



THE NEWSLETTER

INTEGRATIVE PATHWAYS

OF THE ASSOCIATION FOR INTERDISCIPLINARY STUDIES

Vol. 40, No. 2 (2018)

ISSN 1081 647X

James Welch IV, Editor

IN THIS ISSUE:

Board Reports on
AIS Business
p. 4

Szostak Receives
Boulding Award
p. 6

Book Review:
*Interdisciplinary
Knowledge
Organization*
p. 7

Latin America
Section
p. 9

Public Health
Course
p. 16



Integrative Pathways is published quarterly by The Association for Interdisciplinary Studies, Oakland University – Macomb, 44575 Garfield Road (Bldg. UC2, Suite 103), Clinton Township, MI 48038. Phone: 586-263-6098 FAX: 586-263-6261 E-mail James Welch IV: jlfwiv@mac.com

Find Integrative Pathways at www.oakland.edu/ais/

Members may e-mail AISorg@oakland.edu for password information.

AIS 2017 Conference Report from UMBC

By Eric J. Brown

Conference Coordinator

Program Coordinator • Interdisciplinary Studies Program and History Department
University of Maryland, Baltimore County

The University of Maryland, Baltimore County, hosted a successful 39th Annual Conference of the Association for Interdisciplinary Studies October 19-21, 2017. There were several venues for conference activities (plenaries, meetings, keynote speeches, meals, presentations, workshops and panels) including the White Oak Room of the Westin BWI for the plenary talk by Dr. Freeman Hrabowski, the University Center, the Commons, the Herbert Run Greenway, and the Fine Arts Building all on UMBC's campus.

Venue and Logistics. The conference hotel was the Westin BWI, located a 7-minute drive from the campus conference venues. Shuttles were provided by UMBC to move conference attendees from the hotel to campus. The attractions of downtown Baltimore, Md., were located a short 15-minute drive from the hotel.

On Friday, October 20, the host institution provided a shuttle for attendees who wished to visit Baltimore's Inner Harbor. Dinner circles were arranged for a variety of restaurants in historic Ellicott City, Md., 15 minutes from UMBC's campus. A shuttle was provided for attendees to go to the dinner circles. We wish we had been able to offer space for all of the sessions in one building on campus, but unfortunately that was not possible. We were, however, very pleased to offer attendees opportunities to see our beautiful campus during two tours (one each on Friday and Saturday) of the Herbert Run Greenway.

Planning Process. Planning for the 2017 conference began three years previously, shortly after Dr. Steven Freeland, Director of

Continued on page 2



AIS board members enjoy the UMBC campus scenery on the way to the meeting room, guided by Conference Co-Coordinator Eric Brown (second from left).

www.oakland.edu/ais

2017 Conference Report

Continued from page 1

the Interdisciplinary Studies Program (INDS), began his tenure as head of the program. Early planning was spearheaded by Dr. Freeland and Samirah Hassan, the INDS administrative assistant at the time.

During the spring of 2016, Eric Brown, currently Program Coordinator for INDS, agreed to serve as Conference Coordinator, working closely with Ms. Hassan. Given that Mr. Brown served in this capacity in addition to his duties at INDS and teaching for the Department of History, we would highly recommend that future hosts look to find someone who can work at least half-time as conference coordinator for the 12 months leading up to the conference. The 2016 conference in Ottawa is a good example of this model.

Ms. Hassan served as liaison with the Westin BWI, the site of the opening dinner, and worked on space acquisition at UMBC. Assistant Director Carrie Sauter played a leading role in securing name tags and giveaways for the conference. She also organized the dozen student workers who volunteered to help with the event.

One particular difficulty at UMBC was arranging an online portal for



Conference-goers feel the beat at one of the performance workshops at the 2017 annual conference of the Association for Interdisciplinary Studies.

accepting conference payments. It took Mr. Brown a calendar year to get a system in place. While some of the issues with getting the system together were peculiar to UMBC, it seems that it could be in the long-term logistical and financial interest of AIS to take over this function.

Staffing for the conference was severely hampered when Ms. Hassan left INDS in the late summer of 2017. A new administrative assistant, Holly Cudzilo, only joined INDS in the week before the conference. The impact of this staffing upset was devastating for INDS. During the six weeks INDS was without an administrative assistant, Ms. Keyia Ward from UMBC's Student Support Services, pitched in to help with tasks

during the crucial period just before the conference.

Funding for the conference subvention came exclusively from INDS program funds.

Proposals and Programming. We received a total of 115 proposals by the extended deadline of May 10. Proposals were received from 9 different countries: Australia, Canada, Denmark, Germany, Pakistan, Finland, the Netherlands, United Kingdom, and the United States of America.

The proposals were evaluated by the conference committee, both for quality and adherence to the conference theme and interdisciplinary foci. Of these, 103 were accepted. A number of these proposals were re-organized or combined in collaboration with the presenters to bring the number of presentations to 85. Three of these presentations were cancelled because of the devastating fires in Sonoma County, California, which resulted in nearly all of our friends from Sonoma State missing the conference.

The total number of presenters was 125 and some presentations

Our theme of "Beyond Talking Heads" allowed us to construct a conference focused on process instead of a particular area of interdisciplinary work. There were short 15-minute Hermes sessions for individual speakers, 75-minute Athena panels and Haephestus workshops, and longer 120-minute Odysseus experiences. We largely received positive feedback on the diversity of session types.

Continued on page 3

2017 Conference Report

Continued from page 2

had up to 5 co-presenters. In total, there were 187 conference attendees including not only paid registrations, but also staff and student volunteers (12), Keynote Speakers (1), guest panelists (7), INDS staff (6), and other UMBC supporters. Of the total of 187 participants, 6 came from Canada, 6 from the Netherlands, 4 from Denmark, and 1 each from the United Kingdom, Australia, Finland and Germany. The United States provided 167 people. Nine people participated in the two pre-conference workshops.

Our theme of “Beyond Talking Heads” allowed us to construct a conference focused on process instead of a particular area of interdisciplinary work. There were short 15-minute Hermes sessions for individual speakers, 75-minute Athena panels and Haephestus workshops, and longer 120-minute Odysseus experiences. We largely received positive feedback on the diversity of session types. Participants especially

enjoyed the tour of the Herbert Run Greenway led by Director Emerita Patricia La Noue and undergraduate student Heather Mortimer.

There were some questions about the brevity of the Hermes sessions. This was of particular note because those sessions were inspired by an informal vote at the 2016 Ottawa closing session where the attendees expressed a keen interest in short talks (10 minutes or less). In all, we were impressed by the diversity of sessions presented. The AIS community exhibited remarkable creativity and energy around the theme.

The organizing committee focused on scheduling sessions in such a way to give participants space to connect and have impromptu discussions. We were inspired to experiment with this type of programmatic pacing by the Gordon Research Conferences that take place in Galveston, Texas, among other locations.

While there were positives in this scheduling, we could have done a better job of signaling the change of pace this engendered. The success of the format was also hindered by two significant logistical challenges: the lack of a single space on campus

Our theme of “Beyond Talking Heads” allowed us to construct a conference focused on process instead of a particular area of interdisciplinary work.

to hold all the concurrent sessions and the necessity for motor transportation between campus and the conference hotel. A strong recommendation for future hosts would be to have all current sessions in one location.

The opening keynote speech by the president of UMBC, Dr. Freeman Hrabowski, was inspiring and very well received by the attendees. Dr. Hrabowski discussed the role of an interdisciplinary approach in his life as both a researcher and educator and in the research, programs and initiatives at UMBC. He generously agreed to stay after his speech to meet attendees and autograph books. It was Dr. Hrabowski’s third speech of the day and preceded a two-hour drive that he made to a fourth engagement later that evening. There were no other keynote speeches in keeping with the theme “Beyond Talking Heads.”



Conference Coordinators and AIS board members enjoy some camaraderie and respite as the 2017 Annual Conference of the Association for Interdisciplinary Studies winds down. From left, they are Roz Schindler, Eric Brown, Stephen Freeland, Robin DeRosa, and Khadijah Miller. The conference drew 187 attendees from 9 countries and featured 125 presentations. The conference was held at the University of Maryland Baltimore Campus.

AIS Board of Directors Reports on Memberships, Finances, Changes



AIS board members get down to business as part of the 2017 annual conference. AIS president James Welch IV (back to camera) leads the discussion about memberships, finances, and changes. From left of Welch, board members are Heidi Upton, Robin DeRosa, Jennifer Dellner, Machiel Kestra, Khadjah Miller, Sven Arvidson, Brian Brian McCormack, Paul Hirsch, Scott Crabill, and Roz Schindler.

