



THE NEWSLETTER

INTEGRATIVE PATHWAYS

OF THE ASSOCIATION FOR INTERDISCIPLINARY STUDIES

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William H. Newell, Editor

EMERGING SCHOLARS FORUM

This installment of our column comes from a doctoral student involved in the IGERT program, an interdisciplinary initiative of the National Science Foundation. The program has many insights into the dynamics of interdisciplinary teamwork and complex problem solving, but of particular interest here is the process of "problem finding" itself. Interdisciplinary inquiry is often defined as problem based or problem driven, and the various versions of the interdisciplinary research process begin identifying a complex real world problem before going on to integrate insights from disciplinary perspectives. This move was meant to focus interdisciplinary research, to prevent it from becoming an incoherent "hodge-podge" of information from random sources, and to ground it in practical problem solving activities. This orientation, however, neglected to acknowledge that the discovery and definition of complex problems can itself be an interdisciplinary endeavor, engaging the same tolerance for ambiguity, discoveries of conflict and common ground, that characterizes later steps in the process. Klos's description of physically exploring the Rockies in search of a problem provides a wonderful metaphor for what many of our students go through at all levels of education, when they are assigned an interdisciplinary research paper or project. This essay provides a great starting point for further research and pedagogy on interdisciplinary problem formation, and perhaps grants us a heightened awareness of the difficulties our students face before even beginning the formal research process. Peter Zion Klos has a

Problem-finding in the Education of Interdisciplinary Team Scientists

By P. Zion Klos

Interdisciplinary Water Sciences, University of Idaho, with the support of Jarod Blades, PhD Candidate, Conservation Social Sciences; Kerry Kemp, PhD Student, Forest, Rangeland, and Fire Sciences;

Nilsa A. Bosque-Pérez, Professor of Entomology, Director IGERT Project;

Jo Ellen Force, Professor, Forest, Rangeland, and Fire Sciences; Troy Hall, Professor, Conservation Social Sciences; and Penny Morgan, Professor, Forest, Rangeland, and Fire Sciences.

One van, five faculty, and three brand new, bright-eyed PhD students on a two-week road trip through the Rocky Mountains of Idaho and Montana. The goal: find a climate change

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background in geology, a current degree path in hydrology, and an expanding understanding of social and ecological resilience. The team-based, interdisciplinary approach to the University of Idaho IGERT program allows for an appropriate balance between studies in his own discipline and integration with others, such as ecology and social psychology. <http://www.igert.org/profiles/3479>

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Zion Klos

PEER-REVIEWED SYLLABI AS SOITL

By Debra Parker, Benedictine University

As explained at much greater length in the section of the AIS website devoted to the scholarship of interdisciplinary teaching and learning, faculty engaged in SOTL “examine their own classroom practice, document what works, and share lessons learned in ways that others can build on.” Lee Shulman, former president of the Carnegie Foundation for the Advancement of Teaching, long deeply involved in SOTL initiatives, extends a particularly well-known definition of this sort of scholarship (on the Foundation website) as entailing “a public account of some or all of the full act of teaching—vision, design, enactment, outcomes, and analysis—in a manner susceptible to critical review by the teacher’s professional peers, and amenable to productive employment in future work by members of that same community.”

Now that so many colleges and universities are offering students interdisciplinary courses and indeed whole interdisciplinary programs leading to interdisciplinary degrees (including advanced degrees) there is a need for SOTL to include more of the scholarship of interdisciplinary teaching and learning—not least because many faculty teaching in such courses and programs may not have interdisciplinary training. Moreover, as Pauline Gagnon, member of the AIS Board of Directors (and former president) has explained in the Introduction to the Peer-Reviewed Syllabi section of the AIS website, which she served as editor for nearly a decade following its first editor, Marcia Seabury, such faculty often “find themselves inventing their [interdisciplinary] courses in isolation,” “unaware of effective models of how to integrate insights from multiple disciplines in their course design, assessments, and

THE SCHOLARSHIP OF ID TEACHING AND LEARNING

I invited Debra Parker to contribute this issue’s SOITL column because she has just accepted an appointment as the editor of the Peer-reviewed Syllabi section of the AIS website. Debra is chair of the Division of Arts & Letters at Benedictine University in Springfield, Illinois, and an At-Large member of the AIS Board of Directors. The Syllabi section is the venue to which interdisciplinarians may submit their syllabi and supporting course materials for possible publication as exemplars of IDS work.

Gretchen Schulz is Contributing Editor for SOITL. Contact her at gschulz@emory.edu.

pedagogy.” And this when integrating insights from multiple disciplines is at the very heart of interdisciplinary studies, as it is at the very heart of much of the work that must be done in the real world once students have left their studies behind.

