

**Transdisciplinarity:
Resistance and opportunity for transformation**

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Abstract:

Springing from a recent university round-table on research methods, this reflective essay explores the potential benefits of transdisciplinarity to students and to the broader academic community. It discusses the various reasons for resistance to the notion of interdisciplinarity held by many who are engaged and invested in traditional approaches to their disciplines. This essay examines several approaches to and definitions of the concept of transdisciplinarity. Blending the frameworks of Basarab Nicolescu, Roderick L. Lawrence, and Richard Johnson distills the essence of transdisciplinarity: the transformative nature of the exchange of knowledge, methods, and understanding between the disciplines. Through several brief case studies, this essay explores opportunities presented by a transdisciplinary approach for reinvigorating and potentially transforming the disciplines, and for engaging students and communities in transdisciplinary study. This is a time of opportunity to help create new approaches to learning and knowledge – within, between, and beyond traditional approaches to the disciplines.

Keywords:

Interdisciplinarity; Transdisciplinarity; Liberal Studies; Border-Work; Engagement

This essay arose in response to a roundtable we recently held to discuss the concept of interdisciplinarity with Liberal Studies students at our university. I was asked at the last minute to participate, because

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I am one of the few faculty members who apply an interdisciplinary approach to research. I agreed, always happy to talk about what I do as a historian, but a little concerned, as well. I generally face some resistance to this method, not to mention some confusion and at times opposition to the work I do. At a university-wide meeting last fall, for example, I was rather vehemently marginalized by an older colleague for challenging the disciplinary fields established here by teaching a class on women's history and another on the history of gender. I am the only woman faculty member in the program, I teach "questionable" topics, like violence and gender, and I employ unconventional (for some) research methods, like oral history and content analysis. To top it off, I have 50% release from teaching for administrative duties as the Director of Instructional Enhancement and Innovation working with technology and faculty from across the institution. For those who work exclusively within the confines of a single field in a single discipline, I would imagine my sort of professional activity could seem incomprehensible. Thus, it was with some trepidation that I stepped to the front of the room. Thankfully, I was in very supportive company, and the students were engaged and receptive. The evening was organized by another professor who supports interdisciplinary approaches – having founded an interdisciplinary minor, and leading the English program and now leading the interdisciplinary Liberal Studies program, as well. The guest speaker was Dr. Laurence Raw. Meeting him, and hearing him use the term *Transdisciplinarity* turned the entire evening around for me. It could not have been a more pleasant experience.

That evening however, stands in stark contrast to what I have experienced for much of my professional career. At the small public and regional institutions where I have worked over the years, the degree of acrimony leveled by many of my colleagues at the concept of interdisciplinarity and at me personally, as someone who employs interdisciplinary research methods and who bridges programs or colleges, has at times been alarming. What they have missed by holding this position is the opportunity for cross-disciplinary collaboration, for augmenting the scope and value of their work, and the opportunity to further engage and inspire the next generation of scholars to take their disciplines into new and exciting directions.

At a recent history conference, for example, a well-respected fellow historian from a regional university went on at some length, railing against his department chair, who had had the temerity to

suggest a stronger emphasis on interdisciplinarity. The very idea! It will water down the integrity of the discipline; it threatens the future of our field. And so on. The more he spoke, the more reactive and derisive his comments became. He left no room for different points of view. It reminded me to a great degree of the reactions I had heard in the mid-1990s from some of my professors and colleagues who were concerned that postmodernism would bring about an end to our discipline. I found this position curious since there was much in the discussion of these disruptive ideas that was stimulating to my thinking about my own work. It was the study of postmodernism that led me to theorists (supporters and critics) whose work I continue to reference today. My current colleagues' negative reactions are, I believe, motivated by concerns similar to those that arose in response to postmodernism: a perception that the new concepts are but a passing fad; fear that this approach poses a threat to their body of scholarly work; concern that a new approach will make their work seem naïve, unsophisticated, or outdated; or worse for some, concern that funding for the new approach will diminish available funding for their own programs and projects. I have seen this level of resistance most fervently expressed at smaller institutions.

