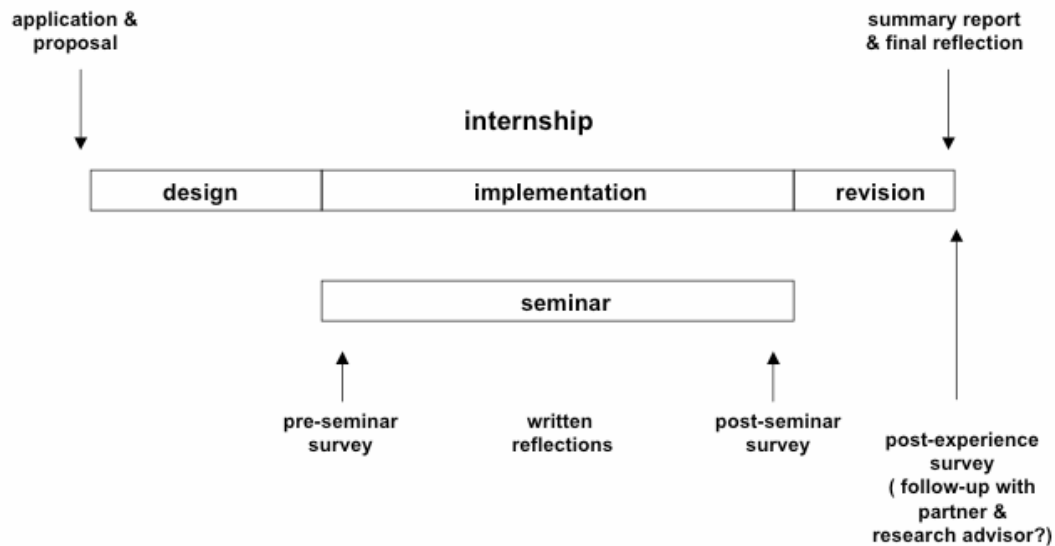


Figure: Delta internship program assessment timeline.

As indicated in the figure, a Delta intern is assessed a number of times during the internship. The internship has three phases: a project design phase, one for implementation, and a period of revision. The seminar is ideally taken concurrent with the implementation phase of the internship. The entire internship experience is bracketed by the application to the program and the writing of a summary report and final reflection and on the other end. Interns also complete a post-experience survey.

Data about intern understanding of the core concepts of the Delta program, and how these ideas play out in practice is captured by two surveys. These instruments are given to interns at the beginning and end of the seminar. The pre- and post-seminar surveys are included in Appendix H. Depending upon the nature of the seminar, written reflections may also be collected during the semester.

To guide our assessment process we developed a program evaluation plan (Appendix G). This plan was created in consultation with an evaluator from the CIRTL project. A useful resource for thinking about program evaluation is a publication by the LEAD Center at the University of Wisconsin-Madison: (Pfatteicher, S. K., Bowcock, D., & Kushner, J. L. (1998). *Program assessment tool kit*. Madison: University of Wisconsin-Madison, LEAD Center. It is available online at <http://homepages.cae.wisc.edu/~lead/pages/internal.html>. The program evaluation plan has helped us clearly define our program goals for participants, what activities we use that support those goals, and what evidence we have to substantiate our claims.

Our goals can also be thought of as research questions we are interested in answering. For example, one simple question that we have is: "Are interns satisfied with the format, content

and approach of the internship seminar?" We see seminar revision based on student feedback during and following each semester as an activity that supports student satisfaction.

More difficult to address are the questions: "Do interns report improved ability to enhance and evaluate learning in their classrooms, informal science education or outreach activities?", "Are the core programmatic ideas of teaching-as-research, learning communities, and learning-through-diversity part of their self-reported skill set?", and "How are they represented?" We view our seminar discussions about effective teaching and activities related to project implementation as supportive of interns' improving ability to enhance and evaluate learning in their projects. Finally, we consider the summary report and final reflection (as compared to the initial proposal) to be credible sources of evidence that an intern's self-reported skill set has improved. We also include open-ended questions on our post-seminar and/or post-experience survey (Appendix H) to address this point.

We also value feedback from the intern's faculty or instructional staff partner. We're interested in learning how they thought the experience went and what we can improve as a program to enhance the experience for other interns and partners in the future. We hope that partners felt the experience was a positive one and that they will elect to work with interns in subsequent semesters. Our survey questions for partners are included in Appendix I.

In addition to the evaluation instruments included here, there are also several other sources of program-relevant data available to us. The CIRTL participant database contains basic demographic information about participants and their program participation history. We also created a database of internship participants interested in pursuing the Delta Certificate. These sources of information enable us to answer questions like, "Are a sufficient number of opportunities and partners available on and off campus such that a broad representation of STEM and SBE disciplines are included?"

One final idea bears mentioning—that of participant burden. Interns are surveyed about their understanding and experience multiple times during and after their internship. We invest significant effort in ensuring that assessment instruments are not too time consuming and that the questions being asked will impact the program design or provide data for program-relevant research questions. The program evaluation plan has been instrumental in categorizing questions according to topic and in avoiding unintended question redundancy.

L. Program maintenance throughout the year

Because the Delta internship program is part of a larger campus teaching and learning program, that is the perspective provided here. The internship seminar is tied to the academic semester, which gives the program a natural rhythm. While the coordinator may be continually involved in contacting faculty and instructional staff both on and off campus to create new opportunities for students, contact with the students themselves ebbs and flows.

In the months preceding each new semester, the coordinator will be involved in marketing upcoming opportunities to students through e-mails and planned visits to Delta courses. Talking with these students is an opportunity to frame the internship as a realistic next step in program involvement and remind them that it's a requirement of the Delta Certificate.

As the new semester draws near, students identify whether they intend to participate. The coordinator may meet with students one-on-one to discuss their short- and long-range plans as well as ways to design a successful internship project. Meeting jointly with interns and partners to help them define the scope of the project and the nature of the partnership can also be useful. Applications are reviewed to make certain that students have met the requirements for involvement. Proposals are reviewed in draft and/or final form to be sure that they outline a realistic project and that plans adequately address program themes.

Section II - Developing a program

All of this preparation occurs while the seminar in progress winds down. Current interns are surveyed about their experiences, and the data collected is used to revise the seminar for the upcoming semester. For our program, seminar preparation involves requesting course web space and planning the first few group meetings.

When the new semester begins, most programmatic activity is focused on the seminar and on supporting interns in successfully carrying out their projects. We pay particular attention to creating a learning community of interns in the seminar. Other programmatic activities are ongoing, including: 1) working with faculty and instructional staff on and off-campus to create new opportunities for students; 2) reviewing programmatic data and making changes to the program based on feedback from participants (interns as well as partners and degree research advisors); 3) revising programmatic materials based on experience and feedback; 4) general marketing of the program and its opportunities.

M. Frequently asked questions

In this section you will find answers to some frequently asked questions about creating and running an internship program.

1. What elements make for a successful internship program?

Planning and flexible design are key to the success of a program. Areas that require planning include: identifying a partner/mentor, designing a project, and evaluating the experience from all angles.

Identifying a partner/mentor:

In a focus group with faculty and administrators at a local technical college, mentorship was identified as key to learning to teach well. Consider faculty and instructional staff who are committed to teaching and interested in innovating within their classrooms or outreach projects when identifying potential mentors. The internship should be valuable to both the intern and the mentor. Discuss the role of the mentor, including program expectations, with prospective participants.

Designing a project:

In general, interns view the experience as an opportunity to get some authentic teaching or outreach experience, beyond normal TA requirements. They are interested in applying the concepts they have learned in other Delta courses to real world problems. They tend to be highly motivated and committed to working hard. The project provides them with a structured experience to apply their learning and actually produce something (e.g. an instructional material, a new assessment instrument, etc.).

Interns may have multiple goals contributing to their interest in a given project, for instance: 1) the intern hopes to connect her classroom learning to a real world problem; 2) the intern may want to try out a potential future career path to see if it is a good fit; 3) the intern may hope to build his or her skills through practice and through interactions with an experienced partner/mentor.

Evaluation:

Ongoing evaluation of the program and its activities and resources will allow you to revise the program's design and continually improve its offerings.

Flexible program design:

Our program coordinator works with students to create an internship opportunity that is the best match to their interests as possible. The program aims to be as flexible as possible in terms of what a project entails, as long as it is an application of teaching-as-research. Attempts are made to be accommodating regarding project duration and the timing of their connection to the seminar. No two internship programs will be exactly alike. The challenge for you will be to design a program that best meets the needs of your campus.

2. What level of compensation is typical for an internship?

As you think about the financial resources you will allocate to your program, you will want to consider compensation. CIRTL and the Delta Program made a decision early on to not fund individual participants, with the goal of sustainability after the initial grant ran out. This is not to say that all internships are unfunded; many carry a small stipend provided by resources associated with their faculty or academic staff partner (e.g. they may be involved in another campus program with discretionary funds that could be applied to paying an intern). We encourage students to consider pairing their paid teaching assistantship with an internship.

