Washington University in St. Louis

BROWN SCHOOL

Transdisciplinary Partnerships in Teaching and Scholarship

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ADVANCING SOCIAL WORK, PUBLIC HEALTH & SOCIAL POLICY

Background

Transdisciplinarity is not an end but a means. Transdisciplinary science and education is believed to be a better and more innovative way of addressing serious, persistent and complex problems. By adopting this as a foci of the Brown School we are recommitting ourselves to solving real world problems by leveraging and convening expertise across disciplines and perspectives within and outside the Brown School. Identifying and prioritizing specific problems to be addressed is an essential first step in this process, and therefore included in

Transdisciplinary problem solving in research, practice and education has been central to the Brown School's identity for at least 10 years. Although we believe it is a genuine strength of the School, its full potential has not yet been realized. Specifically, transdisciplinary approaches are not currently:

- operationalized in a consistent, uniform manner across Brown School courses;
- cultivated by the School in systematic or strategic ways to build or sustain research partnerships;
- routinely identified, recognized and celebrated within the Brown School community; or
- Institutionalized across our campus and region as a strategic response to major public health and social science issues.

Moving our transdisciplinary work from sporadic application to normative practice will require a major institutional commitment that includes changes in culture, structure and resources. At the university level this means addressing policy changes needed to facilitate teaching and research collaborations with other schools and departments as well as designing communication and other systems that will support ongoing, flexible and rapid responses to the problems of the day. There are a number of Brown School and university level efforts designed to encourage such a move. Therefore, the timing is ideal for the Brown School to assume a leadership role in bring this idea to fruition.

Value

The complex social and health issues that form the core foci of Brown School faculty are sources of considerable cost across all levels of the ecology. Transdisciplinary work holds the promise of increasing and accelerating innovation and creativity, maximizing the School's intellectual assets, expanding coursework and learning opportunities for students, strengthening ties to other academic units at Washington University and community partner organizations, and strengthening capacity for impacting policy and practice.

Transdisciplinary work inherently values the unique contributions of differing perspectives which is also consistent with the ideals of building and sustaining an inclusive environment. Many of the exemplars of existing work in other disciplines highlight the importance of active engagement of practice and policy stakeholders, community members and all ranks and tracks represented within the academy.

However, transdisciplinary partnerships in teaching and scholarship have value only to the extent that they help us address important problems or issues in a more effective way than what could have been accomplished through more traditional academic and other collaborations. To that end, it will be important to define specific problems or areas to focus efforts to develop transdisciplinary teaching and scholarship.

Examples

Given the complex nature of the critical issues addressed by faculty and the already multidisciplinary nature of the Brown School, transdisciplinary efforts, many not yet completely realized, already exist. Excellent transdisciplinary work is occurring on many fronts at the Brown School, including community and institutional partnerships in teaching, research and conceptual scholarship; activities of our research Centers and Institutes; and engagement with and leadership in formal professional networks. Such work ranges from local to national to international settings.

In teaching, the Brown School offers a number of dual degrees, Transdisciplinary Problem Solving (TPS) courses, courses with co-instructors from different schools, applied courses with students from multiple disciplines, and participates in undergraduate initiatives like Beyond Boundaries. An exhaustive listing of such efforts is beyond the scope of this concept paper, but there is unquestionably a strong foundation of experiences on which to build. At the same time, there remain significant challenges to cross-disciplinary education at the Brown School and Washington University. Students from outside the Brown School face barriers to enrollment in Brown School courses (like TPS) and vice versa. These barriers include but are not limited to issues of tuition, enrollment priorities, scheduling and prerequisites. While Brown School instructors and courses have generally done a good job of bringing other disciplinary perspectives to our students, we have done less well in creating learning environments that expose them to student peers from other disciplines to observe how those students address problems in an applied fashion. Students in dual degree programs exchange elective credits to reduce their time to degree completion, but there is currently little coursework that deliberately blends the two perspectives. Courses co-taught by faculty from different departments or schools require a financial understanding of the value of such work. Without this, faculty must sometimes accept a heavier teaching load to be able to participate as only partial credit is received if there are multiple instructors. These barriers must be removed to achieve a fully integrated transdisciplinary approach to education.