As Gagnon says, “The more [those of us involved in interdisciplinary studies] share ideas, the more we can build interdisciplinary practice that is informed by theory and interdisciplinary theory informed by practice.” And the better we can bring our growing understanding of interdisciplinarity to bear not just on our teaching but on our research into our teaching (and our students’ learning). We can be more intentional about our work and its integrative aims, and more effective in assessing and analyzing success and failure so we might have more success the next time around—as might those with whom we are sharing the “public account” of the work as Shulman and so many others have recommended. We can create a “teaching commons,” defined by former member of the AIS Board of Directors (and former president) Don Stowe as “a conceptual space where interdisciplinarians can exchange ideas about teaching and learning”

as theorized and practiced in their courses and programs (“SOTL, Interdisciplinarity, and Assessment,” AIS conference presentation, Springfield, Illinois, 2008).

Of course, AIS has been providing just such a “teaching commons” for interdisciplinarians ever since it was founded in 1979. In the thirty-four years since its founding, through its conferences, publications, and website it has offered its members a “productive forum for the exchange of ideas concerning interdisciplinary and integrative issues.” The mission statement of the Association now specifically states its dedication to “the scholarship of interdisciplinary and integrative teaching and learning.” There has been a concerted effort to include more SOITL presentations in conference programs and more SOITL articles in the AIS journal along with this SOITL column in the AIS newsletter. And since 2010, AIS has offered even more support to those involved in the scholarship of interdisciplinary teaching and learning with the substantial SOITL section of its website. The section begins with discussions of different aspects of this kind of scholarship (in its more general guise, as SOTL, and its

more particular guise, as SOITL) and ends with lists of resource sites and resource materials (for both kinds of work), including links to the sites and in many cases to full-text versions of the bibliographical materials.

What needs to be emphasized here, however, is the Peer-reviewed Syllabi section of the Association website has the potential to become (if more fully employed) most effective in fostering the community of interdisciplinary teachers and scholars that Don Stowe has called for: a virtual “teaching commons” of interdisciplinarians. With the archive of course materials it provides, it is already a useful resource for those teaching interdisciplinary courses of all kinds, and as more and more of those doing just that take advantage of the opportunity it offers to have their IDS work published in a peer-reviewed venue, it will become more useful, still.

Providing a SOITL Resource

The Syllabi site currently offers access to interdisciplinary syllabi and other course materials vetted by peer reviewers with expertise in the field. Avail yourself of the opportunity to become part of what Kathleen McKinney, Cross Endowed Chair in the Scholarship of Teaching and Learning at Illinois State University, calls a “social movement.” McKinney (2007) notes that the concept of “the scholarship of teaching and learning” reaches back to Ernest Boyer’s seminal 1990 book, *Scholarship Reconsidered*, in which he argued for acceptance of kinds of scholarship beyond the traditional. She notes that the impetus for SOTL as a social movement was an “increasing concern about the lack of knowledge and application of such knowledge for teaching and learning in higher education disciplines as well as the frustration over the value and rewards for SOTL” (p.4). She maintains that it was this awareness of the lack of

knowledge about teaching that has led to what we see today—a “SOTL movement that is a powerful force in helping us avoid [what Lee Shulman calls] ‘the great tragedy of teaching’ which is ‘collective amnesia’ about what works and why in teaching

AIS has been providing just such a “teaching commons” for interdisciplinarians ever since it was founded in 1979.

and learning” (p. 3). McKinney joins her voice to the many others that now call for “collective memory” on this all-important subject—for sharing of lessons learned. The 2012 publication of Cathy Bishop-Clark and Beth Dietz-Uhler’s text *Engaging in the Scholarship of Teaching and Learning* is worth mention as recent evidence of McKinney’s conviction that SOTL has become a powerful force in the academic world (and beyond), not least in its ability to enhance belief in the study of teaching itself as a legitimate scholarly practice across disciplines and in interdisciplinary spaces, as well. Boyer would be so pleased.

However, relatively little of the SOTL work that has been done involves interdisciplinary teaching and learning. Some books have addressed the subject, certainly, like the 2002 collection of essays called *Innovations in Interdisciplinary Teaching*, edited by Carolyn Haynes in response to a proposal by the AIS Board of Directors (which she was serving as president at the time) that she “ask noted experts in various innovative pedagogies . . . to integrate their current theories and practices with those advanced in interdisciplinary education” (as

quoted on the AIS website). SOITL work has found its way into books, journals, and conferences devoted to SOTL-in-general or willing to welcome work of this sort. Some of the best can be found in other AIS-sponsored books, in the AIS journal *Issues in Interdisciplinary Studies* (formerly *Issues in Integrative Studies*) and in the presentations offered at the Association conferences over many years.

Major thinkers and doers on the interdisciplinary scene and the AIS scene in particular—scholars like William Newell and Julie Thompson Klein—have offered much that qualifies as SOITL, most recently through the 2010 *Oxford Handbook of Interdisciplinarity*, which Klein helped to edit and which contains a chapter on “Undergraduate General Education” (and the role of interdisciplinarity therein) written by Newell. It also contains a particularly informative chapter on “Interdisciplinary Pedagogies in Higher Education” by Deborah DeZure, a former Director of Development of the AIS Board of Directors with special expertise in SOITL.