Depending upon the resources of your campus and program, you could also consider paying an hourly wage, a monthly or semester-based stipend, providing a housing or tuition allowance, or reimbursing parking, mileage or other incidental expenses.

3. Who is responsible for providing insurance or benefits to the intern?

Your college or university will have its own policies and procedures regarding these issues. You should check with the appropriate offices on campus. Some areas you might want to consider include: 1) health and accident insurance; 2) liability and malpractice protection; 3) unemployment compensation; 4) worker's compensation; 5) financial compensation; and 6) issues of discrimination and sexual harassment.

4. How many hours per week is an intern expected to work?

The amount of work required and when that work is needed will vary across interns' projects. Students will also need to schedule their project work around their research and classes. The key to making the internship work is flexibility. Once an intern and partner have connected through a project, they should be encouraged to develop a schedule that will work for both parties.

5. Should the internship be tied to academic credit?

Because the amount of work required by projects differs, the Delta chose to offer its internships as non-credit option. However, the seminar is a required 1-credit component of the experience. On our campus, there are advantages to this. First, students can use the credit toward a distributive minor. The credit also adds an air of authenticity to the experience for some research advisors. Finally, if a student elects to combine her teaching assistantship with an internship, the internship experience will meet the requirements of the seminar course. This project work is then taken on in addition to the student's TA responsibilities.

6. When do internships typically begin? How long do they last?

Teaching-as-research internships typically fall within the academic semester or summer (more likely to be outreach or informal science education projects). Because projects involve planning, implementation and reflection/revision, students will often be engaged in the internship beyond the semester in which they are taking the seminar. Students are not required to finish the program requirements within a certain timeline, and many elect to complete them one or more semesters after their involvement in the seminar.

7. When do I need to start looking for an intern for the upcoming semester?

Our program works with a very loose timeline and no strict candidate selection criteria. The program was designed to meet the teaching professional development needs of future faculty and therefore welcomes all applicants and works to be flexible to best meet their needs. Marketing of program opportunities is ongoing, with focus on the two months preceding the new semester. The only "strict" deadline is that interns submit their application materials and project proposals at least two weeks before the beginning of the semester to allow time for review and incorporation of proposals into seminar activities.

Some issues you may want to consider are: 1) When do students plan their semester schedules, and when is registration? 2) Will your program be open to any and all interested students, or will there be more formal candidate selection and interviewing for internship opportunities?

8. How do I find interns?

Here are some suggestions for finding potential interns. *Note: the student audiences that you market to will depend upon any program prerequisites for the internship experience.*

- Post your internship description online (e.g. campus or program Web site).
- Distribute internship descriptions to students in the program's prerequisite classes.
- Distribute internship descriptions to career services offices on your campus.
- Distribute internship descriptions to faculty or graduate coordinators from departments where you hope to recruit students.
- Distribute internship descriptions to student organizations on campus.
- Promote your program at graduate student orientations, departmental retreats or other campus events (e.g. career and internship fairs).
- Promote your internship opportunities among those faculty and instructional staff visibly active in efforts to improve teaching and undergraduate education.

9. What projects might be suitable for interns?

Through our program, internship experiences are available either on or off campus, and encompass a range of activities including, but not limited to:

- Adding an evaluation component to an existing course or laboratory;
- Curriculum (re-)design and implementation;
- Instructional material design and implementation; and
- Developing the instructional potential of STEM research for the classroom or through an outreach project.

For example, past and possible intern projects include: 1) adding real-time formative evaluation to an existing course to improve instruction, 2) creating and evaluating student learning after implementing a new curriculum for a summer engineering program that integrated chemistry, math, physics and technical communication into a single engineering design project, 3) developing an online learning object to help students understand topics related to fuel cell technology, using this tool in the classroom, and evaluating whether it improved student learning, and 4) designing a museum exhibit to explain nanotechnology concepts to the public, and evaluating learning that resulted from interacting with the exhibit.

10. What other issues should I consider?

- Human subjects protection

We are finding that students engaged in teaching-as-research internships are interested in disseminating their findings which makes it necessary to check with your institutional review board (IRB) for campus requirements related to human subjects protection. For example, our interns are required to take an online tutorial to become certified by the IRB. As long as their internship project involves normal educational practices, they are covered under our project-wide IRB proposal and can use our informed consent forms with participants. In those cases where interns choose to work with minors, or to use videotaping and interviewing, they are required to submit a proposal to the IRB for review.

- Legal issues affecting internship programs

There are a number of legal issues that you may need to consider as you create your internship program. Contact the appropriate campus office for further information. Your campus attorney may also serve as a source of information.

- Benefits and Insurance: Interns will typically be covered under their existing benefits and insurance policies as students on your campus.
 - Health and accident insurance: Students may be responsible for their own insurance.
 - Liability and malpractice protection: Protection may be extended to include interns under your state Statutes.
 - Unemployment compensation: Interns may not be covered.
 - Worker's compensation: Regular guidelines of the act may cover employed interns. Rulings have generally stated that the concept of "training in lieu of pay" covers unpaid interns.
- Compensation: Because our program does not directly fund interns, any financial arrangements are between the intern and the cooperating institution or organization.
- Discrimination and sexual harassment: Check applicable federal and state law and with your campus policy. UW-Madison does not discriminate on the basis of age, race, color, religion, sex, national origin or ancestry, sexual orientation, arrest or conviction record, marital status, handicap, political affiliation, or veteran's status with regard to treatment of employees and students in educational programs or activities which it operates. Harassment of interns by supervisors or co-workers on the basis of any protected status is also prohibited. It is our policy to prevent and eliminate forms of unlawful harassment in employment and educational settings.
- Affirmative action and equal employment opportunity regulations: Federal and state regulations regarding Affirmative Action and Equal Opportunity Employment apply to the employment of interns. Your campus' compliance with these regulations will extend to institutions and organizations participating in the internship program.
- International students: There may be visa-related issues regarding an international student working off-campus. Your campus office of international students/programs should be able to advise you about any such concerns.

Section III - Appendices

Section III - Appendices

A. Appendix A: Sample focus group protocol for assessment of internal needs

Early on in the development of the program, STEM graduate students and postdocs from campus were interviewed in a focus group format. We wanted to learn two things: 1) Is there interest in or a need for a teaching internship program on our campus? And if so, 2) How can we create the best program? Our goal was to gather and incorporate as many ideas from potential future participants as possible into our program.

Focus Group Protocol

Delta internship program University of Wisconsin-Madison 12/2/03 and 12/4/03

Introduction (5 minutes)

Hi. My name is Don Gillian-Daniel and this is my project assistant, Marjee Chmiel. We and others are creating a teaching internship program for DELTA, a program here at UW-Madison that is part of the Center for the Integration of Research, Teaching, and Learning. CIRTL is a National Science Foundation-funded center that will support graduate students, post-docs, faculty, and staff in science, technology, engineering and math fields to develop their teaching knowledge and skills.

We are talking with graduate students and post-docs in the STEM and SBE disciplines to learn two things: 1) Is there interest in or a need for a teaching internship program? And if so, 2) How can we create the best program? We want to incorporate as many of your ideas into this program as possible. We want to hear from everyone at the table; if you happen to disagree with something someone else says, please speak to the idea without critiquing the person.

Because the comments you make will be used to help us develop the best possible internship program we are ensuring that your ideas are accurately represented through the use of both audio and video recording equipment. Please take a minute to read through the consent form in front of you and sign it. Let me know if you have any questions.

We asked you to spend a few minutes reading about the proposed Delta internship program and answering some questions before you met with us today. We would like to collect your responses to those questions to give us additional information about the ideas and experiences of the people in our group today. We also wanted to get you thinking about the types of things we'll be talking about.

Finally, before we begin, I wanted to remind you that the Delta internship program is designed to give students a mentored teaching experience with a faculty and/or instructional staff member. The experience will involve putting into practice teaching-as-research, and addressing issues of diversity and learning communities. Through teaching-as-research, interns will engage in their teaching in the same way that they engage in their research—by hypothesizing, implementing, observing, analyzing, and improving to develop and implement best teaching practices. We want students to experience different academic settings and a diversity of student audiences. We want them to further develop their skills, interests and teaching portfolios. We hope that the experience will be so positive that the intern and mentor will continue to be involved in the DELTA learning community and use teaching-as-research after the internship.

Introductory activity:

(Materials provided: 11x7 sheets of paper with markers, colored pencils, of various colors.)

(10 min.) Instructions: I'd like you to take about 15 minutes and use these materials to visually depict your career path. I'll challenge you to be creative about what that means to you. Some things we would like you to keep in mind when you are making this representation are: to depict your career goal(s), what you have done so far to attain that goal, and what remains to be done in your attainment of this goal. Please indicate how many years you have completed so far in your doctoral program or post-doc on the paper but not your name.