In research, the Brown School is fortunate to have a large collection of vibrant, dynamic, and widely recognized research centers, many of which are actively involved in transdisciplinary team science. Unfortunately, we have not yet developed adequate communication infrastructure to understand what our colleagues are doing or collaboration infrastructure to systematical identify and pursue opportunities across disciplines. To fully realize this potential, participation in efforts to develop new solutions or attempt high risk but high pay off programming must be valued, and demonstrated by devoting dedicated time to the process of problem-solving. At the University level, initiatives such as the ICTS and Institute for Public Health are designed to enhance the capacity for transdisciplinary research. But these, too, depend largely on passive communication strategies such as descriptions of faculty interest on websites. This makes it difficult to engage outside of pre-existing partnerships or specific grant opportunities.

Institutionalization of such efforts would provide the capacity to sustain collaborations beyond singular funding sources and allow for nimble responses to emerging issues and opportunities that would not only enhance the work of the Brown School but the joint impact of the intellectual capital of the university as a whole. Investment in the infrastructure to support this work will increase the awareness of existing and potential partnerships. This would, in turn, make it easier for rapid assembly of scholarly and field resources from diverse disciplines to address emerging issues as well as shed new light on existing problems. Still, we advise against building such infrastructure for unidentified, "yet to be determined" problems. Rather, we believe the Brown School's strategic planning process should identify 2-3 critical issues around which this effort initially revolves, while designing it to assure flexibility to respond to emerging challenges.

External Environment

There is a growing recognition that many of the most pressing social and health challenges of our time require solutions that not only involve multiple disciplines, but require us to transcend our disciplinary boundaries and reframe problems/issues in ways that address complex systems rather than narrowly gated research questions. This creates extraordinary pressures on organizations to adapt to the emerging external environment and on professionals who have invested decades of work pursuing careers largely organized around a reductionist, siloed program of research. Given that solutions posed will also likely engage multiple systems at multiple levels of the ecology, this also creates pressure on academic organizations to design programs that prepare future public health, social work and social policy practitioners capable of working beyond their core discipline to achieve impact. The requirement for effective cross disciplinary collaboration in field settings is increasingly common from health care to violence prevention to urban planning.

Success is increasingly being defined as actual impact on solving a problem. Frustrated by the lack of impact on many pressing social and health issues over the last 50 years, a growing number of foundations, think

tanks and government agencies, and other funding organizations outside the university are exerting influence over how knowledge is produced. Calls for multidisciplinary or team science if not transdisciplinary in full, have become commonplace in research funding opportunities. This places a premium on research universities being able to reorient their architectures in ways that facilitate a transition to drawing on what is known from many disciplines and leveraging this knowledge to develop and implement solutions that are effective and scalable. This includes not only support of transdisciplinary partnerships themselves but also explicit means of communicating the value of the types of scholarly products that result.

Strategic Themes

Several recurring themes have emerged from strategic planning exercises and discussions to date. These include:

- Building an administrative structure to connect faculty across disciplines and areas of interest;
- Establishing a flow of information and communication that increases awareness of the research and scholarship of faculty members at Brown and elsewhere in the University to allow for nimble responses to emerging issues or research opportunities;
- Assuring that the approach is inclusive of differing perspectives from community stakeholders as partners in the problem-solving process;
- Building awareness of critical issues in other university schools/departments and the community in need of transdisciplinary solutions to which Brown School faculty would bring unique expertise
- Providing significant resources to facilitate major new transdisciplinary collaborations and sustain such beyond singular grant or project opportunities;
- Changing Brown School promotion and tenure documents to explicitly value transdisciplinary teaching and research;
- Changing University-level policies that effectively serve as obstacles to true cross-disciplinary teaching and team science products; and
- Engaging in a process of systematically assessing and/or mapping intellectual capital at the Brown School.