By James Welch IV
AIS President 2017-18

The AIS Board of Directors met Oct. 18-19, 2017, in a cozy UMBC classroom with a wonderful chart of the Interdisciplinary Research Process adorning the wall. Our beneficent hosts provided some coffee and snacks to fuel our deliberations. According to the Treasurer's Report, supplied by Bill Newell, although dues from memberships are down somewhat for 2017 (the final year was not at that time complete), our finances are sound, and we are operating in the black. We discussed ways to do more outreach to potential institutional members. There were many suggestions to involve volunteers from the membership in these efforts.

Since we have been running a budget surplus for the past few years, the board discussed priorities for spending some of our cash reserves. Our overall spending philosophy has been quite conservative, and will continue to be so, but we agreed that some strategic investment could be in order. At the present time, the physical office of AIS is run out of Oakland University, where our Business Man-

ager, Scott Crabill, is a faculty member, and we employ a part-time office assistant, Shaunda Mankowski. Our website is also hosted on Oakland's servers. Although the office situation is currently working quite well, we continued our discussion of the pros and cons of keeping our website there. We agreed that it is time to find an independent service to host our website, so that we have complete control over its content and layout. This would be a good use of our funds. Our IT director, Jennifer Dellner, has been exploring possibilities and will report at the midyear meeting.

The Vice President of Relations (Tanya Augsburg and, now, Khadijah Miller) and *IIS* editor Gretchen Shulz, are currently working on revising the AIS brochure. We discussed the recurring subject of AIS sponsoring regional conferences and other events, in which there is an interdisciplinary focus, sometimes in conjunction with other organizations. A formal policy will be developed on this. In preparation for the Wayne State conference centered on the conference theme —

Inter/diversities — the VP-Relations has formed an Outreach Committee, which will explore ways to foster relationships with other organizations and increase AIS involvement with issues of diversity, both inside and outside of the association.

Our publications committee has been working to enhance the printing and distribution of our journal. Thanks to the efforts of our VP-Development, Jennifer Dellner, we have finalized our contract with ERIC and are beginning the process of contracting with EBSCO to index *Issues in Interdisciplinary Studies*. The committee is also researching various University Presses to print and electronically distribute our journal. Sven Arvidsen and Gretchen Shulz have formed a good working partnership as co-editors of *IIS* and reported on the state of submissions for the next issue. The board had a rather philosophical discussion over how strict or broad our interpretation and representation of interdisciplinarity should be in accepting material

Continued on page 5

2017 Mid-Year Report

Continued from page 4

for our publications. We agreed that there should be a degree of reflexivity, awareness, metacognition about interdisciplinarity, but we should not be too exclusive about the many possible ways this could be conceived. At-large member Heidi Upton suggested we be more inclusive of voices from other realms—like from the arts—that have commonality with interdisciplinary studies. The board continued its debate over how accessible articles in *IIS* should be to audiences outside of AIS members. We discussed *Integrative Pathways*, including more material from the sections and the possibility of bi-lingual content.

The board reviewed that successes and challenges involving the Sections initiative, and ways to facilitate sections through website visibility and discussion/file sharing forums. Our past president, Machiel Keestra, gave a report on the International Transdisciplinary conference at Leuphana University, which has been chronicled in recent newsletter reports. He reported on an initiative taken during that conference for an international network of interdisciplinary and transdisciplinary organizations, Inter- and Trans-disciplinarity (ITD) Alliance, of which AIS is a



Above: "Forum" (2014) by artist Thomas Sayre is a highlight on the campus of the University of Maryland, Baltimore County, which was the site for the 2017 AIS annual conference.

founding member. We discussed the possibilities of involving AIS with this broader network of interdisciplinary and transdisciplinary organizations and projects around the world. Opportunities for further networking will be built into the 2019 conference in Amsterdam.

Our conference liaison, Roz Schindler, facilitated reports on upcoming conferences, including Wayne State in 2018. In 2019, the conference in Amsterdam will explore Interdisciplinarity in global contexts. Other preliminary goals and ideas include integrating science with interdisciplinary theory and approaches, and how we can develop more of a web of relationships across borders. In 2020, Sonoma State in California will host the AIS conference, and in 2021 Southern Utah University will

host our annual conference.

As always, you can always contact me for more information on anything we are working on. I would be happy to address your ideas, comments, questions or concerns. Also, as I hope this report conveys, we have many projects and initiatives in the works, and we could use all the help we can get. If you'd like to assist us, please contact me and we'll get you involved!

Thanks!
James Welch IV



Conference attendees tune in to a presentation during the 2017 annual conference of the Association for Interdisciplinary Studies.

Rick Szostak Receives Prestigious Boulding Award

Dr. Rick Szostak was named winner of the prestigious Boulding Award October 20, 2017, at the 39th Annual Conference of the Association for Interdisciplinary Studies

The Boulding Award honors Kenneth E. Boulding, an economist who rose to the top of his discipline while carrying out pioneering interdisciplinary research. A nominee for the Nobel Prize in both peace and economics, Boulding received the John Bates Clark Medal, awarded to the American economist under forty who made the most significant contribution to economic thought and knowledge.

Boulding's seminal interdisciplinary research helped establish the fields of integrated social science, peace studies, conflict resolution, general systems, future studies, philanthropy studies, and evolutionary social science. In 1979 he gave the keynote address at the national conference where the Association for Integrative Studies (AIS) was founded. His inspiration continues to shape the mission of AIS, and in 1990 the AIS Board of Directors established the Boulding Award in his honor, naming Boulding himself the first recipient.

Recipients of the award are distinguished by their major long-term contributions to interdisciplinary studies, whether by clarifying and deepening the conception of interdisciplinary or by promoting scholarly or public understanding. Because the Boulding Award celebrates outstanding records of accomplishments, it is conferred only occasionally.

As recipient of the Boulding Award, Dr. Szostak was recognized for his work, which has deepened understandings of interdisciplinarity, and effected wider visibility of in-



Dr. Rick Szostak (left) receives the prestigious Boulding Award for his body of work. Presenting the award is AIS president James Welch IV.

terdisciplinary studies that has both intellectual and social merits. The scope of his scholarship also traverses economic history, methodology, history of technology, ethics, science studies, information science, and world history, as well as the theory and practice of interdisciplinarity.

His prolific body of scholarship encompasses articles, essays and reviews in AIS publications, co-authored and co-edited books on interdisciplinary studies, and innumerable presentations and panel discussions at national and international conferences. The multiple threads of this framework are interrelated and include fundamental aspects of one of his emerging central questions—the nature of complexity.

Szostak has contributed significantly to establishing rigorous definition of interdisciplinary studies as a legitimate academic enterprise, a powerful approach to knowledge production, and a potent strategy

for complex problem solving and policy development that establishes a bridge between theory and application. He has been a strong voice for defining best practices for interdisciplinary knowledge production, seeking to balance strengths and weaknesses of structured disciplinary approaches with more heterodox intuitive methods, while grounding them in practical problem solving.

He continues to clarify what it means to be interdisciplinary across knowledge domains by sharpening definitions of the field while advocating a more structured approach to research and education, and entering the debate between structural and post-structural approaches by proposing a “middle way” conceptualization of interdisciplinarity that balances strengths and weaknesses of both approaches.

In short, Rick Szostak has contributed significantly to maturing the field of interdisciplinary studies and research. He has not only assimilated foundational works of previous interdisciplinary scholarship but also built thoughtfully on them by incisively refining and expanding their contributions. In the process, he has modeled how to approach complex intellectual questions and societal problems. In doing so, Szostak has also advanced the visibility and importance of establishing interdisciplinarity, in the United States and around the world, as a legitimate academic enterprise and an effective approach to knowledge production. Through his publications and speaking engagements, Szostak has brought scholarship of interdisciplinary theory and practice to a global audience, thus not only meeting but exceeding requirements for the Boulding Award.

Book Review

Szostak, Gnoli, López-Huertas argue no boundaries for interdisciplinary research

Interdisciplinary Knowledge Organization by R. Szostak, C. Gnoli, and M. López-Huertas (Berlin/Heidelberg: Springer, 2016).

By Michael O'Rourke
Michigan State University

Imagine, if you will, a philosopher who in the course of studying how interdisciplinary knowledge is created “discovers” the knowledge management literature in business and organizational science, happening upon it accidentally in the course of a library search for works related to collective knowledge. A discipline unbeknown to the researcher reveals itself and changes the course of their thinking about their project.