Please help yourself to the snacks now and throughout the session.

(10 min.) Please take a few minutes to share your name, department/program and drawing with your neighbor.

Now let's take a few minutes to go around the table. Please briefly introduce your neighbor and his or her department/program. Please also tell the group something interesting that you learned about their drawing. (Allow time for group discussion about the different ways students have depicted their goals and paths.)

Questions:

(15 min.) Now we would like to spend some time talking about your professional development needs with respect to your intended careers as educators.

1. Tell us what types of preparation graduate students and post-docs receive in your program/dept. to become faculty members?
2. What emphasis is given to teaching preparation?
3. How have you been involved in these activities?
4. What were you thinking about as you responded to these questions?

(25 min.) Now we would like to spend some time brainstorming as a group about teaching internships. You've heard a little about the Delta internship program, but we'd like to hear your ideas.

1. In your opinion, what would an ideal internship experience look like?
2. What do you think a student should be able to do following an internship?
3. What were you thinking about as you responded to these questions?

(5 min.) We've listed a number of potential incentives and challenges to participating in a teaching internship. Is there anything you feel we should add to the list? I would like you to take a few minutes to read through the lists and rank the items on a scale of 1 to 4 (with 1 being least and 4 greatest). When you've finished, I would like to hear from the group which items ranked least and which ones ranked greatest.

(10 min.) I'd like to hear your thoughts about these items.

1. What were the greatest incentives to participating in a teaching internship?
2. What made them so important?
3. What were the greatest challenges you could imagine to participating in a teaching internship?
4. What could be done to make them less of an impediment?
5. What were you thinking about as you responded to these questions?

(10 min.) You've done a great job this morning. I'd like to spend the final 10 minutes wrapping-up. CIRTL is designed to support your development of teaching knowledge and skills as grad students and post-docs. We invited you to talk with us because we hoped to learn two things: 1) If there is interest in or a need for a teaching internship program? And if so, 2) How we can create the best program? Your comments strongly suggest that there is indeed a need, and you've given us a lot of great ideas to consider.

Is there anything that we should have talked about, but didn't?

Notes to facilitator:

The goal of the introductory activity is to identify the following:

1. What components of their graduate program do students perceive as valuable in shaping their professional development?
2. What are students defining as "successes" and "failures" in their preparation for an academic career?
3. How would a potential internship opportunity address amending "failures" or deficiencies in this preparation?

Goal of questions: Identify the attributes of an internship program that will meet the perceived needs of graduate students and post-docs in their career development as educators.

Questions given to participants in advance:

(Note: Participants will also receive the one-page summary of the Delta internship program in advance.)

1. When do you anticipate finishing your graduate degree or post-doc?
2. What are your career goals?
3. What, if any, preparations have you had in teaching (including instruction on how people learn) while at UW-Madison?
 - a. How did you find out about these experiences?
 - b. What activities are required by your program or department?
 - c. In what ways is your advisor or department supportive of your involvement?
4. Describe your teaching activities.
 - a. What did a particularly good experience look like?
 - b. Describe a teaching experience that was not productive.

B. Appendix B: General program marketing flyer

This flyer would be posted in a department or included in a packet of handouts given to graduate student teaching assistants at their orientation.



The Delta Internship Program

Are you looking for practical teaching experience but don't know where to turn? Check out the Delta Internship Program. Read on to see what a former intern said about the experience:



"The Delta Internship Program allows me to develop- and practice- new ways of teaching science. ...My experience in teaching-as-research will be a great asset when I start looking for a job."

-Former Delta Intern, Fall 2004

The Delta Internship Program provides you with an opportunity to develop your teaching and learning skills and interests while working on a real-world problem. Interns work in partnership with a faculty or instructional staff member either on campus or at another institution. Internships can address a wide variety of teaching and learning issues, in both formal and informal outreach settings. The internship experience can be incorporated into your teaching and learning portfolio. In addition, participation counts toward obtaining your Delta Teaching and Learning Certificate.

The Internship Program is one of the many diverse opportunities offered by the Delta Program in Research, Teaching and Learning. Delta invites graduate students, post-docs, faculty, and staff in Science, Technology, Engineering and Math (STEM) to come together to explore issues related to research, teaching, learning, and academic life through multiple activity formats and ways to engage in the community.

For more information about The Delta Internship Program or to view current internship opportunities, go to www.delta.wisc.edu or e-mail us at internship@delta.wisc.edu.



www.delta.wisc.edu

(608) 261-1180

C. Appendix C: Sample marketing e-mail

During the year multiple marketing e-mails are sent to participants to help them perceive the internship as a realistic next step to their involvement in the program. The e-mail below would have been sent to all past Delta participants a month or two before the beginning of the new semester. Upcoming internship opportunities developed by the program are highlighted.

Are you looking for a great **NEXT STEP** after your Delta course work?

Do you want to get some **REAL** teaching or outreach **EXPERIENCE**?

Do a Delta **INTERNSHIP NEXT SPRING!**

Delta internships are a way for you to partner with a faculty or instructional staff member on a real problem in teaching and learning, either in the classroom or in an outreach setting. They are designed for students in the **STEM or SBE*** disciplines.

We have a number of ideas that are ready for you to jump in and get started next semester. Or we can work with you to create a project of your own design. We even have off-campus opportunities, if you are interested in exploring what a career at a comprehensive, liberal arts, technical and/or community college might be like.

For example, work with Janet Branchaw from the Center for Biology Education, **spring 2006**, to develop instructional materials and activities for the Ways of Knowing course.

Or work with Lynn Diener, a science instructor at Edgewood and the Outreach Coordinator for the Boys and Girls Club, **spring 2006**, to develop science **activities related to your own research** to share with children. Also, take advantage of Edgewood's K-16 Sonderegger Science Center.

Check out the opportunity with Laura Knoll, **spring 2006**, to revise a Medical Microbiology and Immunology course. Laura is looking to develop a long-range plan that incorporates more active learning strategies in this predominantly lecture-driven course.

Finally look into what Sue Thering and the Community Design Action Research Group are up to in **spring 2006**. This is an interdisciplinary group of faculty with expertise in botany, geography, sociology, and political science that is working on a "**green**" housing project for **Native American communities** in Wisconsin.

CHECK OUT these and other exciting opportunities at:

http://www.delta.wisc.edu/Programs/internships/intern_opportunities.html

Questions? Want more information? Don't see an opportunity that matches your interests or expertise? Then contact us (internship@delta.wisc.edu) to design a project!

I'm looking forward to hearing from you!

*STEM (Science, Technology, Engineering and Math)

SBE (Social, Behavioral and Economic Sciences)

D. Appendix D: Sample opportunity description

The internship project/opportunity description is similar to a job description. The more detailed information you can provide, the more likely you are to interest a student. The opportunity description should provide potential candidates with enough information to determine whether they are qualified to do the project, as well as describe what the project entails. The elements of an internship description can include the following:

- Partner contact information
- Start/end dates for the internship
- Compensation (if applicable)
- Listing of skills or desired background expertise
- Benefits to the intern in choosing the opportunity
- Description of the intern's tasks and responsibilities
- Information about the project (e.g. course, laboratory or informal science education and outreach activities)
- Teaching-as-research question(s) guiding the project
- Benefits to the partner through working with an intern on the project

Example

Delta Internship Opportunity - Science outreach with the Boys and Girls Clubs and Edgewood College

For more information, e-mail us at internship@delta.wisc.edu.

UW contact: Lynn Diener lmdiener@wisc.edu

When: Implementation Spring and possibly summer 2006

Funding: N/A

Number of interns sought: 1

A Delta Intern will benefit from the following opportunities:

- Helping and connecting with the community by making a difference in the lives of students served by the Boys & Girls Club of Dane County
- Showing boys and girls that science is FUN at an age when they are still open to that idea
- Experiencing Madison's cultural diversity
- Working with a peer whose focus is on both formal and informal science education and outreach
- Designing an activity based on your own research interests
- Connecting with Edgewood College
- Guest lecturing or running a lab at Edgewood

Lynn is the Outreach Coordinator for the Boys & Girls Club of Dane County. She is responsible for programming science activities in all disciplines for third to fifth grade kids. Activities are designed to be fun and to engage students in science learning.

The Boys & Girls Club of Dane County provides after-school opportunities for young people to learn and grow in a safe environment. The mission of the Boys & Girls Club is to inspire and enable all young people, especially those from disadvantaged circumstances, to realize their full potential as productive, responsible, and caring citizens. To achieve this, the Boys & Girls Club provides quality programs to enhance self-esteem and promote the academic, physical, and social development of young people.

Lynn also teaches introductory biology at Edgewood College. Edgewood College is home to the Sonderegger Science Center, which serves as an important component of the campus' K-16 national model for science education. As home to all of the physical and life sciences, the center strives to integrate the science curriculum across all grade levels. An intern would have the opportunity explore K-16 science by piloting activities at Edgewood in grades 3 to 5, adapting them to Lynn's introductory biology labs, and/or guest lecturing in her course.