One need only look to larger, successful programs to see the positive, widespread acceptance of interdisciplinary approaches. For the past several years, the same ten universities have topped the *U.S. News & World Report* "Best History Graduate Programs" list. Of these, five programs explicitly emphasize on their departmental websites the importance of interdisciplinary programs, collaborations, approaches, or investigations. Three others include language that emphasizes that students should think beyond a "single interpretive model" and beyond "narrow field specialization."¹ This is not to say that these larger institutions do not have intradepartmental struggles over funding projects, or that the practitioners of more traditional fields do not ever look with disdain at those in fields newer to the discipline. Yet overall, there is a recognition at the departmental level in these institutions that an interdisciplinary approach of some sort is of value to student learning and professional activity. Perhaps, with power houses like these and many other large universities setting the bar, those programs that have resisted, particularly those in smaller private and regional public institutions, will eventually take on this broader conceptualization of the discipline.

1. Foundational Definitions

I suggest that my colleagues not only move beyond their suspicions and concerns to adopt the opportunities afforded by interdisciplinarity, but take this a step further, and embrace *transdisciplinarity*. So, what exactly are we talking about and why all the concern? What is the difference between interdisciplinarity and transdisciplinarity?

Theoretical physicist and philosopher Basarab Nicolescu has been developing this concept for several decades. Although much of his work might be rather esoteric for most practitioners, his recent essay on the “Methodology of Transdisciplinarity” clarifies the distinctions, and addresses several concerns which I believe plague my colleagues. Nicolescu began his efforts in 1985, in response to the introduction by Jean Piaget of the word “transdisciplinarity” in 1970, meaning “beyond disciplines” (Nicolescu 186). Thus, transdisciplinarity dates back more than 30-years; interdisciplinarity dates back even further. This is not a passing fad.

As Nicolescu explains, multidisciplinary incorporates perspectives from several disciplines, “while its goal remains limited to the framework of disciplinary research.” Thus, one receives the benefit or stimulation from approaches or consideration of the points of view from other disciplines, but the aim continues to be focused on producing a result or understanding within the structure of the original discipline. It is important to note, however, that there are other scholars defining these terms in different ways, depending on their context. When considering group projects, for example, other perspectives make sense, as well. Human Ecologist Roderick L. Lawrence, for example, maintains that with multidisciplinary research, there is an “additive research agenda” in which each researcher works within their own discipline “without necessarily sharing a common goal with other researchers” (Lawrence 126). A larger, enhanced picture emerges from the combination of the individual efforts.

Interdisciplinarity, according to Nicolescu, involves the “the transfer of methods from one discipline to another,” while its focus “remains within the framework of disciplinary research.” Here, while the work continues to be produced within a single discipline, the methods cross disciplinary boundaries. This is where much of my earlier work falls –I borrowed methods from other disciplines and applied them to historical research. The result or product of my interdisciplinary efforts had always been what I considered to be History – with interdisciplinary

influences. For Lawrence, interdisciplinary research – again in the group or team work context - involves researchers from different disciplines who share a common goal, working in concert (Lawrence 126).

Transdisciplinarity, as Nicolescu explains it, encompasses “that which is at once between the disciplines, across the different disciplines, and beyond all disciplines. Its goal is the understanding of the present world, of which one of the imperatives is the unity of knowledge” (Nicolescu 187). This is asking much of our learners, and of our faculty researchers, as well. Put simply, it is transcending the disciplinary focus that might limit a broader understanding.

It helps to consider this in terms of Bloom’s revised taxonomy. Consider the apex where the higher order Knowledge Dimension (metacognitive) intersects with the higher order Cognitive Process Dimension (create). The transdisciplinary learner or scholar reaches beyond disciplinary distinctions to generate a new point of view or new understanding (Anderson et al. 29-32). I would not say that many have achieved true transdisciplinary status of the highest level, as conceptualized by Nicolescu, but are somewhere along the path working toward it.