It was DeZure’s home institution, Michigan State University, that hosted the first conference devoted entirely to SOITL work in May of 2012, a conference in which five plenary sessions (and corresponding workshops) covered all aspects of interdisciplinary teaching and learning. Several AIS members were invited to present, including Newell, who celebrated the opportunities now available to “embed the study of interdisciplinary pedagogy in the study of interdisciplinary processes and habits of mind” and to share the results of such study in print and online resources of every kind. (See Ann Chrapkiewicz’s article about the conference in the October 2012 issue of *Integrative Pathways* and see the

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section of the MSU website devoted to the Conference on Interdisciplinary Teaching and Learning or CITL at <http://lbc.msu.edu/CITL>). AIS is delighted that MSU, such a leader in this burgeoning field, will be hosting our annual conference in the fall of 2014. And we are also delighted that Carolyn Haynes, whose important work on SOITL is mentioned above, will be offering a plenary address at the conference this November, at Miami University where AIS began so many years ago.

What's most delightful, though, is that no one need wait for a conference (or publications of one sort or another) to share in the expertise of specialists in SOITL or (just as helpful and maybe more so) the experiences of those whose work in the interdisciplinary classroom has just begun. Plenty of both are available, right now, 24/7, and for free on our Peer-reviewed Syllabi site. You'll find it a resource wonderfully complementary to the list of resources—more-traditionally-defined (conference reports, books, articles, websites) that we offer in the SOTL/SOITL section of the Association website. After all, it's the Syllabi site that can help you most as you consider a syllabus of your own, the heart and soul of any interdisciplinary course you plan to teach yourself.

Providing a Publication Venue

In addition to being a SOITL resource, the Peer-reviewed Syllabi section of the website provides a publishing venue for faculty who are teaching interdisciplinary courses and who would like to turn the scholarly work they do (designing syllabi, offering and assessing their courses, and revising their syllabi to offer even better versions of their courses) into scholarship of teaching and learning proper by doing as Shulman (1998) and so many other promulgators of SOTL suggest they should, namely, making that work “public, susceptible to critical review and evaluation, and accessible for exchange and use by

other members of one's scholarly community” (p.5). By sharing syllabi and other course materials on this peer-reviewed website of the professional association for interdisciplinarians, faculty can participate in an important way in the scholarship of interdisciplinary teaching and learning. And it's worth noting, too, that publication on the Syllabi website may well lead to further scholarship: For example, analysis of problems that emerged in teaching a particular interdisciplinary course might become an article for Integrative Pathways, while a more-developed response to issues of interdisciplinarity that emerged might be submitted to *Issues in Interdisciplinary Studies*.

Those considering the site as a publication venue should note that the syllabi posted reflect the learning process that characterizes truly interdisciplinary coursework. On some level, all syllabi posted reflect the elements of the classic Klein and Newell definition (1997), which states that interdisciplinary work “addresses a topic that is too broad or complex to be dealt with adequately by a single discipline or profession, draws on different disciplinary perspectives, and integrates their insights through construction of a more comprehensive perspective” (pp. 393-394). Although this definition dates back to 1997, it has emerged intact from years of debates by interdisciplinarians and remains one of the most cited in the literature on interdisciplinary course preparation. The definition emphasizes three important features of interdisciplinary teaching: first, the inquiry that warrants interdisciplinary work; second, the role of the disciplines in that work; and third, the integration of the insights from the disciplines achieved as students move towards interdisciplinary understanding.

Allen Repko's text *Interdisciplinary Research: Process and Theory* (now in its 2nd edition) acknowledges

the importance of these features of truly interdisciplinary work and emphasizes the importance of the process involved. For Repko, the hallmark of interdisciplinary work is a focus on discovering or creating common ground among disciplinary insights, and in so doing, “producing a more comprehensive understanding [of a problem, question, or phenomenon] or cognitive advancement” (Repko is here quoting Newell, p. 15). The research process that Repko recommends is presented in the text in manageable steps that teachers and students of interdisciplinary studies can maneuver together.

Many of the syllabi for IDS courses published on our site model this process of moving from questions-to-disciplinary insights-to-integration—a process that works best when interdisciplinary courses are designed around topics, issues, or questions that summon attention from different academic disciplines. Many of the faculty represented are doing what has come to be (affectionately) known as “Teaching with Repko.” Whether you teach with Repko or other interdisciplinary resources, we welcome innovative examples of syllabi and other materials from faculty engaged in the work of interdisciplinary teaching and learning.

Invitation for Submission

You are invited to submit course syllabi and materials that reflect interdisciplinary teaching for peer review and possible publication in the AIS Syllabi site. Of particular interest are syllabi for general education courses, as that is the largest category of interdisciplinary courses currently taught across the country and the area of greatest need. These courses may be introductory through capstone level.

Here, more specifically, are questions to consider in selecting syllabi for inclusion.

Have you designed an

interdisciplinary course that intentionally draws on multiple disciplinary perspectives and helps students integrate those perspectives?

Does your syllabus explicitly describe learning outcomes for students, including interdisciplinary learning outcomes?

Do your course materials include assessment measures for evaluating student progress toward course outcomes?