I suspect that most of us who do interdisciplinary work have had something like this happen – our research landscapes have been expanded fortuitously by the random winds of good fortune. But this type of revelation can also be unnerving; in fact, it might even lead you to resign yourself to the conclusion that as an interdisciplinary researcher you will always work on projects in ignorance of relevant literatures, unknown knowns that could strengthen your work if only you knew about them.

But this depressing epistemic situation is not inevitable, or so argue Rick Szostak, Claudio Gnoli, and María López-Huertas in their book, *Interdisciplinary Knowledge Organization*. Interdisciplinarity is a difficult and demanding mode of scholarly activity, whether pursued individually or in teams. One significant challenge is locating existing scholarship that is relevant to one's project, scholarship that could be strewn across the intellectual landscape without



any regard for disciplinary boundaries. This challenge is exacerbated by the fact that different concepts can go by the same term in different disciplines or the same concept can go by different terms.

In this dense and detailed work, the authors argue that a comprehensive knowledge organization system (KOS) organized around phenomena, rather than a more traditional, domain-specific KOSs organized around disciplines, would enable interdisciplinary researchers to locate relevant sources from across the full range of what we know. Phenomena-based searches will punch through disciplinary boundaries and enable the researcher to find works that would remain hidden if knowledge were organized into domain-specific KOSs that preserved those boundaries.

Written primarily for information scientists who have an interest in knowledge organization, the main goal of the book is to establish the importance of rethinking KOSs in

light of the knowledge needs of interdisciplinary researchers.

The book begins with two chapters that describe interdisciplinarity and the knowledge needs of interdisciplinarians. Given the growing importance of interdisciplinary research, the authors argue that it is time to rethink how we organize our knowledge so that the interdisciplinary researcher can be well-served. The key is developing a KOS that facilitates integration of insights ranging across potentially quite disparate disciplines. That this can be done without undermining the knowledge needs of the disciplinary researcher—since, after all, disciplines are themselves phenomena and so will correspond to classes in a phenomena-based system—makes this approach to knowledge organization seem clearly superior to existing, more traditional alternatives.

The problem, though, is that it isn't clear to everyone that a comprehensive, phenomena-based KOS is possible. For example, Birger Hjørland and colleagues have argued in a series of works that, because of the ubiquity and irremediable nature of terminological ambiguity and the theory-bound nature of concepts, “it is best to classify documents only within particular domains employing terms as scholars within the community in question are found to understand these” (p. 69). Much of the book is devoted to countering this view from several angles.

After introducing the reader to the nature of KOSs and developing the phenomenon-based classification system in contrast with the

Continued on page 8

Book Review

Continued from page 7

discipline-based one, the authors devote much of the book to addressing concerns about their preferred KOS. This includes addressing concerns about terminological ambiguity, the relationships among concepts and theories, and empirical questions about the feasibility of a comprehensive KOS. In addition to defending their preferred approach against criticism, they also critique domain-based KOSs by arguing that they are ill-equipped to adequately model the “terminological dynamics” of interdisciplines such as gender studies.

Of course, in the age of Google, even if a comprehensive KOS of the sort envisioned by the authors were possible, one might wonder whether it is necessary. After all, shouldn't interdisciplinary researchers be able to track the phenomena they wish to study by simply using the appropriate search terms and then following the links? But the authors point out that variation in terminology across disciplines will ensure that researchers confront the “problem of recall”, where many relevant works are missed; further, the sheer number of available documents will enforce the “problem of precision”, where many of the often hundreds of thousands of hits will have no research value.

The resulting picture of knowledge organization that emerges from the arguments in the book is complicated. The type of KOS the authors envision is comprehensive in the sense that it is not limited in its focus to knowledge within do-

The type of [Knowledge Organization System] the authors envision is comprehensive in the sense that it is not limited in its focus to knowledge within domains, e.g., disciplines. Comprehension is supported by a commitment to maximally broad foundational categories—viz., phenomena and relationships among them—as the basic organizational units.

main, e.g., disciplines. Comprehension is supported by a commitment to maximally broad foundational categories—viz., phenomena and relationships among them—as the basic organizational units. Important additional categories that all receive focused attention include theories, methods, authorial perspectives, and properties. Although these are all phenomena, they deserve special mention because of their importance to interdisciplinary research.

With these fundamental categories in hand, it is important to induce an ordered structure within them to facilitate efficient search for research-relevant works. This is done by combining deductive techniques, ensuring a logical order, with inductive ones, ensuring sensitivity to how concepts and terms figure into specific domains. The structure the authors envision is ontological, “grounded in the nature of the world,” rather than epistemological, grounded in “the nature of disciplines” (p. 178); specifically, they argue that phenomena

should be organized hierarchically according to levels of reality, allowing for various type of emergence and making room for “classical” relationships that are important to hierarchies and taxonomies (p. 160). The result is a KOS that will serve the interests of interdisciplinary researchers, especially if it is combined with a “synthetic approach... such that a work can be classified by a combination of terms,” where this combination represents the linkage of sets of concepts (p. 36).

Underpinning this picture are a number of assumptions. First, that disciplines are at least in part socially constructed is an obstacle for information science, and so it is better to organize knowledge around the way the world is. Second, the “vast bulk” of scholarly works concern “how one or more phenomena influence one or more others” (p. 45), where the relevant conception of influence is understood causally. A third, related assumption is that of a realist, totalizing meta-narrative, according to which it is possible to consistently classify all human knowledge using a structure that is grounded in a world given independently of disciplines or theory. Fourth, the classification scheme that best serves interdisciplinarians is systematically structured (ordered), classifies phenomena in terms of

Continued on page 15

Finding research-relevant information across the full map of knowledge is a very real problem for interdisciplinarians, and the authors argue compellingly that a comprehensive, phenomena-based KOS can address it.

Latin America Section

Interdisciplinary and Transdisciplinary Institutions, Cultures, and Communities in Latin America

By Bianca Vienni Baptista

*Associate Professor, Academic Department, Espacio Interdisciplinario, Universidad de la República (Uruguay)
Postdoctoral Researcher, Methodology Center, Leuphana University of Lüneburg (Germany)*

Editor's Note: Due to space limitations in the last issue of *Integrative Pathways*, we were unable to include the Spanish version of Dr. Vienni Baptista's wonderful introduction to our new Latin America section. Therefore, we are including it in both English and Spanish in the current issue. — The Editors.

Introduction

In 2016, the Association for Interdisciplinary Studies presented a special section on Latin American interdisciplinarity in its journal (Volume 34, 2016). The collection of articles from across the continent was a first step in understanding related themes and reflections on interdisciplinarity, with the aim of promoting a more interdisciplinary scientific practice. It was based on the premise of reflecting about the challenges faced by interdisciplinary knowledge production, focusing on the institutionalization processes, cultural transformations and characteristics of the communities emerging from these processes.

In the same way, the collection was a response to the renewed interest on interdisciplinary issues in some countries and universities in Latin America, as evidenced by the recent discussion of research methods and dissemination activities that critically engage theory and practice (Vienni, 2016). But it is also constituted a means for reflection by building from our differences (Vilsmäier, personal comm.) and the lessons learned in each continent.

The special section left out other initiatives and experiences from groups and institutions from different Latin American countries. As a second step towards actualizing this significant goal, the Integrative Pathways Newsletter inaugurates a new section to integrate other voices in the discussion of how to foster and improve interdisciplinary education, teaching and research. This section is a compendium of contributions from various Latin American countries revolving around three linchpins: institutions, cultures and communities constructed around interdisciplinary knowledge production. Reflec-

*Continued on page 10**Introducción*

En 2016, la Association of Interdisciplinary Studies presentó una sección especial en su revista sobre la interdisciplina en América Latina (Volumen 34, 2016). La colección de artículos de todo el continente fue un primer paso para comprender las relaciones y reflexiones sobre interdisciplina, con el objetivo de promover una práctica científica más interdisciplinaria. Se basó en la premisa de repensar los desafíos que enfrenta la producción de conocimiento interdisciplinario, centrándose en los procesos de institucionalización, las transformaciones culturales y las características de las comunidades que emergen de estos procesos.

De la misma manera, la colección fue una respuesta al renovado interés en temas interdisciplinarios en algunos países y universidades en América Latina, como lo demuestra la reciente discusión sobre métodos de investigación y actividades de difusión que involucran críticamente la teoría y la práctica (Vienni, 2016). Pero también se constituye en un medio de reflexión construyendo a partir de nuestras diferencias (Vilsmäier, comunicación personal) y las lecciones aprendidas en cada continente.