Whichever framework we embrace, Nicolescu and Lawrence both make it quite clear that the terms are complementary, rather than oppositional (Lawrence 127, Nicolescu 187). Disciplinary research and understanding, then, are building blocks for the higher order understanding made possible by inter-, multi-, and transdisciplinary research. For example, were it not for research in other disciplines, I would not have the range of methods available to me to enhance my research and understanding of History, to enable me to create a new understanding of the people and events I study. Thus, there should be no concern among those who operate strictly within the confines of their disciplinary borders that advocates of transdisciplinarity are somehow working against disciplines, or that adoption of trans-, inter-, or multi-disciplinarity will bring about the end of any discipline. Of course, historically speaking, the boundaries of any discipline are neither permanent nor impermeable.

2. My experience

My first exposure to interdisciplinarity came while working on my master’s degree. I was the recipient of a coveted teaching

assistantship, and my first formal task was to teach an upper-level course on the Cultures of the Great Plains. Students could take this course for English, history, or anthropology credit. Regardless of how the credits appeared on their transcripts, the course was offered the same way for all who enrolled. We explored the literature written by Plains authors, both immigrants and Native Americans; we examined the history of the current residents and the ancient people; and we explored the geography of the Great Plains. We immersed ourselves in the different disciplinary approaches, explored the relationships between them, and came away with a deeper understanding of the region – what the board of the Center for Great Plains Studies had in mind when they developed the curriculum. The students loved this holistic approach, and I did, as well. It never occurred to me at the time to consider teaching the topic in any other way.

It was the early 1990s, and I was part of a creative, interdisciplinary center. I internalized this approach. I had no idea how unique the supportive and inclusive environment of this university really was. It was not until I attended a much larger university where I did my doctoral work that I began to realize that not every history program embraces interdisciplinarity to this degree. This much larger university had discrete departments of History and American Studies. They shared a number of core faculty members, and many of the seminars and colloquia I took were attended by students from each program. I was in the American History program, however, because I had been explicitly advised that no university at that time would hire an American Studies graduate for an American History teaching position. The interdisciplinary degree was not yet valued by my discipline. When I graduated, I found this bias to be true. Fortunately, the influence of the individual faculty members and the “shared” coursework had shaped my doctoral work and my approach to my dissertation and my discipline.

In my research, I have always turned to other disciplines for theories and concepts to help make sense of the behavior of the people I study. My subjects lived in the mid-19th Century, sparsely-populated American West. They were frequently engaged in various acts of violence against each other (murder, lynching, even cannibalism). I rely upon the disciplines of sociology, criminology, psychology, cultural anthropology, sociolinguistics, gender theory, feminist theory, literary criticism, etc., to help construct a framework of interpretation. In the past, I have conceptualized this as an interdisciplinary approach, as Nicolescu defines

it, transferring methods from these various disciplines and applying them to my own. The final product always remained within the rough, augmented framework of my original discipline. (Nicolescu 187). I reached out to other disciplines to inform how I did history.

More recently, however, I have embraced the concept of transdisciplinarity. For me, this is a more encompassing integration of approaches. By crafting a theoretical lens shaped from concepts derived from other disciplines, I have gained a deeper understanding of gender and violence in the frontier cases I examine. In addition, because I often collaborate with a colleague in another field or discipline, this process transforms their approaches as well – there is reciprocal growth. This is an ongoing process. Each new case study leads me further down a methodological path, or in a new direction. My approach to my discipline continues to transform and evolve as I strive for a more complex and unified understand of the subjects I investigate.

I was initially persuaded by the work of cultural historian Richard Johnson. He echoes Nicolescu in describing these concepts, but he keeps his explanations more grounded in practical applications. Johnson advocates that scholars adopt the term *transdisciplinarity*. Although he refers to cross-disciplinary exchanges between literary studies, cultural studies, and history, and the impact on cultural studies, the applications to other disciplines are clear. The key distinguishing feature, and what appeals to me most about this idea, is the notion of transformation. The impact of the other disciplines on my own goes beyond providing information, beyond informing my own approach; it has had a transformational effect. Engaging in this process has changed the way I approach and view my own discipline. It was Johnson's work that led me to this understanding.