Options

Some of the options proposed to respond to these themes include:

- Identifying and prioritize major health and social issues for which Brown School assets would be particularly well-suited to address;
- Assigning leadership responsibilities to a sufficiently resourced team to advance transdisciplinary work. This would include a careful review and mapping of existing efforts so that the approach builds on, connects and enhances what is already in motion (e.g., Research Centers, ICTS, Skadalaris Center, IPH) to identify important challenges and test and disseminate promising solutions;
  - Regularly convening groups comprised of differing disciplines that share common substantive interests and/or the desire to apply methodological innovation to social and health issues to engage in ongoing sharing and discussion with a goal of spawning new and mutually beneficial cross-disciplinary projects;
  - Engaging community and other non-academic stakeholders so that the work produces solutions that are effective in the real world;
  - Increased use of innovative communication technology to solve problems of distance and need for ongoing and regular feedback to all members in the stakeholder group;
  - Rewarding transdisciplinary leadership in the tenure and promotion process;
  - Establishing a fund to encourage and support transdisciplinary teaching and research;
  - Assuring sufficient support in grant and contract administrative resources to search out resources for and manage the complex funding scenarios typified by such work
  - Developing external communication strategies that highlight team science and innovative transdisciplinary approaches to teaching rather than focus on single faculty.

Short- and Long-term Plans

Short term plans may include exploring promising strategies developed and used in other institutions (not necessarily limited to university examples) and understanding the relative cost-benefit of different strategies. Some working examples of academic efforts to tackle large scale issues exist in Economics (e.g., Ostrom) and environmental sciences (e.g., Uriarte, Brandt and colleagues; Barlow and colleagues) as well as conceptual work by our own faculty and others (e.g., Stokols, etc.). Some additional writings related to transdisciplinary teaching and research have been published by our own faculty as well as others (Hanstedt " Creating wicked students"). Other models likely exist outside academia that may be equally informative. At the same time, a systematic mapping of the many transdisciplinary efforts within Brown and across the university must be accomplished.

Available external strategies and internal efforts must also be considered in light of current resources to identify the most efficient means of moving forward to integrate the approach into the Brown School functions. Several persons noted existing work and it seems desirable to integrate with and build upon as compared to creating an external, separate organizational structure. Such strategies would include not only the faculty resources but also the administrative/technical supports needed (e.g., grants and contracts, IT, communications).

Identifying priority disciplines where partnerships are in their infancy but there is believed to be high value in expansion may be useful in regard to strategies to remove barriers to expanding upon that work in the classroom and in research. The School of Engineering at Washington University was one example that was mentioned by several people.

Identifying more immediate strategies to remove barriers to enhanced communication among university scholars. Such communication needs to be a valued part of the faculty workload and a clearly stated expectation of faculty citizenship from School leadership. There are disincentives in the current structure to engage in such activities that fall outside the expectations regarding teaching, funded individual research and school/university service.

Developing a monitoring and feedback infrastructure that allows for effective communication about impact can be leveraged to promote sustained efforts. This may include development of a shared language in regard to highlighting impact for tenure and promotion. This would also include means of monitoring whether or not the transdisciplinary teaching approaches implemented were translating into improved professional preparation for our graduate students both in regard to their own perceptions as well as feedback from potential employers.

Estimated Costs

These will ultimately be dependent on the strategy chosen and some potential overlap/synergy with efforts associated with other strategic planning concepts (e.g., data, One School, etc.). Given the interest of the university in promoting work and teaching across university schools and departments, it is unclear whether there may also be cost-sharing potential with the university as the benefits are not specific to the Brown School. In the short term there will certainly be significant front-end investment in regard to seed funds, leadership, administrative and technical support, which hypothetically, will be offset over time by increased ability to leverage external support for high impact work.