Starting point for research questions:

- What is the best way to engage students in learning outside of the formal classroom?
- How can one help students connect science to their lives and what they are learning in school?
- Are inquiry-based, hands-on science activities enriching for students, such that they perform better in school?

The Delta intern will:

- Develop 50-minute, inquiry-based, hands-on, innovative, interesting, fun and original activities, which can be based in own research interests, to engage students in exploring a science topic
- Pilot these activities in the classroom at Edgewood's grade school, assess student learning, and revise the activity based on findings
- Present the activities at Boys & Girls Clubs in Madison (there are multiple opportunities to do and revise an activity in one semester)
- Turn the experience into a manuscript
- Have the opportunity to lecture or facilitate a laboratory at Edgewood, connected with an introductory biology course

Interns will benefit Lynn, Edgewood, and Boys & Girls Club students by:

- Being an excited and interested colleague and collaborator with new ideas
- Providing a fresh perspective on the problem and thus generating more effective activities to engage student learning
- Engaging in professional development activities together with Lynn

Delta internship program information:

<http://www.delta.wisc.edu>

For more information, e-mail us at internship@delta.wisc.edu.

E. Appendix E: View of Delta internship Web site

The internship program section of the Delta Web site is intended to give potential interns and faculty partners a quick overview of the program. A number of programmatic materials are also available online, including: application forms, the guidebook, and opportunity descriptions.

Delta Internships 12/9/16

DELTA
Integrating Research, Teaching, and Learning

Integrating Research, Teaching and Learning
at the University of Wisconsin-Madison
info@delta.wisc.edu

Welcome to Delta

- ▶ Home
- ▶ Delta Calendar
- ▶ About Delta
 - ... Teaching-as-research (TAR)
 - ... Learning Community
 - ... Learning-through-Diversity
- ▶ How can I get involved?
 - ... Delta Certificate Program
 - ... Graduate Courses
 - ... Facilitated Discussions
 - ▶▶ CCLE
 - ▶▶ Expeditionary Learning
 - ▶▶ Roundtable Dinners
 - ... Internships
 - ... Online discussion groups
 - ... Workshops
 - ... Contact us!
- ▶ Informal Education Resources
- ▶ Online Resources
- ▶ Campus Resources
- ▶ News Archive
- ▶ Contact Delta staff
- ▶ GIRTLL
- ▶ Search Delta

THE DELTA INTERNSHIP PROGRAM

We are very excited that you are interested in our Internship Program, a core experience required for our D Certificate. Please browse this site to find out about the program, upcoming internships, and how to get involved. We look forward to helping you develop a great internship experience!

About our Internships

The Delta Internship Program will give participants practical experience to develop their skills and interests in teaching and learning, as they work in partnership with a faculty or instructional staff member either on the UW-Madison campus, or in another institutional setting. Interns and partners will define a problem to be addressed, work toward a solution, implement the solution, evaluate the solution and create a product that will be incorporated into their teaching portfolios. Participation also counts toward obtaining the Delta teaching certificate.

The program has four goals:

1. Science, Technology, Engineering and Math (STEM) graduate students and post-doctoral researchers implement teaching-as-research in various venues;
2. participants further develop skills, interests and portfolios, especially in academic environments similar to which they aspire;
3. intern and faculty or instructional staff partnership leads to continued involvement in the Delta learning community and use of teaching-as-research after the internship; and
4. participants experience a diversity of student audiences and institutional settings.

The **Internship Program seminar** runs concurrent with participant internship experiences. The seminar aims to build an intern learning community within Delta; to provide peer feedback on teaching activities; and to help participants reflect and translate their experiences into their teaching portfolio.

Attending the Internship Program seminar is one way for interns to learn about the diversity of opportunities that exist for them as they meet to talk about their experiences and hear about the experiences of others.

List of current available internships

Please click [here](#) to see a full list and to access descriptions in PDF.

How to apply to become an intern

You will need to will submit the following:

1. Application form (PDF) (MS Word);
2. Curriculum Vitae; and
3. Signatures from intern and advisor.
 - one advisor (PDF) (MS Word)
 - two advisors (PDF) (MS Word)
4. A brief proposal outlining the internship experience, written in collaboration with your partner. (Details are available in the guidebook; see below.)
5. You will need to address issues of Human Subjects approval. (Details are available in the guidebook; see below. Also, information is available at the university's web site: <http://info.gradsch.wisc.edu/research/compliance/humansubjects/>)

FAQs for Interns

Delta Internships 12/6/05 2:47 PM

The Internship Guidebook. (PDF)

The guidebook is a thorough resource. It includes ideas about how to choose an internship, detailed application and proposal information, and a checklist to ensure you have met all requirements. Both potential applicants and potential faculty and instructional staff partners are encouraged to explore it.

Contact

Send us an email at internship@delta.wisc.edu with your questions.

Delta's home page is used to highlight upcoming programmatic activities. Internship opportunities are also displayed here to recruit potential interns. Opportunities are updated every week or two, depending upon the number of new experiences available.

Welcome to the Delta Research Teaching and Learning Community 12/11/05 2:37 PM



Welcome to Delta

Integrating Research, Teaching and Learning
at the University of Wisconsin-Madison
info@delta.wisc.edu

- ▶ Home
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 - Learning-through-Diversity
- ▶ How can I get involved?
 - Delta Certificate Program
 - Graduate Courses
 - Facilitated Discussions
 - ▶▶ CCLE
 - ▶▶ Expeditionary Learning
 - ▶▶ Roundtable Dinners
 - Internships
 - Workshops
- ▶ Online Resources
- ▶ Campus Resources
- ▶ News Archive
- ▶ Contact Delta staff
- ▶ CIRTL
- ▶ Search Delta



Bob Mathieu and Sam Pazicni

Fall 2005 Delta Certificates awarded!

Tom Gryns (Microbiology) and Sam Pazicni (Chemistry) have each earned recognition for their commitment to blending research, teaching, and learning. Gryns and Pazicni presented their portfolios this week. **Congratulations!**

[Learn more about the Certificate program...](#)



Roundtable event

Thursday Jan. 26th Presentation

How Does a Post-Doctoral Position Fit into a Researcher's Career?

Dr. Lynn Allen-Hoffmann, Environmental Toxicology, Pathology, and Laboratory Medicine.
8:30 - 9:30am
Science House, 1645 Linden Drive.
▶▶ RSVP info@delta.wisc.edu
Co-sponsored with the Post-doc Discussion Group and the NIH Toxicology Pre- and Post-doc Training Grant.



Prof. Sue Thering

▶ Featured internship opportunity at UW-Madison

Green Housing Project for Native American Communities

Work with Prof. Thering and the Community Design Action Research Group to develop multiple aspects of the project, including service learning, land use discussions, and guidelines for future endeavors. The Research Group is multidisciplinary, drawing from botany, geography, sociology, and political science. [PDF]

▶▶ To learn more about internships generally or to browse the offerings, please [click here](#).

If you have difficulty accessing elements of this page, please contact the [webspinner](#) or call 608/261-1180.

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This page was last updated on 12/9/05

F. Appendix F: Example internship seminar syllabus

This first set of material includes the following: a sample syllabus, the tentative schedule for the semester before and after student input; and the first few facilitator-generated individual class agendas. Note: this material is representative of a semester in which students planned and facilitated sessions. Students created agendas for the sessions that they facilitated, however, examples are not included here.

Delta Internship Seminar Syllabus Fall 2005

ELPA 502 #39986
Monday from 1:30-3:00 pm
Every week, 9/12 through 9/26/05
Meets every OTHER week from 9/26 through 12/5/05
Last meeting 12/12/05
Room 1252 Educational Sciences (1025 W. Johnson St.)

Instructors:

Aaron Brower
Don Gillian-Daniel

Rm. 321 School of Social Work ambrower@wisc.edu
Science House (265-9969) dldaniel@wisc.edu

The fall 2005 internship seminar is designed with two complementary ideas in mind. The first is that interns will develop a deeper understanding and become more proficient practitioners of teaching-as-research (TAR) by both *talking* about it *and* by *doing* their project with their partner. The second idea is really a goal, and involves our hope that participants will come to view the internship experience as a part of their own broader and ongoing professional development activities.

Like many classes, this is an experiment, and although we have a notion of how it may play out, we will also be counting on you, as participants, to help make it happen. For our part, we will model our own engagement in teaching-as-research in the seminar, with the hope that it becomes a dynamic “inside-out” exploration of TAR. We’ll discuss learning-through-diversity and learning communities throughout to emphasize both components of TAR. We will also bring our experiences to the table as we discuss what it means to be involved in an ongoing process of personal professional development.