El volumen en la revista del año 2016, tuvo que seleccionar algunas iniciativas y experiencias de grupos e instituciones de diferentes países de América Latina, lo que dejó por fuera a muchas otras de gran interés. Como un segundo paso hacia la realización de este importante objetivo, el presente boletín, titulado Pathways Newsletter, inaugura una sección para integrar otras voces en la discusión sobre cómo fomentar y mejorar la educación interdisciplinaria, la docencia y la investigación. Esta

Continued on page 10

Bianca Vienni Baptista is an Associate Professor of the Academic Department at Espacio Interdisciplinario (Universidad de la República, Uruguay) and is a Level 1 researcher at the National System of Research (Uruguay). She holds a Bachelor Degree in Anthropology, a Master and PhD (*summa cum laude*) from the University of Granada (Spain). Currently, Bianca is a postdoctoral associate researcher at the Methodology Center at the Leuphana University of Lüneburg (Germany). Her main research interests are related to Science, Technology and Society (STS) arrangements and inter- and transdisciplinary knowledge production. She coordinates two research projects related to inter- and transdisciplinary institutions, cultures and communities built around these processes. She teaches in undergraduate and postgraduate programs at the Universidad de la República and at Leuphana University. Her books include „La socialización del conocimiento científico como problema interdisciplinario“ (2017, CSIC, Montevideo) and “Encuentros sobre interdisciplina“ (2015, TRILCE, Montevideo).biancavienni@gmail.com.

tion about these practices constitutes an effort to position the interdisciplinary realm, with an understanding that the local cultural contexts are the foundation upon which to create dialogue.

The different texts that will be presented in this section bring up the need to build an intercontinental dialogue based on interdisciplinary experiences that have been unfolding in different countries and regions for more than five decades (Simini and Vienni, 2017). This history requires a framework with which to reflect about and analyze them in light of certain issues that are currently being imposed on researchers (Vienni, 2016). I hereby suggest naming this emerging field “Studies on Inter- and Transdisciplinarity” (Estudios sobre Interdisciplina and Transdisciplina, ESIT for its acronym in Spanish) (Vienni, 2016). This does not constitute an attempt to build another field of study different from what other authors have already proposed (Darbellay, 2015). Instead, it seems reasonable to think about certain questions that are currently being asked of Latin American researchers (Vienni, 2016).

Some questions were addressed as a standpoint for the contributions from Latin American colleagues, namely:

- What are the main features of interdisciplinary research and teaching in Latin America?
- What lessons can be systematized from those experiences in Latin American universities and academic contexts?
- Which national policies encourage and discourage interdisciplinary programs across Latin America, respecting both crosscutting and locally situated imperatives?
- What impact does interdisciplinarity have on cultural processes in Latin America?
- What traditions shape interdisciplinary teaching in undergraduate and postgraduate programs?
- How can learning processes for inter- and trans-disciplinary training be constructed that are appropriate to local and hemisphere contexts?

The relevance of these issues lies in their theoretical contributions to interdisciplinarity. The contributions hereby compiled share general goals including: (i) to make the characteristics of interdisciplinary work in Latin America visible to other interdisciplinary communities; (ii) to promote a dialogue between researchers from different countries who face the challenges and opportunities of interdisciplinary and transdisciplinary approaches; and

sección se constituye como un compendio de contribuciones de varios países latinoamericanos que se articulan en torno a tres ejes: instituciones, culturas y comunidades construidas en torno a la producción de conocimiento interdisciplinario. La reflexión sobre estas prácticas constituye un esfuerzo por posicionar el ámbito interdisciplinario, entendiendo que los contextos culturales locales son la base sobre la cual se puede crear el diálogo.

Los diferentes textos que iremos presentando en este boletín plantean la necesidad de construir un diálogo intercontinental basado en experiencias interdisciplinarias que se han desarrollado en diferentes países y regiones durante más de cinco décadas (Simini y Vienni, 2017). Esta historia requiere un marco para reflexionar sobre ellos y analizarlos a la luz de ciertos problemas que actualmente se imponen a los investigadores (Vienni, 2016). Sugiero nombrar este campo emergente “Estudios sobre Interdisciplina y Transdisciplina” (ESIT) (Vienni, 2016). Esto no constituye un intento de construir otro campo de estudio diferente de lo que otros autores ya han propuesto (Darbellay, 2015). En cambio, parece razonable pensar en ciertas preguntas que se están imponiendo actualmente a los investigadores latinoamericanos (Vienni, 2016). Algunas de ellas fueron abordadas para las contribuciones de colegas latinoamericanos en esta nueva sección del boletín, a saber:

- ¿Cuáles son las principales características de la investigación y la enseñanza interdisciplinarias en América Latina?
- ¿Qué lecciones se pueden sistematizar a partir de esas experiencias en universidades y contextos académicos latinoamericanos?
- ¿Qué políticas nacionales fomentan y/o desalientan los programas interdisciplinarios en América Latina, teniendo en cuenta los imperativos transversales y localmente situados?
- ¿Qué impacto tiene la interdisciplina en los procesos culturales en América Latina?
- ¿Qué tradiciones dan forma a la enseñanza interdisciplinaria en los programas de pregrado y postgrado?
- ¿Cómo se pueden construir procesos de aprendizaje para la formación interdisciplinaria y transdisciplinaria que sean apropiados para los contextos locales y regionales?

La relevancia de estos temas radica en su contribución a la discusión teórica para la interdisciplina. Las

Latin America Section

Interdisciplinary and Transdisciplinary Institutions, Cultures, & Communities

Continued from page 10

(iii) to construct a common understanding.

Articles in this section utilize diversity as a criterion to illustrate the current development of interdisciplinary research, teaching and outreach in different institutions and organizations in the Latin American continent.

Studies on Interdisciplinarity and Transdisciplinarity

The substantial goal of Studies on Inter- and Transdisciplinarity (ESIT) (Vienni, 2016) is to systematize research into the scope of inter- and transdisciplinary work, and propose developments for the strengthening of these practices in Latin American contexts.

It thus aims to contribute toward the well-founded design of instruments to promote and evaluate knowledge production within the framework of interdisciplinarity and transdisciplinarity in institutions, as well as between universities and other institutions and stakeholders. Likewise, this field can substantially contribute toward the promotion of interdisciplinary studies.

The approach guiding this proposal is based on the field of Science, Technology and Society (Albornoz et al., 1996; González García et al., 1996; Iranzo and Blanco, 1999; López Cerezo and Sánchez Ron, 2001; Pérez Bustos and Lozano Borda, 2011; to mention a few), and Development (Arocena, 2003; Arocena and Sutz, 2001; Arocena et al., 2015).

The consolidation of a field such as the ESIT requires the creation of a platform in which to debate and promote interdisciplinary and transdisciplinary research and teaching. The core of this proposal is: (i) to move forward in the construction of a cognitive analysis of inter- and transdisciplinarity as knowledge producing spaces; (ii) to generate knowledge on inter- and transdisciplinarity; (iii) to enable the emergence of interdisciplinary approaches in different fields (academia, institutions, etc.); and, (iv) to design dynamics to promote interdisciplinarity and transdisciplinarity in different contexts.

In order to define these objectives, it is relevant to conduct research on inter- and transdisciplinary theories and practices, and carry out an exploration of the interdisciplinary nature of certain methodological approaches and how they create and shape research fields and disciplines in particular (Strathern, 2004).

Let's reflect about interdisciplinary practices, the time and the resources they require (Lyall et al. 2010), and the institutional investment needed to construct them. Is it reasonable to think that an effort like interdisciplinary work, which implies institutional, cultural, political, and

Continued on page 12

The core of this proposal is: (i) to move forward in the construction of a cognitive analysis of inter- and transdisciplinarity as knowledge producing spaces; (ii) to generate knowledge on inter- and transdisciplinarity; (iii) to enable the emergence of interdisciplinary approaches in different fields (academia, institutions, etc.); and, (iv) to design dynamics to promote interdisciplinarity and transdisciplinarity in different contexts.

experiencias aquí compiladas comparten los siguientes objetivos generales: (i) visibilizar las características del trabajo interdisciplinario en América Latina y hacerlas accesibles para otras comunidades interdisciplinarias; (ii) promover un diálogo entre investigadores de diferentes países que enfrentan los desafíos y oportunidades de aplicar los enfoques interdisciplinarios y transdisciplinarios; y (iii) construir una comprensión común.