Johnson explains, beyond *interdisciplinarity*, which is “borrowing and integration,” or *multidisciplinarity*, which is “less productive coexistence within definite borders,” *transdisciplinarity*, is the impact of the sharing between disciplines (Johnson 270-271). We can see how the framing of these concepts by all three, Johnson, Lawrence, and Nicolescu, are similar and related. The transformative nature of the exchange is at the heart of the matter. The way I think about what I do, how I research, analyze, and interpret the past has been transformed by methods of other disciplines, layered on the original foundation of the historical methods I use.

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My thinking about all of this has also been affected by Social Work researchers Jill Theresa Messing, Madelaine Adelman, and Alesha Durfee (ASU Phoenix and Tempe). In discussing their research, they build on the work of Tom Horlick-Jones and Jonathan Sime, and emphasize the crossing of “epistemological, methodological, and traditional practice-research boundaries.” They call this border-work. Transdisciplinary theorists often call this boundary work. I prefer this notion of border-work. This is a wonderful term. For me it conjures up all that borders entail, and the transformations that occur when one crosses into a borderland: the impact of the unknown, the ways in which one’s interactions with new people and new ideas create a new perspective, create new knowledge or a new way of understanding. It can be a major theory or a small idea that helps illuminate an obscure point that makes all the difference in how one understands one’s subject or conceives of one’s discipline as a whole. This border-work is truly fundamental to transdisciplinary research. (Messing, Adelman, and Durfee 641).

Not only has the complex concept of transdisciplinarity transformed my approach to my discipline, but I have become more involved with faculty development and the scholarship of teaching and learning focused on innovative methods that transcend disciplines. As scholars, when we leave the safe confines of our discipline and enter into the unfamiliar borderlands of other disciplines, it can be intimidating. In my work as the Director of Instructional Enhancement and Innovation, I mentor new faculty members from across the university, and work with all faculty members to help them gain the technical skills they need to teach in technology-enhanced learning environments. Every day, I see that many faculty members feel uncomfortable when they are returned to the position of student rather than expert. Many must start from scratch as they learn to operate new technologies and adapt to new pedagogy/andragogy and transition their materials from a face-to-face environment into an online or blended one. Many prefer to simply not take on this new challenge. They would rather hold fast to the conventional methods and comfortable strategies rather than take that risk of learning new ones. Many do not even want to hear about new opportunities and advantages that they can access for themselves and for their students. Fortunately, many more take on the challenge and move forward. They embrace the innovations in technology, they transform their approaches and instructional strategies and take themselves and their materials to new places and to reach new students.

Transdisciplinary research offers similar opportunities for growth and expansion, opportunities to carry teaching and research into new places, and to reach new students.

3. Early application

Through paired and clustered courses and learning communities, I have participated in the successful application of a transdisciplinary focus for learners and the creation of a transdisciplinary perspective on a much smaller scale at another institution, in the early 2000s. The initiative was embraced by the students, the program coordinators, and the limited number of faculty participants. Students created a portfolio project to share their learning process. In the paired or clustered courses project, students were enrolled in two or three courses that were designed to be complementary, but were offered in distinct disciplines. The students were assigned writing and other creative assignments that reflected their experiences in which they were to demonstrate the cross-fertilization of knowledge and ideas by transcending the disciplinary boundaries of the courses. The project demanded critical thinking and the students rose to the challenge. While they did not solve any previously insurmountable problems or restructure a conventional way of thinking on any grand scale, one could certainly argue that they achieved this on a smaller scale. These were students who had struggled academically in the past, yet this approach engaged them in a way that previous approaches (separate, discipline-specific courses) had not. And although it was not labeled transdisciplinary at the time, through their portfolio projects they demonstrated that they had achieved a modest, transdisciplinary objective. Multiple disciplines came together, blended and shaped each other in the students' portfolio assignments to transform the knowledge-seeking process. The project was a success. The participating faculty were much more open to co-planning of the courses, and that integrative, reciprocal piece was clearly present.