An important component of the seminar, one intended to help make the experience more relevant to you, is having the agenda driven by your projects, interests, needs and the needs defined by the learning community of peers that we form. By design, interns will join the seminar at different stages in their projects and in their understanding and use of the teaching-as-research process. This means that individual needs will vary with time. To accommodate this, the syllabus is intentionally empty after the first several sessions.

Seminar goals:

- Explore how the internship experience fits within the participant’s broader professional development goals
- Explore the meaning of TAR and how it can find expression in teaching and learning (individually and in community)

- Explore the needs of diverse learners and investigate diverse teaching and assessment practices to enhance learning for all
- Help participants understand the process of TAR and what its options are from beginning to end
- Build an intern learning community within Delta
- Provide a forum for peer feedback on teaching and outreach activities
- Help participants translate their experiences into their portfolio

Learning experiences:

Interns will:

- Explore the use of TAR in a project
- Use diverse teaching and assessment practices to improve their participants' learning
- Reflect on what they have learned through engaging in TAR as a tool and reiterative process for improving student learning
- Explore how to be active and contributing members of a TAR-practitioner learning community
- Appreciate the potential of this community as a rich source of knowledge and understanding that can enrich their own practice of TAR

Learning outcomes:

As a result of their experience, interns will develop a deeper understanding of TAR as a process and of their own professional development. They will:

- Be able to identify their strengths as well as areas that they may wish to improve upon
- Be able to describe how the internship experience has contributed to their understanding of TAR as well as how they view their own professional development

We strive to be inclusive of anyone interested in participating in this course. If you have special circumstances that you believe may affect your performance in this class, or specific accessibility needs, please let one of the facilitators know in advance so that we can make necessary accommodations that will enable you to fully participate. We will maintain complete confidentiality of any information you share with us.

Course Requirements

Attend and participate in the planning session for one seminar class. In an attempt to be more transparent in our practice of teaching-as-research, as well as to give participants a greater voice in the seminar, each intern will be involved in the planning of at least one class session during the semester. To allow for easy scheduling, planning sessions will be held on Mondays from 1:30 - 3:00 pm during the weeks between class meetings. The planning process begins with sharing observations and feedback about the preceding class, which is followed by design of the next class period. Interns will sign up the first week of class.

Seminar support for interns and their projects

Sharing literature resources: As you explore the literature to inform your internship project, you may find resources that are relevant to others in the group. We would encourage you to post these references on the university's Learn@UW/Desire2Learn (D2L) site to share with others in the class. Include a brief synopsis of the article, chapter, etc. and highlight the content that you think will be of value to others in the seminar.

Getting feedback from the group: If you have something project-related (e.g. an assessment instrument, instructional material or approach, a reflection from your internship for your portfolio, etc.) and you would like feedback from the group, we encourage you to post it to D2L.

Be sure to include the following:

- A brief description of what you are posting (e.g. the purpose of an assessment instrument, including the questions you want it to answer)
- What type of feedback you want from the group.

Evaluation

Evaluation of participants helps us improve Delta and the internship program. We will ask you to take part in several different types of evaluation during the semester and talk about these exercises in the context of making our own teaching-as-research more transparent.

Grading

Your grade for the seminar will be based on your active and informed participation. We want you to show up, read and reflect on materials as appropriate, contribute to discussions, participate in planning a class, and provide feedback on other intern materials, as appropriate.

Desire2Learn/Learn@UW

We will use Desire2Learn (D2L) as a forum to share project-related materials, continue conversations begun in class, and to provide feedback on posted materials.

Advice from past seminar participants

Participants in the fall 2004 and spring 2005 iterations of this seminar were asked, "What advice can you offer to next semester's participants so that they get the most out of taking the seminar concurrent with their internship?" Here are their responses:

"Choose a semester to do it in which [you] definitely have time to be thoughtful and reflective. Also, start small and then expand. Think about it as learning a process, rather than attempting to answer questions about teaching. (I'm not sure a semester is long enough to do that; however, it is long enough to become learn about the process.... and to see how understanding of it will be continually deepened.)"

"Get to know everyone else's projects right away (trade abstracts and discuss them). This will help facilitate discussions that will most likely be useful for the remainder of everyone's internship practice."

"I would strongly recommend keeping a journal throughout the experience both for reflection and for documentation of contacts made, meetings, resources explored, etc. It solidifies the lessons learned and the questions pondered, and makes it a lot easier to come up with reflection pieces for your portfolio afterwards."

"To do this well, you need to give it more attention than its 1-credit portrays. The things you do and create will be useful, maybe not right then, but things will come together in the end and you'll have a deeper appreciation for being pushed through it all."

"I suspect that journaling is a good way to go through the semester - a way to collect your thoughts and store up ideas for reflections."

"If at all possible, work with other people on your project. It's immensely valuable."

"You get out of it what you put into it."

Semester schedule:

Date	Meeting Topic	Notes
9/12	<p>Introductions, review of course design and expectations, reminder about Delta activities</p> <p>Discuss qualities of good teaching</p> <p>Pre-semester survey</p>	<p>The first three class periods will focus on what participants hope to accomplish during and gain from the seminar</p>
9/19	<p>Goal will be to begin to solidify the intern project/enhance professional development through the seminar</p> <p>For 9/26: Discuss how to share feedback on each other's projects (including materials they already have and those they develop)</p> <p>Begin basic class structure by having interns share/update the group on their projects for the first half and discussing the reading and what enhances learning for the second half</p>	<p>Brookfield reading: discuss in the context of what makes for good teaching</p> <p>Hand back pre-semester survey</p>
9/26	<p>Continue with above</p> <p>Each participant report on their project's status to the group (5-10 min): What did you do/are you doing for your project? What changes would you make based on your experience? How do you see this fitting into your own professional development?</p> <p>Model a planning session for second half.</p>	<p>Participants reflect on what they wrote in the pre-semester survey and on how they see this internship experience fitting into their professional development</p> <p>Facilitator: compile a list of candidate classes to observe and outline observation guidelines for the week of 10/17</p> <p>Students should post any assessment instrument(s) to D2L with the type of feedback desired</p>
10/13	<p>Portfolio workshop Part II: Understanding, designing and creating teaching portfolios Thursday Oct. 13, 9am - 12pm</p>	<p>Replace 10/10/05 class with the Delta workshop</p>
10/17	<p>Independent classroom observation</p>	<p>Independently observe a classroom on campus</p>
10/24	<p>Discuss classroom observation experience</p>	<p>Part of larger "bag-of-tricks" discussion: touch on interpersonal and space dynamics, teaching approaches for large and small classrooms, and setting and meeting goals and objectives</p> <p>Students should post any assessment instrument(s) to D2L with the type of feedback desired</p>

Section III - Appendices

11/7	Assessment	Part of larger "bag-of-tricks" discussion: choosing questions and appropriate assessment tools Students should post portfolio materials to D2L with the type of feedback desired
11/21	Peer review of teaching portfolio materials	Plan to present data to group next class period and discuss what to do with data/how to write for a larger audience
12-5	What to do with data/how to write for a larger audience	Part of larger "bag-of-tricks" discussion
12/12	Wrap-up	

Agenda - WEEK 1

As we talked about our goals and the activities for the first seminar class, we decided that an effective approach would be to use a backward design process (see Wiggins & McTighe (1998) *Understanding by Design*. Alexandria: Association for Supervision and Curriculum Development, pp 7-19). Using this approach, we've identified our goals for this session, the specific activities we'll do to meet our goals, and what evidence we'll have at the end of the class that the goals have or have not been met:

Goals	Activities	Evidence
1. Community-building 2. Explore characteristics of effective teaching 3. Explore personal professional development	1. Introductions, review of course design and expectations, reminder about Delta activities 2. Discuss characteristics of effective teaching	Facilitator notes

Activities:

Introductions— share something about:

- Yourself
- What was the most exciting thing that you did this summer?
- Spend a few minutes talking about your project (VERY brief)
- Where are you in the whole process?
- What problem are you addressing?
- How are you doing so?
- How's it going?

Class information— discuss syllabus, including:

- Our goals for seminar (We'll talk about how YOU want to spend our time together in a few minutes)
- Expectations of participants
- Schedule for semester
- Expectations for planning meetings (Pass around sign-up sheet)
- Intern/partner group meeting (Potentially 10/24)
- Discuss portfolio workshop on 10/13 as substitute for that week's class
- IRB
- Sign informed consent forms
- Discuss tutorial, etc.

Community agreements

- Snacks (Pass around sign-up sheet)
- Promptness and time
- Attendance

Section III - Appendices

- Respect and conversational courtesies
- Confidentiality

Reminder about Delta Program activities

- Portfolio workshop, Part I: Writing teaching and learning philosophies, Wednesday Sept. 21, 8:30 - 11:30am, Tong Auditorium, Engineering Centers Building
 - Register by Sept. 16th.
- Roundtable dinner, Tuesday September 20th, 6:00-7:15 pm, Memorial Union, Dr. Molly Carnes - Attracting Bees with Honey: Increasing Student Diversity in Research.
 - Register ASAP— space is limited.