Esta conjunción de artículos utiliza la diversidad como un criterio para ilustrar el desarrollo actual de la investigación interdisciplinaria, la enseñanza y el alcance en diferentes instituciones y organizaciones en el continente latinoamericano.

Estudios sobre Interdisciplina y Transdisciplina

El objetivo sustancial del campo de los Estudios sobre Interdisciplina y Transdisciplina (ESIT) (Vienni, 2016) es sistematizar la investigación sobre el alcance del trabajo interdisciplinario y transdisciplinario y proponer desarrollos para el fortalecimiento de estas prácticas en contextos latinoamericanos.

El principal objetivo de este campo de estudio es contribuir con el diseño de instrumentos fundamentados para promover y evaluar la producción de conocimiento en el marco de la producción de conocimiento inter- y transdisciplinario en las instituciones, así como entre las universidades y partes interesadas. Asimismo, este campo puede contribuir sustancialmente a la promoción de los denominados "estudios interdisciplinarios".

El enfoque que guía esta propuesta se basa en los aportes de la Ciencia, la Tecnología y la Sociedad (Albornoz et al., 1996; González García et al., 1996; Iranzo y Blanco, 1999; López Cerezo y Sánchez Ron, 2001; Pérez Bustos y Lozano Borda, 2011, por mencionar algunos) y

Continued on page 12

Latin America Section
 Interdisciplinary and Transdisciplinary Institutions, Cultures, & Communities

Continued from page 11

educational changes, can be linked to the goal of solving the problems faced by underdevelopment.

Examples of this are provided in this issue with the contribution from NGO 360 in Chile. The authors recognize the importance of establishing flexible organizational designs that may allow for the development of a participative community and encourage an appropriate appreciation and promotion of transdisciplinary research from a pluralist perspective. The creation of bridges among actors and different types of knowledges are two distinctive features of the work conducted by NGO 360.

References

Albornoz, M., P. Kreimer and E. Glavich (eds.). *Ciencia y sociedad en América Latina*. Universidad Nacional de Quilmes, Buenos Aires, 1996.

Arocena, R. and J. Sutz. «Sobre mudança estrutural e políticas de conhecimento democrático». In J. E. Cassiolato, M. G. Podcameni and M. C. Soares (eds.), *Sustentabilidade socioambiental em um contexto de crise*, 83-103, Rio de Janeiro: E-papers, 2015.

——— and J. Sutz. *La universidad latinoamericana del futuro. Tendencias, escenarios, alternativas*, Colección UCUDAL, Unión de Universidades de América Latina, Mexico, 2001.

Darbellay, F. «Rethinking inter- and transdisciplinarity: Undisciplined knowledge and the emergence of a new thought style». *Futures*, 65, 163- 174, 2015.

González García, M., J. A. López Cerezo and J. L. Luján López. *Ciencia, tecnología y sociedad. Una introducción al estudio social de la ciencia y la tecnología*. Madrid: Editorial Tecnos, 1996.

Iranzo, J. R. Blanco, T. González de la Fe, C. Torres and A. Cotillo. *Sociología de la ciencia y la tecnología*. Consejo Superior de Investigaciones Científicas, Madrid, 2005.

——— and J. R. Blanco. *Sociología del conocimiento científico*. Centro de Investigaciones Sociológicas. Universidad Pública de Navarra, Madrid, 1999.

López Cerezo, J. A. and J. Sánchez Ron (eds.). *Ciencia, tecnología, sociedad y cultura en el cambio de siglo*. Editorial Biblioteca Nueva. Organización de los Estados Iberoamericanos, Madrid, 2001.

Lyall, C., A. Bruce, J. Tait and L. Meagher. *Interdisciplinary Research Journeys. Practical Strategies in Capturing Creativity*. London: Bloomsbury Press, 2010.

Pérez Bustos, T. and M. Lozano Borda (eds.). «Ciencia, tecnología y democracia: Reflexiones en torno a la apropiación social del conocimiento». In *Memorias del Foro-Taller de Apropiación Social de la Ciencia, la Tecnología y la Innovación*. Colciencias, Universidad eafit, Medellín, 2011.

Simini, F. & Vienni, B. «Ingeniería biomédica, interdiscip-

el Desarrollo (Arocena, 2003; Arocena y Sutz, 2001; Arocena et al., 2015).

La consolidación de un campo como los ESIT requiere la creación de una plataforma para debatir y promover la investigación y la enseñanza interdisciplinarias y transdisciplinarias. El núcleo de esta propuesta es: (i) avanzar en la construcción de un análisis cognitivo de la interdisciplinaria y la transdisciplinaria como espacios productores de conocimiento; (ii) generar conocimiento sobre inter- y transdisciplina; (iii) permitir el surgimiento de enfoques interdisciplinarios en diferentes campos (academia, instituciones, etc.); y, (iv) diseñar dinámicas para promover la interdisciplinaria y la transdisciplinaria en diferentes contextos.

Para definir estos objetivos, es relevante realizar investigaciones sobre teorías y prácticas interdisciplinarias y transdisciplinarias y llevar a cabo una exploración de la naturaleza interdisciplinaria de ciertos enfoques metodológicos y cómo crean y dan forma a campos de investigación y disciplinas en particular (Strathern, 2004).

Reflexionemos sobre las prácticas interdisciplinarias, el tiempo y los recursos que requieren (Lyall et al., 2010) y la inversión institucional necesaria para construir las. ¿Es razonable pensar que un esfuerzo como el trabajo interdisciplinario, que implica cambios institucionales, culturales, políticos y educativos puede vincularse con el objetivo de resolver los problemas que enfrenta el subdesarrollo?

Ejemplos de ello lo constituyen las contribuciones de la ONG 360 en Chile. Los autores reconocen la importancia de crear una comunidad de práctica y fomentar una apreciación y promoción apropiadas de la investigación transdisciplinaria desde una perspectiva pluralista. La creación de puentes entre los diferentes tipos de conocimientos se lleva a cabo en 360.

lina y sociedad». *Revista de la Facultad de Ingeniería de la Universidad Central de Venezuela*, Vol 40, 2017.

Strathern, M. *Commons and Bordelands. Working Papers on Interdisciplinarity, Accountability and the Flow of Knowledge*. Wantage: Sean Kingston Publishing, 2004.

Vienni, B. «Los estudios sobre interdisciplina: construcción de un ámbito en el campo CTS». *Revista REDES. Revista de Estudios Sociales de la Ciencia*, Vol. 40, ISSN: 0328-3186, 2016.

Latin America Section

INTERDISCIPLINARY EDUCATION AND RESEARCH IN MEXICO:
A MASTER'S DEGREE PROGRAM IN SOCIAL SCIENCES

Por María Fernanda Esqueda Villegas
Estudiante de Maestría. Universidad de Sonora

y
Dr. Gustavo Adolfo León Duarte
Profesor Investigador Tiempo Completo. Universidad de Sonora

Given the challenges and problems that arise in the 21st century, it is difficult to imagine an education that remains traditional or static, without seeking an innovative way to train its students and prepare them for what is to come. Because of that, we think it's essential to discuss the experiences towards interdisciplinary education, in this case we present the program of a Master's Degree in Social Sciences from the University of Sonora. This program approaches interdisciplinary research and has the support of the National Council of Science and Technology (CONACYT), who pushes and strengthens the scientific development in Higher Education in Mexico.

Students that are part of this postgraduate are individuals that have studied careers such as communication, psychology, law, social work, architecture, amongst others. That is to say, each one received a disciplinary education in university. However, and although the careers differ considerably from one another, these students have a common interest for research and getting out of their "comfort zone," while studying a specific problem from different disciplines and searching for the integration of knowledge.

One of the objectives of the program is to train researchers capable of developing interdisciplinary research projects in the Social Sciences. For that, the postgraduate offers three different research lines: 1) Globalization and sustainability, 2) Social problems emerging in culture and ethno development, and 3) Social development and educational processes. Students have the freedom of choosing which of the topics is amongst their interest and they are asked to work on a thesis about it for a period of two years.

In this learning environment, it can be observed how different disciplines coexist and are used to find more explanatory solutions to social phenomena. Students are trained in research methods, collecting of data and interpreting results, as well as strategies that allow them to integrate the information.