The effort was resisted, however, by many of the non-participant faculty members who felt the idea was merely a gimmick that would drain their already limited time. A very modest stipend was offered to faculty participants to compensate for the extra planning and grading time expended on the project, but not so much of a stipend that anyone would join simply for the financial compensation. In the few years I was there, however, the project never gained much wide-spread traction among faculty. The strongest resistance seemed to be due to the fact that

the initiative did not reside within any specific discipline or department, so there was no sense of ownership by the faculty members. The creation of an inter- or transdisciplinary center with faculty members assigned to it might have helped create a sense of responsibility and investment in the success of the initiative. These types of approaches however, are gaining ground as schools at all levels explore related concepts of cross-curriculum programs, project-based learning communities, integrated studies, interdisciplinary programs, and the like.²

Transdisciplinarity offers one approach for augmenting the university experience for students, faculty, and the community. A university-wide initiative could combine concepts and knowledge from the academy with those from all sectors of the larger community. This would provide for “cross-fertilisation of knowledge and experiences” (Lawrence 126). Students would benefit from the practical experience and engagement with the community. In addition, the collaboration could lead to new understanding of problems or issues being investigated, and could lead to new resolutions or new methods to address them. The innovative potential for the university experience is tremendous. It could help meet the needs of fostering student learning, engaging and benefiting the community, and developing new knowledge.

4. ASU example

In their examination of “Transdisciplinarity in Higher Education,” Sue McGregor and Russ Volckmann conceded that “terms like interdisciplinary, multidisciplinary, cross disciplinary and the like are used interchangeably with transdisciplinary” in the university setting they examined. It has also been my experience that this interchanging of terms is common. When precise definitions are not widely known or accepted, this confusion no doubt exacerbates resistance to the general concepts among faculty members. In their examination of Arizona State University (ASU), however, where the Biodesign Institute is a strong example of transdisciplinarity, McGregor and Volckmann determined that the interchanging of terms was a “sign of conceptual evolution and transition” (McGregor & Volckmann 3). Within five years, the definitions appear to have been defined and disseminated at ASU. The ASU Institute for Humanities Research web page currently clarifies terms, and emphasizes the need to move beyond multidisciplinary and adopt transdisciplinarity, which they define as

integrative, reciprocal interdisciplinary scholarship that does not simply juxtapose knowledge from traditional disciplines (multi-disciplinarity) but rather transforms the knowledge-seeking process in order to achieve new results. (ASU, IHR, 2015),

They explain that this process can be accomplished by,

individual researchers or collaborative teams who address innovative questions, solve intractable problems, create new knowledge frameworks or domains, model more complex phenomena than the current state of knowledge allows, and/or restructure conventional idea systems and practices. (ASU, IHR, 2015),

In other words, at the Institute for Humanities Research at ASU, multiple disciplines come together, blending and shaping each other to transform the knowledge-seeking process. This process can be carried out individually or by groups, to tackle big issues, create new knowledge, or provide new methods or practices. The transdisciplinary activity at ASU, and the examination by McGregor and Volckmann is exciting. The university focuses on students and future students who they feel are predisposed to interdisciplinary and transdisciplinary thinking. This approach “scaffolds the students’ learning experiences” so that they are given cross-disciplinary opportunities to engage in multiple “disciplinary perspectives and merge them together” (McGregor & Volckmann 5). This concept is part of ASU’s interpretation of the New American University. It models concepts of the transdisciplinary approach as discussed by Nicolescu and Lawrence. Imagine the possibilities. Set aside concerns about funding for individual projects or research lines, and consider the larger picture of our students and their futures. Placing the emphasis of our educational process truly on the learner could have a transformational affect.

For concerns about research funding, one need only look to ASU to see the positive impact transdisciplinarity and the New American University concept can have. Research grant funds, for example increased from under \$100 million to more than \$300 million per year when the transdisciplinary model was introduced (McGregor &

Volckmann 6). Innovation and collaboration; transdisciplinary work clearly creates opportunity for researchers and for students.