Activities

Group discussion

- What should we be doing this semester to make the best use of our time together?

Reflect individually and then discuss as a group

- What are the qualities of good teaching? OR What key skills do you think you will need as you begin to teach? We'll map qualities onto the TAR process.

Pre-semester evaluation questions

Preparation for next week

Read: Brookfield, S. (1996) Through the Lens of Learning. In L. Richlin (ed.), To Improve the Academy, Vol. 15 (pp. 3-15). Stillwater, OK:New Forums Press and the Professional and Organizational Development Network in Higher Education.

We plan to use this reading to continue our discussion about what makes for good teaching.

Closing thoughts/questions?

Notes to facilitator(s):

Bring to class for first meeting:

- Name tents and markers
- Treats
- Copies of syllabus
- Treats sign-up
- Planning sign-up
- IRB informed consent forms
- Pre-semester evaluation questions
- Copies of Brookfield article for week 2

Agenda - WEEK 2

Goals	Activities	Evidence
1. Community-building 2. Explore characteristics of effective teaching 3. Explore personal professional development	1. Check-in and decide on personal and group goals 2. Discuss Brookfield article & characteristics of effective teaching	Facilitator notes

Activities:

Check-in

Project-based discussion:

Discuss what we want to accomplish individually and as a group this semester. Share:

- Personal goals (e.g. something that being part of the seminar can help you accomplish this semester)
- Goals for the group
- Generalize personal goals to professional goals

Discuss:

- Intern/partner meeting
- Expectations for student participation in seminar planning
- Discuss how to share feedback on each other's projects (D2L, etc.)

(~2:15pm) Broader discussion:

Brookfield, S. (1996) Through the Lens of Learning. In L. Richlin (ed.), *To Improve the Academy*, Vol. 15 (pp. 3-15). Stillwater, OK: New Forums Press and the Professional and Organizational Development Network in Higher Education.

Share example(s) of a good learning environment and/or teaching and learning experience YOU have encountered.

Reflect individually and then discuss as a group:

- What are the qualities of good teaching? OR
- What key skills do you think you will need as you begin to teach?

Preparation for next week:

We would like each person to share with the group (no more than 10 min):

- What did/are you doing in your project?
- Based on your experience(s), what changes would you make for future projects?
- How do you see your internship experience fitting into your own professional development?

Closing thoughts/questions?

Reminder:

Instead of class on 10/10/05, we would like you to attend the Delta Portfolio workshop

Section III - Appendices

Part II: Understanding, designing and creating teaching portfolios
Thursday Oct. 13, 9am - 12pm

You will need to register online at <http://www.delta.wisc.edu/workshops/portfolio.html>
Registration opens Thursday 9/22/05.

Agenda - WEEK 3

Goals	Activities	Evidence
1. Community-building 2. Explore characteristics of effective teaching 3. Explore personal professional development	1. Check-in 2. Discuss Brookfield article & characteristics of effective teaching	Facilitator notes

Activities:

Check-in

Discussion:

Brookfield, S. (1996) Through the Lens of Learning. In L. Richlin (ed.), *To Improve the Academy*, Vol. 15 (pp. 3-15). Stillwater, OK: New Forums Press and the Professional and Organizational Development Network in Higher Education.

From the reading and personal experience, share example(s) of the qualities of good teaching.

In the context of our discussion about effective teaching, share with the group:

- What did/are you doing in your project?
 - Based on your experience(s), what changes would you make for future projects?
 - How do you see your internship experience fitting into your own professional development?
-

Logistics:

Discuss:

Planning meeting sign-up changes?

Expectations for student participation in seminar planning

Intern/partner meeting

Classroom observation (week of 10/17)

How to share feedback on each other's projects (D2L, etc.)

Closing thoughts/questions?

Reminder:

Instead of class on 10/10/05, you should plan to attend the Delta Portfolio workshop

Part II: Understanding, designing and creating teaching portfolios

Thursday Oct. 13, 9am - 12pm

You will need to register online at <http://www.delta.wisc.edu/workshops/portfolio.html>

Registration opens later today 9/26/05.

G. Appendix G: Delta internship program evaluation overview

To guide our assessment process we developed a program evaluation plan, which was created in consultation with an evaluator from the CIRTl project. A useful resource for thinking about program evaluation is a publication by the LEAD Center at the University of Wisconsin-Madison (Pfatteicher, S. K., Bowcock, D., & Kushner, J. L. (1998). *Program assessment tool kit*. Madison: University of Wisconsin-Madison, LEAD Center. Go to: <http://homepages.cae.wisc.edu/~lead/pages/internal.html>).

The program evaluation plan has been instrumental in helping us think clearly about our programmatic goals for participants, what activities we use that support interns in reaching those goals, and what credible evidence we have to substantiate our claims. The evaluation plan has also allowed us to categorize program evaluation questions by the topic that they address (e.g. student satisfaction) and to ensure that there is no unintended redundancy in what is asked. Redundancy in some questions is intended to look for changes over time and experience.

Executive Summary

The Delta internship program provides graduate students and postdoctoral researchers in the Science, Technology, Engineering and Math (STEM) disciplines and Social, Behavioral and Economic Sciences (SBE) at the University of Wisconsin-Madison with an opportunity to put their understanding of teaching-as-research, learning-through-diversity, and learning communities, into practice to address authentic problems in teaching and learning. Interns work collaboratively with a faculty or instructional staff partner during the experience. A concurrent seminar provides a community of peers similarly engaged in TAR.

The Delta internship program was created around the following five goals for its participants:

1. *Interns further develop their teaching and learning skills and interests by doing a teaching-as-research project.*
2. *Through their projects, participants gain practical experience applying the concepts of teaching-as-research, learning-through-diversity, and learning communities.*
3. *Doing a project results in improved intern (and partner) understanding about how to improve student learning through the use of teaching-as-research, learning-through-diversity, and learning communities.*
4. *Participants benefit from hearing about the diversity of projects and experiences of other interns.*
5. *Interns and partners continue to be involved in the Delta learning community and use teaching-as-research after the internship.*

In developing the program and the accompanying seminar, we *hypothesized* that participants would develop a deeper understanding of teaching-as-research by observing it in practice (modeled in the internship seminar), *in addition to* talking about it (with their partner and in the seminar) *and* engaging in it in their projects. We further hypothesized that the act of *doing* teaching-as-research will leave interns feeling more proficient and confident in their future educational activities.

The following evaluation plan was developed to both guide the collection of formative and summative information about the program as well as make sure that all areas of interest to the program are addressed in the collective assessment instruments. The methods of data collection primarily include survey questionnaires and participant materials. Additionally, data may be gathered using: focus studies (focused studies or focus groups), needs assessments, longitudinal studies, a participant database, and interviews. Due to the limited resources of the program, most of the evidence gathered in more than one format relates to gains in intern understanding of teaching-as-research as a process. Teaching-as-research, by its nature, includes addressing the value of learning-through-diversity and use of communities to promote student learning.

The constituents who these evaluation data may serve include:

- Delta internship program staff
- Delta program staff
- CIRTl evaluation and research team
- National Science Foundation
- Members of the CIRTl network
- Administration at UW
- Delta participants
- The community of STEM and SBE education reformers

H. Delta Internship Program Evaluation Overview:

Ways to Evaluate the Impact of the Delta Internship Program

Category	Evaluation Questions	Supporting Activity (as appropriate)	Evidence (instrument & question)
Participation			
Demographics (who)	<ol style="list-style-type: none"> Are a sufficient number of opportunities and partners available on and off campus such that a broad representation of STEM and SBE disciplines are included? Is there continual involvement of STEM and SBE faculty in the program? Are off-campus internships valuable to/valued by participants? 	<ol style="list-style-type: none"> Directed recruiting of partners on and off campus, marketing of internship program each semester, connecting internships with course projects Discussions in internship seminar about different academic environments 	<ol style="list-style-type: none"> Participant database, shared Certificate/Internship database Final survey: include question, "If your internship was off-campus, was this a valuable part of the experience? Explain."
Experience (who)	<ol style="list-style-type: none"> When do students consider doing an internship? How many interns have taken more than one semester long Delta course or its campus equivalent prior to participating? What percentage of interns engage in projects of their own design (relative to program designed opportunities)? 	<ol style="list-style-type: none"> Program prerequisite is one semester-long Delta course 	<ol style="list-style-type: none"> Pathways data from participant database Internship application
Motivation (why)	<ol style="list-style-type: none"> Do students who participate in the program view their involvement as furthering their career plans? 	<ol style="list-style-type: none"> Professional development focus of seminar 	<ol style="list-style-type: none"> Proposal question, "What do you hope to gain from the internship experience?"
Satisfaction			
Value for participants	<ol style="list-style-type: none"> Are interns satisfied with the nature and quality of the faculty/instructional staff partnership? Are interns satisfied with the quality and variety of internship opportunities? Do interns leave the program feeling part of a community of practice of their peers? 	<ol style="list-style-type: none"> Guidance provided by program staff, working with a partner, intern/partner meeting NB: many interns come to the program with opportunities in hand Value of community is stressed in the seminar (e.g. peer feedback) 	<ol style="list-style-type: none"> Questions on mid-semester check (seminar) and post-experience survey Questions on post-experience survey Questions on post seminar survey/in-class discussion & post-experience survey