The Master's program has a duration of four semesters and a total of 120 credits. Amongst the subjects we can find Social Theories, Social Research Methodology

Ante los desafíos y problemáticas que se presentan en el siglo XXI, resulta difícil imaginar una educación que permanezca tradicional o estática, sin buscar una manera innovadora de formar a sus estudiantes y prepararlos para lo que está por venir. Es por ello que consideramos indispensable dar a conocer las experiencias en relación a la educación interdisciplinaria, en este caso presentamos el programa de Maestría en Ciencias Sociales de la Universidad de Sonora. Dicho programa maneja un enfoque de investigación interdisciplinaria y cuenta con el apoyo del Consejo Nacional de Ciencia y Tecnología (CONACYT), quien impulsa y fortalece el desarrollo científico en Educación Superior en México.

Los estudiantes que forman parte de este posgrado son individuos que han estudiado carreras como comunicación, psicología, derecho, trabajo social, arquitectura, entre otras. Es decir, cada uno recibió durante su paso por la universidad una formación meramente disciplinaria. No obstante y a pesar de diferir considerablemente una carrera de otra, estos estudiantes tienen en común el interés por la investigación y el salir de su "zona de confort", al estudiar una problemática desde distintas disciplinas y buscar la integración del conocimiento.

Dentro de los objetivos del programa está el formar investigadores capaces de desarrollar proyectos de investigación interdisciplinaria en las Ciencias Sociales. Para ello, el posgrado ofrece tres diferentes líneas de investigación: 1) Globalización y sustentabilidad, 2) Problemas sociales emergentes en cultura y Etnodesarrollo, y, 3) Desarrollo social y procesos educativos. Los estudiantes tienen la libertad de elegir cuál de las temáticas es de su interés y desarrollar un trabajo de tesis sobre éste a lo largo de dos años.

En este ambiente educativo se puede observar cómo es que distintas disciplinas co-existen y se utilizan para encontrar soluciones más explicativas a los fenómenos sociales. Los estudiantes son entrenados en metodologías de investigación, recolección de datos e interpretación de resultados, así como en estrategias que le permitan integrar la información.

El programa de Maestría tiene una duración de cuatro semestre y un total de 120 créditos. Dentro de las

Continued on page 14

Continued on page 14

Latin America Section

Interdisciplinary Education and Research in Mexico

Continued from page 13

I and II, Integrative Thinking I and II, Topics of Social Research and Degree Seminar I and II, and lastly, two optional subjects. It must be noted that the academic faculty in the postgraduate is made-up of professors from different disciplines that are as well research-oriented.

With the purpose of promoting the bases of interdisciplinary research, it's necessary to course the subject of "Integrative Thinking," where the book by Repko and Szostak, *Interdisciplinary Research*, as well as publications from the Association for Interdisciplinary Studies (AIS), are of big use for the students. It's through this material that they know the potentials and benefits of said perspective, as well as a series of steps that guide and facilitate the process.

After concluding their postgraduate education, the student will have certain essential knowledge for the workplace: knowing the theoretical foundations of multidisciplinary and interdisciplinary research, intervening in situations/problems that demand interdisciplinary strategies and apply strategies as well as solutions from different disciplinary fields.

Although it's been said on numerous occasions that the traditional school "has been left behind," the truth is that there are still a considerable number of educational instances in Mexico that carry pedagogies of this kind, where the student is expected to simply remember the information. However, we have to acknowledge the efforts that are being made by investing in knowledge, research and interdisciplinarity.

It's through a cognitive-empirical development in the student, that we can put in practice a more critical thinking, using creativity to synthesize knowledge and create something new. We live in a society with a huge amount of problems that are increasingly more complex, demanding in the individual new ways of confronting adversities.

While a successful interdisciplinary education encourages research, it also requires the right selection of an academic faculty, a curriculum and appropriate educational objectives (this is not an easy task), ultimately it's an effort worth taking for the students, their cognitive development and development in the professional work field.

asignaturas se encuentran Teorías sociales, metodología de la investigación social I y II, Pensamiento Integrador I y II, Tópicos de la Investigación Social y Seminario de titulación I y II, por último, dos materias optativas. Cabe destacar que, la planta académica del posgrado está conformada por profesores de distintas disciplinas orientados en la investigación.

Con el fin de promover las bases para la investigación interdisciplinaria, se cursa la materia "Pensamiento Integrador", donde el libro de Repko y Szostak, *Interdisciplinary Research*, así como las publicaciones de la Asociación de Estudios Interdisciplinarios (AIS), son de gran utilidad para los estudiantes. Es a través de este material que ellos conocen las potencialidades y beneficios de dicha perspectiva, al igual que una serie de pasos que guían y facilitan el proceso.

Al momento de concluir su formación, el estudiante contará con ciertos conocimientos indispensables para el mundo laboral: conocer los fundamentos teóricos de la investigación multi- e interdisciplinar, intervenir en situaciones/problemáticas que demanden estrategias interdisciplinarias y aplicar tanto estrategias como soluciones de distintos campos disciplinares.

Pese a que se ha dicho en numerosas ocasiones que la escuela tradicional "ha quedado atrás", lo cierto es que aún son un considerable número de instancias educativas en México las que manejan pedagogías de esta clase, donde se pretende que el estudiante recuerde la información. Sin embargo, hay que reconocer los esfuerzos que se están realizando mediante la inversión en el conocimiento, la investigación y la interdisciplinaria.

Es a través de un desarrollo cognitivo-empírico en el estudiante, que se puede poner en práctica un pensamiento más crítico, haciendo uso de la creatividad para sintetizar los conocimientos y crear algo nuevo. Vivimos en una sociedad con un gran número de problemáticas que cada vez son más complejas, exigiendo así en el individuo nuevas formas de afrontar las adversidades.

Si bien una educación interdisciplinaria exitosa que a la vez fomenta la investigación requiere de la elección de una planta académica, currículo y objetivos educativos adecuados (y esto no es una tarea sencilla), en definitiva es un esfuerzo que vale la pena para los estudiantes, su desarrollo cognitivo y desenvolvimiento en el ámbito profesional.

Continued on page 15

Continued on page 15

Book Review

Continued from page 8

their “internal essence or function” (monothetic), and does so precisely enough that the resulting classifications do not overlap (exclusive).

Finding research-relevant information across the full map of knowledge is a very real problem for interdisciplinarians, and the authors argue compellingly that a comprehensive, phenomena-based KOS can address it. But there are a number of questions about the approach that remain open. I will consider two. First, if ontology is to ground the KOS, then a specific ontological viewpoint must be privileged; in this case, it is a realist view that endorses levels of reality. To the extent that this scientific ontology is inconsistent with other ontologies—e.g., postmodern conceptions that privilege human construction, or indigenous conceptions that conform to a very different structural

geometry—it enforces a hegemonic stamp on knowledge that marginalizes them and makes it more difficult for them to influence interdisciplinary research.

Second, there appears to be an overemphasis on causal linkages, understood broadly in terms of influence, since many of the relationships of interest to interdisciplinarians will be structural (e.g., logical relationships). These structural connections are a critical part of the business of relating different perspectives on the same thing and should not be underplayed in organizing knowledge for use by interdisciplinary researchers. To be sure, the authors accommodate all manner of relationships in their overall view (see Ch. 7), but it is not clear how these will be organized relative to the more fundamental causal relationships.

These two questions are philosophical, and as the authors point out, information science has differ-

ent priorities and different standards than philosophy; nevertheless, by committing to a comprehensive, phenomena-based KOS, the authors would be taking a stand, intentionally, that knowledge can best be ordered this way, and this would have both epistemic and political implications.

I came to this book without much knowledge of information science, and I leave it with a much better appreciation for the range of issues and debates that exercise classificationists.

As a philosopher, I appreciate the authors’ sensitivity to issues that range across the philosophical spectrum. As an interdisciplinarian, I am grateful for the attention to the difficulties that beset integrative research. The questions I raised above notwithstanding, this is an informative and thought-provoking book that points to what could be an easier future for interdisciplinary research.

Latin America Section

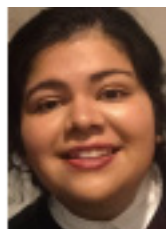
Interdisciplinary Education and Research in Mexico

Continued from page 14



Phd Gustavo Adolfo León Duarte is the leader of the Communication Teaching and Research Group in Latin America (GEIC-AL). Master and PhD in Journalism and Communication Sciences from the Autonomous University of Barcelona. He is a member of the National System of Researchers of Mexico. His most recent books are ‘Youth and mobile digital media in Mexico. A study of associated variables in Interdisciplinary Perspective’ (PEARSON – University of Sonora, 2015), ‘Cyberculture and Digital Technology. Interdisciplinary Studies in Sonora, Mexico’ (University of Sonora, 2016) and ‘Interdisciplinary and Journalistic Field, Case Studies in Sonora, México’ (ISC-SEP-University of Sonora, 2017).