Especially valuable are rich models that include the syllabus and handouts or links to supporting documents such as assignments, projects, or rubrics. Specifically, we look for evidence in the language of the syllabus and other course materials that reveals a self-consciousness about how the course moves students toward interdisciplinary integration and the anticipated effect of such integration, including, first and foremost, interdisciplinary understanding.

Interested faculty can forward submissions electronically to dparker@ben.edu. The submission should be in the form of either of the following:

URL of your course website, which includes links to materials illustrating the interdisciplinary workings of the course (preferred, if available)

email attachments in MSWord

In all cases faculty retain copyright to their own material, and readers will be encouraged to acknowledge any use of materials found on the AIS site. To assist in ongoing appropriate acknowledgment of your work, you are asked to include a line at the bottom of your syllabus with the copyright symbol, your name (including your email address, if you are willing), and date.

For more information, please contact Debra Parker at Benedictine University at Springfield (dparker@ben.edu). Or, refer to the Peer-reviewed Syllabi section of the AIS website <http://www.units.muohio.edu/>

[aisorg/syllabi/index.shtml](http://www.units.muohio.edu/aisorg/syllabi/index.shtml).

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JOBS IN INTERDISCIPLINARY STUDIES

Norfolk State University seeks an Assistant Professor for Interdisciplinary Studies to teach at the undergraduate level with a full teaching load of 12 semester hours per semester to include evening, weekend, off-site and online courses. Additional duties are serving on committees at the department, school, and university levels, academic advisement of majors, and scholarly activities including research, grantsmanship, and publications. A strong commitment to academic advising is required. Desired Qualifications: Terminal degree required, preferred disciplines include Interdisciplinary Studies, Sociology, Linguistics, Global Studies, & Political Science. Preference will be given to those with specializations in sociolinguistics, globalization, and internationalism. Proficiency in and commitment to online/distance learning is desired. Candidates are to submit official undergraduate and graduate transcripts, a cover letter, current curriculum vitae, a completed Commonwealth of Virginia application, three letters of recommendation, and a statement of teaching to:

Khadijah O. Miller, Ph.D.,
Chair Department of Interdisciplinary Studies Norfolk State University BMH C-108 700 Park Avenue Norfolk, Virginia 23504. komiller@nsu.edu

The review of applications continues until the position is filled.

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Transdisciplinary Text Brings Out Sustainability's Complexity

By Rick Szostak, University of Alberta

There is much to like in this very big book. The authors propose a self-consciously transdisciplinary approach. They recognize that social, cultural, technological, political, and economic variables each exert importance influences on the others. They illustrate their arguments with many pages of diagrams and tables. The authors have clearly thought about and taught this material for many years. They draw upon a broad and extensive set of literatures. Unlike many authors that use terms like 'globalization' and 'sustainability' they carefully define what they mean by such terms.

The book might be used as a textbook. Or individual chapters might be used as texts for quite different courses. Part I discusses the nature of, and evaluates the concept of, sustainability. The chapters in Part II review the literature on economic growth, development, and trade. In part III, chapter 6 discusses technological innovation, chapter 7 innovation in the organization of firms, and chapter 8 government policies to foster innovation and growth. Part IV looks at health, safety, and environmental regulation. Part V explores trade regimes. They cover a very wide range of topics in these chapters. Sometimes their coverage is a bit eclectic, as when they discuss at length 'binary economics,' a theoretical approach unknown by the vast majority of economists.

Given the 'disciplinary' focus of most chapters, the bulk of the integrative work must be performed in the first and last chapters (though there are many cross-references in

intervening chapters). I will focus my review on these.

The book's biggest novelty may be its definition of sustainability. It is now common to extend the meaning of this word beyond its original environmental focus. For these

A REVIEW

Nicholas A. Ashford and Ralph P. Hall, Technology, Globalization, and Sustainable Development: Transforming the Industrial State. New Haven: Yale University Press, 2011. Pp. xxix, 720.

authors there are three pillars of sustainability: environment, economy, and employment. The emphasis on the creation of quality jobs that can support a desirable lifestyle is unusual.

I confess to a preference for narrowly-defined terms, and I worry that in the hands of other authors a broadly-defined 'sustainability' becomes so all-encompassing as to be meaningless. These authors justify their three pillars by arguing that these are both important and mutually re-enforcing. But given their recognition that almost all variables interact with all others in important ways, it would seem that a similar argument for inclusion might have been made for other variables: democratic governance, or inclusive communities, or even happy people. Moreover, employment is not a 'good' in itself but a means to others goods such as fulfillment and the ability to meet human consumption needs and wants.

The interdependence among variables is more often assumed

than illustrated, though there are several brief discussions of, say, how a particular institutional innovation will only succeed if societal attitudes change. I would have preferred a more detailed discussion of the cross-disciplinary interactions at work. In the absence of this, the authors' conclusion that a host of changes are jointly necessary for a sustainable future may strike some readers as needlessly pessimistic. Nevertheless, the book can serve as an important antidote to the many arguments in the world for one 'magic bullet' solution to sustainability issues.