Category	Goal	Supporting Activity (as appropriate)	Evidence (instrument & question)
Satisfaction continued			
Content	<ol style="list-style-type: none"> 1. Are interns satisfied with the format, content and approach of the internship seminar? 2. How satisfied are interns with program resources (e.g. Web site, Delta Internship Program Guidebook, seminar syllabus, etc.)? 	<ol style="list-style-type: none"> 1. Seminar is revised during and following each semester based on student feedback 2. Guidebook, Web site and other materials are revised periodically, seminar materials are revised each semester 	<ol style="list-style-type: none"> 1. Questions on post-seminar survey/in-class discussion 2. Questions on post-experience survey
Instruction facilitation	<ol style="list-style-type: none"> 1. Are interns satisfied with the facilitation of the seminar by the instructors? 2. How satisfied are interns with the support received during their experiences from Delta staff? 	<ol style="list-style-type: none"> 1. Seminar is revised during and following each semester based on student feedback 2. One-on-one feedback is generally given during the definition of projects, application process, and submitting final materials. 	<ol style="list-style-type: none"> 1. Questions on mid-semester check (seminar) and post seminar survey/in-class discussion 2. Questions on post-experience survey
Learning			
Knowledge gains	<ol style="list-style-type: none"> 1. Do interns have a deeper understanding of how to evaluate and improve learning in their classrooms, informal science education or outreach activities? 2. What place, if any, do TAR, LC, and LtD have in these processes? 	<ol style="list-style-type: none"> 1. Writing proposal, discussions with peers in the seminar, discussions with partner, writing a summary report and final reflection 	<ol style="list-style-type: none"> 1. Proposal 2. Questions on seminar pre- and post-survey 3. Summary report and final reflections 4. Questions on post-experience survey
Conceptual change (belief)	<ol style="list-style-type: none"> 1. Do interns report improved confidence in their ability to evaluate and improve learning in their classrooms, informal science education or outreach activities? 2. What role, if any, do TAR, LC, and LtD play in this change in confidence? Are there other contributing factors? 	<ol style="list-style-type: none"> 1. Carrying out project activities, discussions in internship seminar, discussions with partner 	<ol style="list-style-type: none"> 1. Questions on end of experience survey
Skill development	<ol style="list-style-type: none"> 1. Do interns report improved ability to enhance and evaluate learning in their classrooms, informal science education or outreach activities? 2. Are TAR, LC, and LtD part of their self-reported skill set? How are they represented? 	<ol style="list-style-type: none"> 1. Discussions in seminar about effective teaching, activities related to implementing intern projects 	<ol style="list-style-type: none"> 1. Summary report and final reflections 2. Questions on post-seminar and post-experience survey related to "new questions"

Category	Goal	Supporting activity (as appropriate)	Evidence
Application			
	<ol style="list-style-type: none"> 1. Can interns articulate plans to improve learning in their future classrooms, informal science education or outreach activities? 2. Do interns integrate the concepts of TAR, LC, and LtD into their plans? 	<ol style="list-style-type: none"> 1. Discussions in seminar about effective teaching and activities related to implementing intern projects 2. Feedback (by program staff or peers) provided on materials created for the seminar, summary report, etc. 	<ol style="list-style-type: none"> 1. Intern materials created for the seminar, summary report and final reflection
Impact			
Grad student participants and undergrads	<ol style="list-style-type: none"> 1. Do interns have evidence that learning is improved as a result of their activities? 2. Do interns use TAR, LC, and LtD explicitly in achieving their learning goals? 3. How many learners (undergraduates, outreach participants, etc.) do interns impact with their application of TAR, LC, and LtD? 4. Do faculty/staff who work with Delta interns value the skills/experience Delta interns offer? 	<ol style="list-style-type: none"> 1. Discussions in seminar about effective teaching and activities related to implementing intern projects 2. Feedback (by program staff or peers) provided on materials created for the seminar, summary report, etc. 3. Proposed intern/partner meeting at beginning of semester 	<ol style="list-style-type: none"> 1. Intern summary report 2. Follow up with partners

I. Appendix I: Sample evaluation instruments

This appendix contains a number of evaluation instruments used in the program. Some are designed to assess participant understanding around the central program themes of teaching-as-research, learning communities, and learning-through-diversity. Others contain questions to gather formative feedback on the program and its seminar. Instruments in this section are intended for interns, their faculty or instructional staff partners and their degree research advisors. They are offered as examples. The program is changing and growing and the content of these instruments changes to reflect this growth and modification in our interests.

Sample Pre-seminar survey

Given during the first class period

Introduction

Please respond to each of the following questions. Attach additional pages as necessary. The questions are intended to provide you with an opportunity to reflect on your current understanding and use of teaching-as-research (TAR).

Teaching-as-research

1. What do you see as your strengths as well as areas for improvement in your practice of TAR?
2. If you saw a student struggling to understand something in your class, how would you go about changing your teaching to improve their learning?

Learning-through-diversity

1. What is your own learning style?
2. How has this particular style of learning contributed to your success in your STEM discipline?
3. Provide examples of specific teaching and learning approaches and activities that you could use to be an effective teacher for students with different backgrounds than your own.

Learning community

1. What types of people (e.g. peers, faculty, research advisor, instructional staff, etc.) do you currently consult as resources to enrich and enlarge your practice of teaching?
2. What other resources (e.g. Web sites, journals, seminars, workshops, etc.) do you use to enrich and enlarge your practice of teaching?

Sample Post-seminar survey

Given during the final class period

Introduction

Please respond to each of the following questions. Attach additional pages as necessary. The questions are intended to provide you with an opportunity to reflect on your current understanding and use of teaching-as-research (TAR).

Teaching-as-research

1. What is TAR and in what ways does it go beyond conventional teaching?
2. What knowledge and skills does one need to possess to be effective at TAR?
3. What do you see as your strengths as well as areas for improvement in your practice of TAR?
4. Name at least three strategies and techniques you could employ to inform your practice of TAR—including teaching and learning.

Learning-through-diversity

1. What is your understanding of the term “diversity?”
2. How have you developed your understanding of diversity? Please provide an example.
3. How does this understanding impact how you teach or do informal science education/outreach?
4. Are you doing anything differently to address diversity in your teaching or informal science education/outreach activities as a result of your internship experiences? Please provide an example.
5. Please describe several major learning styles and what they mean for how you teach.
6. In light of their diverse backgrounds—including race, gender, ethnicity, socioeconomic status, age and learning style—how can teaching-as-research help you adjust your teaching to enhance learning for all students?

Learning community

1. What types of people (e.g. peers, faculty, research advisor, instructional staff, etc.) do you currently consult as resources to enrich and enlarge your practice of teaching?
2. What other resources (e.g. Web sites, journals, seminars, workshops, etc.) do you use to enrich and enlarge your practice of teaching?

Sample survey for partners

Post-internship follow-up with faculty/instructional staff partners (e-mail and/or telephone)

1. How did the internship go?
2. If you were organizing Delta internships, what would you do differently to improve the experience for interns?
3. If you were organizing Delta internships, what would you do differently to improve the experience for faculty or instructional staff like yourself who are serving as partners?
4. Has your approach to teaching changed as a result of your internship experience? If yes, please describe how.
5. Would you recommend working with a Delta intern to your colleagues? Why or why not?
6. Do you plan to take part in any other Delta activities in the future? If yes, what?
7. Is there anything else you think the program would find helpful to know?
8. Do you have any questions for me?

Sample survey for degree research advisors

Post-internship follow-up with intern research advisors (e-mail and/or telephone)

1. How would you rate your student’s involvement in the Delta internship program?
 - a. Beneficial
 - b. DetrimentalPlease explain.
2. Did you have a clear expectation of the level of commitment your student would need to make to complete the program successfully? If not, what additional information would have been helpful?
3. If you were organizing Delta internships, what would you do differently to improve the experience for research advisors like yourself who have graduate students or postdocs interested in being interns?
4. If you were organizing Delta internships, what would you do differently to improve the experience for interns?
5. Do you have any questions for me?

Sample Post-experience survey for interns

Please note, this survey is still in the development phase and has not been used with interns due to its length. Aligning questions with needs identified in the program evaluation plan will allow for further revision.

Post-internship survey:

To be completed by interns after their formal programmatic requirements have been met (e.g. portfolio reflections and summative report have been handed in)

The following questions refer to the overall objectives of the program. Using the scales below for each question, please indicate (1) your level when you entered the program, and (2) what, if anything, you gained this semester by participating in the program. Please provide comments in the space provided.