Es líder del Grupo Enseñanza e Investigación de la Comunicación en América Latina (GEIC-AL). Master y Doctor en Periodismo y Ciencias de la Comunicación por la Universidad Autónoma de Barcelona. Es Miembro del Sistema Nacional de Investigadores de México. Sus libros más recientes son ‘Jóvenes y medios digitales móviles en México. Un estudio de variables asociadas en Perspectiva interdisciplinaria’ (PEARSON – Universidad de Sonora, 2015), ‘Cibercultura y Tecnología Digital. Estudios Interdisciplinarios en Sonora, México’ (Universidad de Sonora, 2016) e ‘Interdisciplina y Campo Periodístico, Estudios de Caso en Sonora, México’ (ISC-SEP-Universidad de Sonora, 2017).



*Master’s degree student **Fernanda Esqueda Villegas** has a Degree in Psychopedagogy from Durango Santander University. Student of the Master’s Degree in Social Sciences at the University of Sonora in Mexico. She received a six-month scholarship from the National Council of Science and Technology (CONACYT) to complete her thesis project ‘Interdisciplinary training and practice: Analysis of the postgraduate field in Mexico’ in Edmonton, AB, Canada, under the guidance of Professor Rick Szostak.*

Licenciada en Psicopedagogía por la Universidad Durango Santander. Estudiante de la Maestría en Ciencias Sociales en la Universidad de Sonora en México. Recibió una beca por parte de CONACYT para concluir su proyecto de tesis ‘Análisis de la formación y práctica interdisciplinaria en el ámbito de posgrados en México’ en Edmonton, AB, Canadá, durante seis meses, bajo la guía del profesor Rick Szostak.

Frontiers in Public Health: A Case Study of an Interdisciplinary Course

By Ruth Childs and Dena Levy
The College at Brockport • State University of New York

Introduction

This essay provides a brief case study of a new interdisciplinary course taught the College at Brockport, State University of New York. Five faculty from four different disciplines developed a course, “The New Frontiers in Public Health,” that examined vaccinations.

Like many contemporary issues, public health and vaccinations are complex and studying them through the lens of a single discipline is inadequate. An interdisciplinary course allows for a better understanding of the complexity and multi-faceted realities surrounding the issues.

Indeed, over the time period of developing the class to offering it, three separate crises related to vaccinations and immunizations occurred: the Ebola crisis, the outbreak of measles in the US, and then the Zika virus. While Ebola and Zika are more tangentially relevant, the increase in the number of measles cases in Southern California is a direct consequence of the growth in the anti-vaccination movement. Solutions to all three of these health issues are beyond the scope of just one discipline and students were able to appreciate how real world problems have real world implications.

Course Overview

The Frontiers in Public Health course is an example of an adapted interactive team model of interdisciplinary teaching (Easterby-Smith and Olve, 1984). While one team member, Dr. Susan Orr took the lead in the administration of the class, all teaching faculty shared equally in the development of the structure of the course and

To be truly interdisciplinary a course must synthesize the material from the different disciplines. While students rotated through the different disciplines to understand the issues surrounding mandatory vaccinations, it was in a final project that they pulled everything together for the broader perspective fundamental to interdisciplinary studies.

teaching responsibilities. There were five partners teaching the course: Dr. Joseph Balog, Public Health, Dr Craig Lending, Biology, Dr. Robert Mejia, Communications, Dr. Susan Orr, Political Science, and Dr. Adam Rich, Biology.

The groups rotated every two weeks among the five faculty thereby focusing on vaccines from each of the different disciplines. Within each unit, students were responsible for writing a two-page paper that was focused on the particular disciplinary lessons. The course concluded with a two-week simulation project creating synthesis across the different disciplines. This synthesis assignment is a critical element of an interdisciplinary course. Without it, students are not able to process the interconnectedness of all of the disciplines on the issue of vaccinations.

Public Health Unit

Dr. Joseph Balog used his first two classes to introduce students to the history and justification for public health. The second half of Dr. Balog’s unit then examined specific cases of immunization programs. The paper assignment for this section required students to apply moral reasoning to an ethical issue related to the themes of mandatory or voluntary vaccinations.

Biology I Unit

In the Biology I section, taught by Dr. Craig Lending, students began with a history of vaccines. Students then moved to a more complex discussion of immunity explaining the difference between innate and adaptive immunity. Dr. Lending concluded with a discussion of the current state of vaccine development and clinical trials.

The paper for this unit asked students to write in the voice of a senate staffer preparing a US senator to introduce legislation to remove the philosophical and religious exemptions for mandatory childhood vaccinations. Students provided an overview for the senator about the scientific background on vaccinations (how and why vaccines confer immunity), and a balanced view on safety and risks involved in a mandatory vaccination program.

Continued on page 17

Frontiers in Public Health

Continued from page 16

Communications Unit

Dr. Mejia from the Communications Department provided students with an understanding of a communications model of flow and influence. Students learned about how the public attains information, and how those information sources influence us. Dr. Mejia concluded by focusing on the particular challenge of mass communication about scientific issues. Students in this unit conducted research about a vaccine of their choice and then wrote a paper explaining their position.

Public Policy Unit

In the unit taught by Dr. Susan Orr, students learned about the policy making process – what makes some policies successful, while others fail. Dr. Orr then moved to the specific case of enacting public policy for vaccinations, discussing both governmental actors that have been integral to the process as well as nongovernmental actors.

In this section students were asked to imagine they were director of an advocacy organization working in the area of vaccine policy. In their policy analysis paper they described at least one strength and weakness of the nation’s current vaccine policy as well some actions the group could take to further the group’s policy proposals.

Biology II Unit

The second biology section was a hands-on lab taught by Dr. Adam Rich. Students learned how a clinical test can determine if a person has responded to an infectious agent. Students had the opportunity to perform laboratory tests to determine if a patient’s blood showed evidence of an immune response using a standard laboratory test called enzyme-linked immunosorbent assay, or ELISA. Students in this unit wrote a paper describing the ELISA assay, showed results, and discussed the interpretation of the results

Course Synthesis

To be truly interdisciplinary a course must synthesize the material from the different disciplines. While students rotated through the different disciplines to understand the issues surrounding mandatory vaccinations, it was in a final project that they pulled everything together for the broader perspective fundamental to interdisciplinary studies.

Tasks that involve shared governance (such as our interdisciplinary teaching project), ... require time, commitment of team members, tolerance for messy and disorganized planning, and respect for divergent views and voices. If faculty who want to develop an interdisciplinary course are open to experiencing these types of possibilities and practices, then I believe they will increase their chances of successfully developing an interdisciplinary team and a final product.

— Joe Balog

This course achieved that synthesis through a two-week simulation project. Students took part in a mock public forum where a public policy proposal over the elimination of religious exemptions to mandatory vaccinations in public school was debated. Students worked in groups to prepare for the forum with each group assigned a “role.”

Roles for the forum included: Pediatrician; Parents opposed to Vaccines; Parents of immunosuppressed children; Public Health official; Clergyman; Libertarian citizens; Parents of Autistic Children (opposed to Vaccines); Parent of Autistic Children (supportive of Vaccines); School Board Official; Vaccine Skeptic Scientist.

At the forum, one student from each group delivered a statement outlining the groups’ position and arguments. All other students engaged in a question and answer / open discussion session once all groups delivered their prepared statements. External judges selected the most persuasive group.

Summary Writing Assignment

Part of the preparation for the simulation was requiring students to write about a mandatory vaccination program integrating viewpoints from at least two disciplines. Students were able to select the format of their writing project from the following: Press Release, Letter to the Editor, or Public Education Pamphlet.

Regardless of the specific format selected students were asked to synthesize material from at least two sections of the course into a concise statement. For example, if students chose to write a letter to the editor, they might formulate an argument in favor of mandatory vaccination policy providing support for their position with scientific evidence

Continued on page 18

Frontiers in Public Health

Continued from page 18

(biology) and moral arguments (public health). Alternatively, they might write a press release for a group opposed to mandatory vaccination policies and use constitutional law arguments (political science) and scientific studies (biology) as the bases for their case.