The writing style is very dense. It is often difficult to distinguish main arguments from subsidiary points. This may in part reflect (and reinforce) the authors' belief that numerous interventions are called for. I myself like and often employ bullet point lists, but found that these authors did not always sufficiently justify the purpose of particular bullet point lists or why individual bullets within these were included.

The book highlights several barriers to a sustainable future. The fragmentation of knowledge is a challenge with which all interdisciplinary scholars contend. Power inequalities and social exclusion limit our ability to achieve institutions that benefit all. Corruption exacerbates this challenge. Cultural 'addiction' to growth prevents us from imagining a different future. On this last point, I wonder if, rather than discouraging growth, it would be better to encourage a different sort of 'growth' where we value increased leisure more than increased stuff.

The authors derive four main lessons from their book (p. 691). They urge us to see past discussions of tradeoffs toward policies that achieve multiple goals. I would concur that we too often pursue one policy goal at the expense of others. They urge us to appreciate that (almost) everything affects

everything. I would again concur. They note that it is easier to do harm than good. This does not prevent them from proposing numerous policy changes, but these must be pursued carefully and with careful evaluation of results. Finally, they argue that government intervention is necessary but not sufficient. Changes in technology, firm organization, and cultural attitudes (at least) are also important.

Public debate is too often dominated by simplistic points of view. Some posit too-easy solutions. Others despair that any solutions are possible. This book strives to appreciate the complexity of the challenges we face. It proposes a diverse set of strategies for amelioration. The path forward that is outlined is neither easy nor impossible. There is much for both scholars and activists to do. ■

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problem to solve worthy of four years of student funding, faculty effort, and intellectual rigor. The stipulation: it must address issues of social-ecological systems resilience and integrate our disciplines of social psychology, forest ecology, and physical hydrology.

This was the starting point for our interdisciplinary, team-based PhD education at the University of Idaho. Currently we are starting year 4 of the program. Funded by the National Science Foundation, the Integrative Graduate Education and Research Traineeship (IGERT) we are part of is designed to “catalyze a cultural change in graduate education” through “collaborative research that transcends traditional disciplinary boundaries” (NSF, 2010). The University of Idaho has received two IGERT awards over the past decade, the first in 2001 and the second in 2009. Both emphasized

team-based interdisciplinary PhD education, with the 2009 award focusing topically on resilience of social-ecological systems. This current IGERT is comprised of six distinct research teams—three based in different ecoregions of Idaho, and three based in equally distinct regions of Costa Rica. Costa Rican research is paired with faculty from a local sister institution, CATIE. Each team is comprised of three to five students and three to seven faculty of varying disciplines from within the social, economic, ecological, and physical sciences. The team-based structure of our IGERT program offers a budding pedagogical framework within the world of interdisciplinarity that brings with it several important challenges. Specifically, the new challenge we aim to highlight is that of team-based problem finding. Through our own successes and failures, our team has learned much about the skills involved in this process and we feel it is important to share our perspectives with the wider interdisciplinary community, as others seek to embark on similar challenges within research and education.

During the inception of the Idaho IGERT grant, faculty collaborated to select research project areas within the Idaho and Costa Rica regions. Though the general problem themes were identified, and students were selected to address both disciplinary and interdisciplinary elements, specific problem topics were not identified, so as to provide students the opportunity to select and refine their research topics once exposed to their system. Existing pedagogical frameworks for interdisciplinary problem-solving, such as Klein (1990) and Repko (2008), were incorporated into the academic curriculum for student education. In contrast, the specific problem to be addressed was not a starting point, and remained undecided at the beginning of our PhD education.

Creating the focus of the problem was meant to be an iterative decision process between students and faculty over the first year of the PhD. Since this problem-finding component is not a major part of the current literature on interdisciplinarity, pragmatically, this new addition could be considered as initial steps that would take place prior to the start of the Klein and Repko research processes.

As a case example of this additional framework, our Northern Rockies Team composed of three PhD students was initially given a broad problem-focus area derived from natural resource issues in Idaho and Montana, such as increases in large-scale forest fires, increased rates of forest mortality, changes in winter snowpack and water availability, and changes in regional social dynamics. In order to develop and focus our research problem, we embarked on a two-week tour with our advising faculty to learn more about the region, talk with local community members and land managers to learn what concerned them the most, and explore how our skills and time could best address a problem related to the resilience of their social-ecological systems. While having a desire for actionable results directly applicable by our stakeholder community, we also sought a topic generalizable enough to provide basic science information useful to others in the greater academic community.