	Degree of confidence before the internship					Degree of confidence now				
	Not confident → Highly confident					Not confident → Highly confident				
How would you rate your level of confidence in your ability to do TAR?	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)

If your feel level of confidence has increased, in what way(s) are you more confident?

What aspects of the program helped you to feel that way?

	Skills for doing TAR effectively before the internship					Skills for doing TAR effectively now				
	Not skilled → Highly skilled					Not skilled → Highly skilled				
How would you rate your teaching-as-research skill level?	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)

What specific skill(s) did you develop as a result of the experience?

	Portfolio material developed before the internship					Portfolio material developed as a result of the internship				
	Minimal → A Great Deal					Minimal → A Great Deal				
Development of material for your teaching and learning portfolio.	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
If you feel that you have developed more materials, how did the internship experience contribute to their development?										

Satisfaction

Please indicate how satisfied you were with each aspect of the Delta internship program listed below. Please provide comments in the space provided.

		Level of satisfaction				
		Minimal → Very satisfied				
1.	The program's ability to provide an <i>effective</i> mentored practice in teaching-as-research	(1)	(2)	(3)	(4)	(5)
What contributed to effectiveness of the experience?						

		Level of satisfaction				
		Minimal → Very satisfied				
2.	The program's ability to provide quality internship opportunities (skip to 4 if you created your own project)	(1)	(2)	(3)	(4)	(5)
What contributed to quality of the opportunities?						

		Level of satisfaction				
		Minimal → Very satisfied				
3.	The program's ability to provide a sufficient variety of internship opportunities	(1)	(2)	(3)	(4)	(5)

What about the variety of opportunities offered was appealing?

<p>4. The program's ability to foster a quality relationship between you and your faculty or instructional staff partner</p>	Level of satisfaction				
	Minimal → Very satisfied				
	(1)	(2)	(3)	(4)	(5)

What contributions did the program make to the relationship between you and your partner?

What else could the program have done to improve the partnership?

<p>5. The program staff's ability to provide support to you</p>	Level of satisfaction				
	Minimal → Very satisfied				
	(1)	(2)	(3)	(4)	(5)

What else could the program staff have done to improve your experience?

<p>6. Information provided in the Delta internship program Guidebook</p>	Level of satisfaction				
	Minimal → Very satisfied				
	(1)	(2)	(3)	(4)	(5)

Please suggest changes to make the guidebook more useful to you.

7. Information provided on the Delta Web site about the Internship program

Level of satisfaction				
Minimal		→	Very satisfied	
(1)	(2)	(3)	(4)	(5)

Please suggest changes to make the internship portion of the Web site more useful to you.

-
8. For any of the program aspects that you found to be less than satisfactory (e.g. less than 4 on the scale above), please provide specific suggestions for improvement:

Instructions: Under each category (e.g. TAR, LC and LtD) check one value for each program aspect on each scale. If the question is not applicable, check 'NA'.

Question: How much did each of the following programmatic aspects improve your understanding of each category below?

Scale to be used for each category: NA / Not at all / A little / Moderately / A lot / A great deal

Program aspect	Category		
	Teaching as Research (TAR)	Learning community (LC)	Learning through Diversity (LtD)
Program aspect	<i>Scale - see above</i>	<i>Scale - see above</i>	<i>Scale - see above</i>
Writing your internship proposal as part of your initial application			
Readings discussed in the seminar			
Seminar assignments			
General topical discussions in the seminar			
Seminar instructors			
Classmates in the seminar			
Discussions with your faculty or instructional staff partner			
Discussions with your peers outside of the seminar			
The environment (e.g. UW-Madison or an off-campus location) in which you executed your internship			
The students and/or participants you were educating			
Writing your summary report			
Writing your portfolio reflections			
Do you have any comments to share?			

Please answer each of the following questions in the space provided.

Teaching-as-Research

1. Has your approach to teaching, informal science education or outreach changed as a result of your internship experience? Please explain.

2. As a result of your internship, what new question(s) do you have about teaching-as-research?

Learning-through-Diversity

1. What is your understanding of the term "diversity?"

2. How does this understanding impact how you teach or do informal science education/outreach?

3. How have you developed your understanding of diversity? Please provide an example.

4. Has this understanding changed as a result of your internship (or participation in the Delta internship program)? Please provide an example.

5. Are you doing anything differently to address diversity in your teaching or informal science education/outreach activities as a result of your internship experiences? Please provide an example.

6. As a result of your internship, what new question(s) do you have about learning-through-diversity?

Learning Community

1. What is your understanding of the term "learning community?"

2. Please check all of the following statements that apply to your internship experience. It may be most useful to think about the questions as they apply to your experiences in the internship seminar:
 - I have felt part of an environment that welcomes my point of view about teaching-as-research and my contributions because they contribute to learning in the group.
 - I have felt part of an environment where contributions by each member of the group are valued because they contribute to learning in the group.
 - I have felt part of an environment where other participants value my ideas and feedback, and in turn, I value theirs because they deepen my own learning.
 - I have felt part of an environment where connections between what we discuss in class are made to other experiences outside of class.
 - I have felt part of an environment where I feel that as a group we accomplished learning that was meaningful.

3. Having answered the preceding question in the context of the seminar, do any other parts of the program engender a feeling of these learning community principles?

4. Do you feel like you have the skills needed to create learning communities in your own (current or future) teaching, informal science education or outreach activities?
 - Yes
 - No

5. Did your participation in the internship contribute to your skills?
 - Yes
 - No

Please explain.

6. As a result of your internship, what new question(s) do you have about learning communities?

General

1. Approximately how long did your internship take to complete?
 - Semester
 - Semester + summer
 - Academic year

2. How many hours, on average, did you spend on the internship each week?
 - 2 hrs
 - 2-5 hrs
 - >5 hrs

3. Was this a reasonable amount of time to spend on an internship project?
 - Yes
 - No

Please explain.

4. Was your participation in the internship seminar well-timed to help you carry out your project?
 - Yes
 - No

Please explain.

5. At the end of the seminar/internship do you view yourself as ready to do what will be expected of you when you get an academic position? Please explain.

Instructions: Check one value for each feature on each scale. If the question is not applicable, check 'NA'.

6. How much did each of the following features factor into your decision to do your internship project?

	N/A	Not at all	A little	Moderately	Much	Very much
Institutional setting of project (e.g. an opportunity to experience faculty life in a different academic setting)						
Financial compensation						
Course credit for the seminar						
Internship is a prerequisite for the Delta Certificate						
Letter of reference						
Practical teaching experience						
Participation in a learning community of your peers from different research disciplines						

7. How much were each of the following features an impediment to completing your internship project?

	N/A	Not at all	A little	Moderately	Much	Very much
Course credit for the seminar required						
Required attendance at the seminar						
Lack of financial compensation						
Travel off campus						
No prior teaching experience						
Degree of involvement of your project partner						
Your research advisor						
Other degree or departmental requirements (e.g. TA- or RA-ship)						

8. Having completed an internship, when do you feel is the best time to participate in a teaching internship?

- Pre-dissertator
- Dissertator
- Post-doc (during 1st year)
- Post-doc (after 1st year)

9. Having completed an internship, when do you feel is the least practical time to participate in a teaching internship?

- Pre-dissertator
- Dissertator
- Post-doc (during 1st year)
- Post-doc (after 1st year)

10. What is your current intended career path (e.g. faculty at an R1 institution like UW-Madison, faculty at a teaching-intensive institution, etc.)?

11. Has your participation in the Delta internship program increased your awareness of the variety of teaching opportunities and institutional settings that exist for future academic positions?

Yes

No

12. Did your internship experience influence the type of employment you see yourself seeking in the future? Please explain.

Intern partnership

1. How would you characterize your relationship with your partner:

Intern-led (minimal partner involvement)

Mentor/advisor (hands-on partner)

Partner (working as equals in design and execution of project)

2. How much time, on average, would you estimate your faculty/instructional staff partner spent working with you on the internship each week?

≤ 2 hrs

2-5 hrs

>5 hrs

3. Briefly describe the contributions your partner made to defining and implementing your internship project.

4. Will your partner continue to use what you developed after you complete your internship? In what way(s)?

Impact

1. Approximately how many students or participants did you work with when you implemented your project in the classroom or an outreach setting?

2. At what educational level(s) were the students or participants (e.g. grade level for K-12 or freshman, sophomore, etc. for undergraduate)?

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3. Where was the course or informal science education/outreach event held?

- UW-Madison
- other location

4. Did you evaluate any aspects of student learning?

- Yes
- No

Briefly describe how you did this.

5. Was student learning measurably improved?

- Yes
- No

Final thoughts

1. If you were in charge of the Delta internship program, what would you do differently to improve the experience for interns?

2. What advice can you offer future interns so that they get the most out of the experience?