Both sets of assignments – simulation and essay – were designed to ensure that students realized that understanding the nuances of the arguments surrounding vaccination policy requires integration. Simply having knowledge from the scientific literature fails to address why some policies are enacted and others are not. It is only through the integration of the disciplines that students were able to pull together the strands of learning that provides a rich understanding of the issue at hand.

Student Feedback

At the conclusion of the course, students were provided with a brief exit survey asking them for feedback about the course. This is particularly important given that it was the first time the class was taught. As is the case with any newly piloted course, this one was not without its bumps.

Initial results indicate that the majority (64.3%) were sufficiently pleased with the course to recommend it to a friend and just over half (54.5%) indicated they would be interested in taking another interdisciplinary course in the future.

Table 1 provides responses based on asking students what they believed to be the advantages of taking the course. 75% of students identified gaining a deeper understanding of the issue as the main advantage of the class while 62.5% selected experiencing multiple teaching styles and 61.6% selected making connections within the teams (see Table 1).

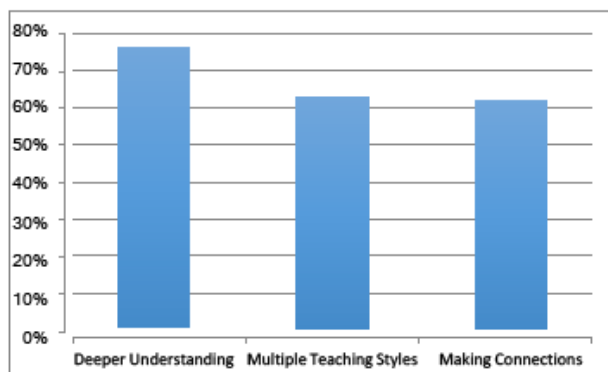


Table 1
Advantages of Frontiers Course

Deeper Understanding Multiple Teaching Styles Making Connections

Table 2 provides insight into the two major criticisms offered by students. The primary disadvantage was the need to move classrooms every two weeks. The faculty who developed the course intentionally made the decision to have the students move rather than the instructors. The justification behind this structural decision was to prevent students from settling into “permanent” seats and instead let the physical realignment potentially create new dynamics.

However, it is clear from the responses that students did not appreciate this and were instead were frustrated. Students also felt that there lacked consistency across the units. These data reflect the challenge of norming teaching styles, grading, and expectations, across five different faculty members from four different disciplines.

A clear lesson that emerged from the course was the need for spending more time on ensuring that grading expectations were similar. It is not sufficient to rely on using the same rubric – after all two individuals can have very different conceptions of what meeting and exceeding expectations means (see Table 2).

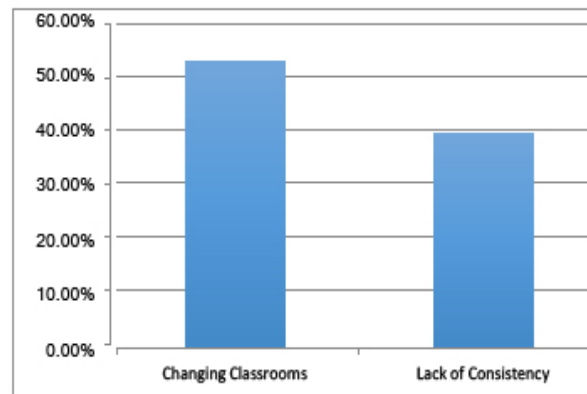


Table 2
Disadvantages of Frontiers Course

The exit survey provided an opportunity for students to offer their own perspectives and many were quite positive:

“This was one of my favorite classes I’ve taken at Brockport. It was a good course and great experience.”

“I felt that I learned a lot and without all of the different perspectives I would not have gained such a well-rounded experience”

Continued on page 19

Frontiers in Public Health

Continued from page 18

"It's like inventing something for the 1st time - it's a prototype but you can see the potential of a course like this. Fix a few things - organize a little better and then this will be the perfect course."

"I enjoyed how all of the teachers seemed really interested and excited for each class."

Faculty Feedback

At the end of the semester we asked the teaching faculty to provide us with insight into what they liked, didn't like and would change after having taught the class. Faculty all agreed they gained considerably from spending time with other colleagues across different disciplines.

However, while all the faculty involved felt the course was worthwhile, they agreed that there were unique challenges to teaching this type of class. Most difficulties stem from the mechanics of connecting different faculty, different students and different disciplines. The faculty recognize this as a "pilot" project and feel that they learned some valuable lessons for future interdisciplinary

endeavors.

Perhaps summing it up best was the reflection below of one team member, Joe Balog: Tasks that involve shared governance (such as our interdisciplinary teaching project), ... require time, commitment of team members, tolerance for messy and disorganized planning, and respect for divergent views and voices. If faculty who want to develop an interdisciplinary course are open to experiencing these types of possibilities and practices, then I believe they will increase their chances of successfully developing an interdisciplinary team and a final product.

Future Plans

There is interest in teaching the course again, however one of the team members has left Brockport for a new position. In some respects, this may prove to be an advantage because it would allow for a deeper exploration within each discipline. However, the faculty have not made a final decision about when to teach the course again, nor what format to use.



Ruth Childs has been at the College of Brockport Department of Theatre and Music Studies since 2001. Her teaching specialties include acting, voice and speech, improv, and the politics of theatre. In addition, she is certified to teach Fitzmaurice Voicework. Ruth has directed and acted in multiple productions at Brockport and beyond. Recent projects include Urinetown and Wonder of the World. She often works in voiceover, as well as a voice and dialect coach. She also is a public speaking consultant. Ruth served as regional chair of the National Playwriting Program for Kennedy Center American College Theatre Festival, and has been a respondent and reader for national and regional playwriting awards. In 2011 she was awarded the Kennedy Center American College Theatre Festival Gold Medallion.



Dr. Dena Levy is Associate Professor at The College at Brockport, State University of New York. She writes on Congress, women and politics, minorities in Congress and electoral politics. She is co-author of Hillary Clinton: A Biography and has published in a variety of journals in the field including the DuBois Review, Legislative Studies Quarterly, Women & Politics and PS: Political Science. Levy received her PhD from the University of Iowa.

AIS BOARD OF DIRECTORS 2017-18

President

James Welch IV

Past President

Machiel Keestra

Vice-President, Relations

Khadijah Miller

Vice-President, Development and Director of Information Technology

Jennifer Dellner

Business Manager

Scott L. Crabill

At-Large Members

Robin DeRosa

Paul Hirsch

Heidi Upton

Evan Widders

Executive Director Emeritus

William H. Newell

Conference Liaison

Roslyn Schindler

Honor Society Executive Director

Marcus Tanner

International Liaison

Brian McCormack

Editors, Issues in Interdisciplinary Studies

Gretchen Schulz

P. Sven Arvidson

INTEGRATIVE PATHWAYS STAFF

Editor

James Welch IV

Contributing Editors

Gretchen Schulz

Heidi Upton

Bianca Vienni Baptista

Production Editor

J. C. Casey

SUBMISSIONS

Authors who wish to submit their proposals for articles or reviews should e-mail queries to Editor-James Welch IV, jfwwiv@mac.com. More information on submitting material to Integrative Pathways can be found on the AIS Website, www.oakland.edu/ais, under Publications>Integrative Pathways.



Association for Interdisciplinary Studies

University of Science and Arts of Oklahoma
Davis Hall 118-B
1727 West Alabama Street
Chickasha, OK 73018
USA

Non-Profit Org.
U.S. Postage
PAID
Permit 16

INTEGRATIVE PATHWAYS

40th AIS Annual Conference Set For Wayne State in Detroit Oct. 11-13, 2018

Theme:

'Inter/diversities': Intersecting Race, Gender, Class,
Abilities, Theories, and Disciplines

Conference Hotel
Crowne Plaza • Downtown Detroit

Conference Coordinator:
Roslyn Schindler
(rozschind@aol.com)

About AIS

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.

ON THE WEB:

www.oakland.edu/ais

- **WHAT'S NEW**
Find the latest news about the Association and interdisciplinary studies.
- **CONFERENCES**
The 40th annual AIS Conference will be held at Wayne State University in Detroit, Mi., Oct. 11-13, 2018.
- **PUBLICATIONS**
Find current and past editions of *Integrative Pathways*, *Issues in Interdisciplinary Studies*, and other publications
- **RESOURCES**
Resources include the 2nd edition of *Intentionally Interdisciplinary: Master's Interdisciplinary Program Directory*, SOITL section, peer-reviewed syllabi, and more.
- **MEMBERSHIPS**
It's time to renew your membership for 2018-19.