Understandably, two weeks was not enough time to agree on an interdisciplinary problem-focus for the next 4 years, much less the start of our future academic careers. So, throughout our first year as students, we continued to listen, read, discuss, and iterate through one problem-focus to the next. Throughout the process, disciplinary boundaries were overcome as we learned what constituted valid methods, results, and conclusions within our different

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disciplinary silos. Daily interaction and mutual coursework provided space for continuous discourse as we developed, refined, researched, and many times “scrapped” our research problem. Topics were often abandoned because one or more members of the team felt the focus was not inclusive enough of their respective interests. Simultaneously, what defined our individual disciplines was also changing as we further defined our personal interests for our PhD careers. After considerable back-and-forth, with ideas as broad as “holistic system-scale questions looking at metrics of social-ecological resilience,” we honed in on the more refined topic of “local-scale climate change communication.” Specifically, we found common ground in our interests of science communication, biophysical climate change impacts, and adaptation-based land management. Focusing on applied aspects, we identified as a problem the general lack of understanding climate change information among community leaders and land managers. We felt we could help bridge the gap between the research and management worlds. Additionally, further acquisition of funds to support this research locked the team into accomplishing the project, and provided financial incentive to maintain topical focus.

Once we defined and solidified the research problem, research methods quickly fell into place. We chose to conduct four community workshops around the region focused on communicating the latest global, regional, and local-scale climate information. To understand the cognitive bridges and barriers for acceptance and utilization of this climate information by individuals engaged in land management

decisions, we engaged them through animated model visualizations, small group deliberation, interviews, and surveys. The workshops were completed in the fall of 2012, and joint team publications/chapters are being written to highlight what types and scales of climate science information are most useful, and why.

So now, three years after our two-week problem-finding adventure through the mountains of Idaho and Montana, we have learned much about the process of interdisciplinary, team-based education. We have found many of the existing pedagogical frameworks to be useful, particularly for the second half of our endeavor. By contrast, for the first half, guidance from the literature was harder to find as we went through the process of jointly deciding a problem focus when given so much freedom. Though difficult, this process provided considerable opportunities for learning and advancement of our skills as interdisciplinary scientists. To share our insights, and advance the knowledge of interdisciplinary, team-based learning, we are currently writing a publication jointly with members across our project that specifically addresses pedagogical considerations applicable to these types of academic endeavors outside of our program.

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Relativism is Not a Dirty Word

By James Welch IV, IDS Program, University of Texas – Arlington,

When I was bright-eyed young grad student, I wrote a paper for a philosophy class which made frequent use of the concept of relativism. After grading the paper my professor informed me that the term had a terrible reputation among “serious” philosophers, tantamount to abandoning the quest for Truth itself. This assertion surprised and confused me. I associated relativity with the work of Einstein, as one of the great ideas of the 20th Century. Before Einstein, the Newtonian model of the universe posited the existence of a strange substance called the Ether. This was an ancient idea, very Platonic in nature—a metaphysical substance that permeated the cosmos. Newton believed it helped explain all manner of chemical reactions and physical phenomena, including gravity.¹ Because the Ether was fixed, it supplied a standard against which all other motion in the universe could be measured. Einstein found this notion implausible, and the Ether, like all other metaphysical concepts, fell apart under empirical scrutiny.² For Einstein, all of the cosmos is in motion. The Earth is spinning on its axis, orbiting the sun which journeys through the galaxy which is itself traveling through the universe. All motion is relative to the position of the observer. Played out in thought experiments, this realization led Einstein to conclude that space itself is curved and inconsistent; therefore, no nice, steady Ether.

Outside of physics, relativity initiated a fundamental paradigm shift that replaced the idea of a fixed standard for truth with a more

dynamic and complex framework. My earnest arguments in favor of relativism made my professor relent at the time, but forced me to use the concept with more care. Later on, as I began to turn my attention to research of interdisciplinary theory, I found that relativism figured centrally in the arguments I was developing. I was surprised, then, that upon submitting an article to IIS, the esteemed editors took issue with the term, encouraging me to substitute a less controversial concept, like “contextualism.” It seems that relativism is still a dirty word. This baggage needs to be unpacked in order to fully assess the importance of relativism to interdisciplinarity.

The main arguments against relativism contend that it inevitably leads to nihilism. If there is no fixed, metaphysical standard for truth, grasped through spiritual wisdom or logical reasoning, then humans are truly lost in the cosmos. Relativism places all standards in the eye of the beholder. Everything I know is relative to my circumstance—my biological machinery of perception, my cultural norms and mores, my upbringing and social class—the paradigm within which my consciousness is situated. Without any universal, immutable standard for truth, individuals and even whole cultures can freely contrive any imaginable view of the cosmos, as long as it makes sense to its adherents. Schizophrenics, serial killers and cannibalistic tribes can all construct their own worldviews and moral codes with impunity. Who are we to judge them, since we are simply situated in our own subjective paradigm as well? This very postmodern view of the world is disorienting, and may seem quite absurd. It appears to paralyze our sense of judgment, our ability to evaluate the world around us and make decisions about it. Was the Holocaust wrong? Is the Earth round? We need to be able to judge

these things, even though there are societies that have internally valid justifications for the opposite assertion. Relativism seems to rob us of that ability.