5. Conclusion

There are many innovative and successful interdisciplinary and transdisciplinary researchers, centers, and university models. Much scholarship has been generated in the past few years to indicate that rather than a fading interest, interdisciplinary and transdisciplinary research are accelerating.

The commitment to accept interdisciplinarity is increasing at my own institution. I can see this most clearly in the change in attitude toward the long embattled Liberal Studies program. Although very popular with students, and supported by a small number of faculty members from various disciplines, for years the Liberal Studies program did not receive the full attention or respect it deserved. Preference was clearly given to the traditional disciplinary programs. In fact, for quite some time, the Liberal Studies degree was missing from the list of degree options on our college web page. To be quite clear, this was simply an oversight. Our faculty members were spread thin, focused on developing all of the programs in our new institution. The information was available in the catalog (print and online), and students could easily get the information they needed. But for such a high-enrollment program, this oversight was a telling one. It was an indication that this program did not have an advocate in the way that our traditional, discipline-specific programs did. Also, to be fair, once the discrepancy was pointed out, and it worked its way up the chain of command, the oversight was corrected. Another indicator of the earlier lack of commitment to the concept of interdisciplinarity was that I often used to overhear my colleagues advising students to enroll in programs offered by one of the “traditional disciplines.” I am convinced they were motivated by the students’ best interests, much the same as my former advisors had counseled against the interdisciplinary degrees when I was in graduate school. But times are changing, and for many of our students, these interdisciplinary programs are exceptionally well-aligned with their future goals. Increasingly, this shift in attitude is becoming visible in student advising and program structures.

Quite recently, colleagues from across the university collaborated to develop the Interdisciplinary Studies program. Since then, more attention

has been devoted to both of these interdisciplinary degree programs. In fact, funding has been approved for a full time faculty line for the Liberal Studies program. This is an indication of positive steps ahead for our students and our university; it is an indication of a wider acceptance of interdisciplinary concepts. It might be helpful, as was done at ASU and at other institutions, for more faculty members to be formally assigned (quarter- or half-time) to these interdisciplinary programs, rather than simply teaching cross-listed or specially designated courses. That formal affiliation demonstrates a significant commitment by the university and the faculty to the students enrolled in the programs.

The emphasis on interdisciplinarity is very encouraging. There are interdisciplinary minors and approaches popping up now in different pockets throughout the university. It offers hope that at some point we might see transdisciplinary initiatives at our institution that could bring together students, faculty, disciplines, and the community to work together as they are doing at ASU, to be truly innovative, tackling problems and challenges in a way that breaks ground and creates new processes, methods, and new knowledge.

Yet for now, until transdisciplinarity reaches a comparable level of wide-spread acceptance and support, I am, as Frederic Darbellay describes the situation, “always caught in a tension between conformism and innovation” (Darbellay 164). Some days, the burden of working on the border, on the fringes of my discipline, without the support of colleagues is overwhelming. To be clear, there are real dangers in such border work. Pushing the accepted, traditional boundaries has led me out into the wilderness more than once. It can be tempting to abandon the struggle. However, as scholars, we are part of a much larger community. We are not truly alone in the borderlands. The border regions can be rich, stimulating, and productive spaces. There are many opportunities for collaboration beyond our own institutions, certainly beyond our own disciplines, to research and engage in transdisciplinarity, to assess transdisciplinary projects, and to promote the concept of transdisciplinarity.

Darbellay offers a characterization of these efforts that is both appealing and accurate. He portrays the interdisciplinary and transdisciplinary researcher as a “hacker,” working to “change academe from within without causing its collapse . . . [acting] within the academic system to modify its disciplined functioning – locally and globally.”

(Darbellay 172-73). For those of us reflecting on what we do, why we do it, and the impact inter- and transdisciplinary practices could have on the ways our institutions function, this is a time of opportunity to hack the academy, and help create new approaches to learning and knowledge – within, between, and beyond disciplines. These approaches provide the opportunities to potentially transform our institutions, our disciplines, and to engage our students and communities in the process.

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