This is the postmodern impasse: in the absence of absolute truth, how do we attain knowledge at all? The negotiation of this impasse is fundamental to interdisciplinary theory.³ The first step is to deconstruct relativism as one pole of an either/or dichotomy. To assert that without absolute standards there is then no standard for truth at all plays into the very reductionism interdisciplinarity was developed to displace. By its very nature, interdisciplinary studies deals with the comparison of insights from multiple perspectives. No one perspective holds a monopolistic understanding of any given complex problem; therefore, interdisciplinarity is relativistic in its core assumptions. Knowledge is not confined to the binary construction of true or false; instead, interdisciplinary inquiry most often finds that understanding complex problems requires a nuanced, polyvalent constellation of perspectives. Relativism cannot be mistaken for nihilism—a view that there are no standards for truth at all. Instead, relativism lies between the extremes of absolutism and nihilism.

Relativism provides a means to approach knowledge in a very interdisciplinary way. By utilizing complexity as a framework, interdisciplinarity posits a more sophisticated relationship between human consciousness and the phenomenal world, which possesses (among other things) characteristics of holism. Despite the chaotic and entropic nature of the universe, holism describes the countervailing tendency of phenomena to self-organize into coherent systems. An absolutist view would contend that the universe possesses a completely stable and predictable order, even an underlying meaning

and purpose. Nihilism, on the other hand, would hold that the universe is all chaos, in a continual state of dissolution. Between these perspectives, relativism views the universe as in flux, while also governed by forces that enable coherent systems to form. Internally, holism also applies to the tendency of human consciousness to bring its impressions of phenomena together into intelligible order. An absolute notion of truth depends on a direct correspondence between external reality and internal consciousness. Alas, all attempts to fashion such correspondence have failed. Nihilism would assert that that human consciousness is essentially incoherent and is not connected to the true nature of reality in any meaningful way. This notion is just as absurd as the previous one. Relativism accounts for the limited, fallible and contingent nature of human consciousness, while admitting its power to make meaningful assertions about the nature of the world around it. Interdisciplinarity chooses this middle path.

Accordingly, interdisciplinary theory assumes that consciousness and reality share a mutual nature, which is complex, dynamic and holistic. It further posits that the relativistic relationship between consciousness and reality can be negotiated through integration. The process of integration structures and facilitates the ability of consciousness to perceive the holistic nature of the phenomenal world, and thereby evaluate and make decisions about it. In this manner, relativism actually enhances understanding. At the same time, it must be acknowledged that relativism can be quite unsettling, for it produces a sense of epistemological vertigo. By choosing to dwell in the realm of relativity, interdisciplinarity surrenders itself to varying degrees

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Call for Papers: On the Practices and Challenges of Interdisciplinarity

Public Knowledge Journal, Vol. 5, No. 2 (2014)

The practice of “interdisciplinarity” remains problematic despite the widespread popularity of the notion of interdisciplinary existing as a subject of knowledge. Although interdisciplinary academic programs have been gaining a significant amount of traction over the past few decades, what interdisciplinarity looks like in practice remains unclear. What is evident is that the goal of interdisciplinary scholarship involves the process of answering complex questions and solving problems that cannot be addressed within the bounds of a discipline. It can be said, then, that all scholarship embodies the spirit of interdisciplinarity. In this way, we understand interdisciplinary practice as the integration of insights from multiple domains of knowledge to produce a more holistic analysis of the most pressing contemporary challenges.

Given the problematique of interdisciplinarity, to commemorate its fifth year of publication, *Public Knowledge Journal* welcomes submissions on the theme: “On The Practices and Challenges of Interdisciplinarity.”

Many critical questions arise, including:

- In what ways is interdisciplinary scholarship being exercised across the Virginia Tech campus and beyond?
 - If it is true that there are no pure disciplinary constructions, then why do interdisciplinary degree programs continue to proliferate?
 - Why does the divide between disciplinary and interdisciplinary programs persist? How may we begin to reconcile this divide?
 - What are the challenges and opportunities of conducting interdisciplinary research?
 - How should we theorize interdisciplinarity?
 - What/Where are the spaces of resistance to manufactured disciplinary boundaries? And how might they impact future disciplinary limitations/directions?
 - In what ways can interdisciplinarity be mobilized, contended with, and confronted?
 - What are “disciplines” and where do their limits lie? Why do we perpetuate a distinction between the “natural” and “social” sciences?
- Keeping in mind the above questions, this issue envisions a critical discussion on the practice of interdisciplinarity. Possible themes might include, but are not limited to, the following:
- The importance of interdisciplinary pedagogies and academic programs;
 - Geographical perspectives on spaces and flows;
 - Research and knowledge in action: the applied social sciences;
 - Economics, politics, and their social effects;
 - Applicability of interdisciplinary perspectives to practical global challenges;
 - Environmental and resource

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of uncertainty. But true and false is not an either/or choice. Relativism also entails metacognition. Because interdisciplinarity encourages reflection upon ways of knowing, this creates a new level of understanding that takes into account the shifting nature of truth in a dynamic universe. We do not need a fixed, ethereal standard for truth in order to acquire knowledge. Truth, instead, becomes an activity we participate in. Far from a dirty word, without relativism, interdisciplinarity could not have developed as a viable approach to knowledge at all.

ENDNOTES

- 1 See Isaac Newton's letter to Robert Boyle, on *The Cosmic Ether of Space*, 1679: <http://www.orgonelab.org/newtonletter.htm>
- 2 See the lecture by Albert Einstein, “Ether and the Theory of Relativity,” May 5, 1920: http://www-history.mcs.st-and.ac.uk/Extras/Einstein_ether.html
- 3 The relationship of postmodernism and interdisciplinarity is more fully explored in J. Welch (2011). *The Emergence of Interdisciplinarity from Contemporary Epistemological Thought*. *Issues in Integrative Studies*, 28, 1-39. ■

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- sustainability challenges;
- Food systems;
 - The changing political, economic, and cultural relations within the international system in the modern era.

The deadline for submissions is December 20, 2013. Please direct submissions and inquiries to Jennifer L. Lawrence or Stefanie Georgakis Abbott at editor@pkjournal.org. ■

JOBS IN INTERDISCIPLINARY STUDIES

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Grand Valley State University

seeks an Assistant Professor in Women and Gender Studies and in Liberal Studies specializing in LGBTQ/Sexuality studies; primary appointment in WGS. Both programs are located in the Brooks College of Interdisciplinary Studies.

WGS offers a BA and BS degree and two minors, including a new minor in LGBTQ Studies. Liberal Studies offers both a BA and a BS degree. Faculty teach six courses (3 WGS/3 LIB) per year reflecting both the candidate's expertise and the needs of Women and Gender Studies and Liberal Studies. Courses taught may include: Introduction to Gender Studies (WGS 200), Introduction to LGBTQ Studies (WGS 224), Sexual Orientation and the Law (WGS 310), Queer Theory (WGS 365), Diversity in the United States (LIB 201), LGBTQ Identities (LIB 325), Feminist Research Methods (WGS 300) and Interdisciplinary Research Methods (US 300). All faculty advise and mentor students while maintaining an active record of research and service. We value activism and social justice and have a strong commitment to service learning.

Grand Valley State University is a comprehensive masters university (24,000 students), committed to attracting and supporting an academically and culturally diverse faculty; located in western Michigan with campuses in Allendale and Grand Rapids. The Women and Gender Studies Program has five faculty members and Liberal Studies has twenty. Both have close relationships with GVSU's LGBT Resource Center, Women's Center, Office of Multicultural Affairs, and Area Studies Programs. For more information about both programs see our websites: www.gvsu.edu/wgs and

www.gvsu.edu/liberalstudies/.

For additional information and resources about diversity at Grand Valley State University, see the website of our VP for Inclusion and Equity at www.gvsu.edu/inclusion.

We are especially interested in candidates who bridge the social sciences and humanities and who can teach interdisciplinary research methods and/or feminist and queer theory. All candidates should demonstrate strong potential for excellence in teaching as well as a productive research agenda. A Ph.D. by August 1, 2014 is required for appointment as assistant professor.

Applicants should submit electronic application materials online at www.gvsujobs.org. Please include: a cover letter that also indicates if available at NWSA for interview; a curriculum vitae; separate statements about 1) teaching philosophy and 2) potential to foster and support diversity and social justice beyond the classroom among our students, faculty, and community. Three letters of reference should be sent directly to Dr. Danielle DeMuth, Search Committee Chair, WGS Program, 229 Lake Ontario Hall, Grand Valley State University, Allendale, MI 49401.

Review of applications will begin October 1, 2013 and continue until the position is filled. We will hold preliminary interviews at National Women's Studies Association Annual Conference in Cincinnati and additional telephone interviews. Contact Danielle DeMuth, 1 Campus Dr., LOH 229 Allendale, MI 49401 616-331-8114, demuthd@gvsu.edu Go to <http://www.units.muohio.edu/aisorg/Resources/interdis.shtml> for more information. ■

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CALL FOR REVIEWERS

Members of the Association for Interdisciplinary Studies are encouraged to volunteer to review books, special issues of journals, websites, etc. for Integrative Pathways that explicitly address the interdisciplinarity of their subject matter or approach. The editor of the newsletter maintains a list of volunteers and their areas of expertise, and contacts them as significant new works are published in interdisciplinary studies. Suggestions to the editor of works to review are always welcome.

In addition to describing contents or focus and evaluating coverage

and quality, our reviewers are also given the opportunity to reflect on a key issue for interdisciplinarians raised in the work they are reviewing. The maximum length of reviews is 2500 words. For more information on submitting reviews, go to www.units.muohio.edu/aisorg/pubs/news/submissions.shtml.

Reviewers get to keep any review copy provided by the publisher, reviewing helps them keep abreast of new developments in our field, and they add a line to their c.v., but mostly they are performing a service to the profession--one we all appreciate.

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The Association for Interdisciplinary Studies is the U.S.-based international professional association devoted to interdisciplinary teaching (including service learning), research, program administration, and public policy. Interdisciplinarity integrates the insights of knowledge domains to produce a more comprehensive understanding of complex problems, issues, or questions. AIS serves as an organized professional voice and source of information on interdisciplinary approaches and the integration of insights from diverse communities to address complex problems in education and research. Founded in 1979, it is incorporated as a non-profit 501(c)3 educational association in the state of Ohio.

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