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Teagle report: Enthusiasm for IDS rising But better methods of assessment are needed

Review of *Interdisciplinary Education at Liberal Arts Institutions*. Diana Rhoten, Veronica Boix Mansilla, Marc Chun, and Julie Thompson Klein. Teagle Foundation White Paper (2006). Available for free download at: http://www.teaglefoundation.org/learning/pdf/2006_sscc_whitepaper.pdf

Reviewed by James Welch IV, Interdisciplinary Studies Program, University of Texas Arlington.

The Teagle Foundation, according to their Web site (www.teaglefoundation.org), is a medium-sized grant-making institution currently aiming at increased student engagement and learning in the liberal arts and sciences. To this end, they assert that “systematic, ground-up, faculty-led assessment...is one of the most powerful ways to improve student learning in the liberal arts.” Its philanthropic approach is committed to effecting overall changes in higher education by making grants to individuals and working groups whose findings will have a wide range of applicability. One such grant was supplied to the Social Science Research Council, which convened a Working Group of frontline liberal arts and interdisciplinary faculty and administrators in order to address “the lack of criteria for judging the quality of student cognition, motivation and action” in interdisciplinary education. The White Paper developed by the Working Group acknowledges growing enthusiasm for interdisciplinarity and the wide diversity of interdisciplinary offerings at liberal arts institutions. It endeavors, through the analysis of survey data and semi-structured interviews with its members, to provide workable definitions of interdisciplinary education, common modes of interdisciplinary programming and assessment, and directions for the development models better suited for the distinctive needs of interdisciplinary assessment.

In reading the White Paper, I was reminded of my own experiences conducting a research study

of interdisciplinary faculty and administrators in 2001. The study constituted the final project for my master’s degree and was published in the 2003 edition of *Issues in Integrative Studies* under the title “Future Directions for Interdisciplinary Effectiveness in Higher Education.” There are major obvious differences between the two studies but, because of similarities in goals and methods, I found it instructive to compare their approaches to applying social science methodology to interdisciplinary education. Furthermore, the contrast between the findings of the two studies brings out recent developments in the perception and implementation of interdisciplinary education.

The “renewed enthusiasm for interdisciplinarity” in liberal arts education found in the White Paper stands in stark contrast to my own study, where the respondents in the main felt that interdisciplinary studies programs were struggling for academic legitimacy, in sore need of administrative support and recognition by disciplinary faculty. The White Paper describes the diversity of interdisciplinary offerings in liberal arts institutions, “from majors and minors, to centers and institutes, to courses and colloquia.” The difficulty, given the eclectic nature of the field, of establishing consensus and clarity was central to my own study, which sought to formulate, from the disparate fog of interdisciplinary opinion, consensual ideas about the future of interdisciplinary studies programs. The objectives of the Teagle

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Working Group are far more grounded and specific, aiming at “the design of an empirically-grounded and action-oriented framework to assess interdisciplinarity in the liberal arts context.” This entails defining interdisciplinary concepts and terminology, identifying “common modes of interdisciplinary education,” and establishing empirically valid approaches to assessing interdisciplinary learning outcomes. The Working Group seeks to move the discussion of interdisciplinary education from “anecdotal accounts,” to a grounding in “empirical evidence,” utilizing the traditional methods of the social sciences.

It is worth exploring the epistemological conflict between the two studies due to the fact that a social science methodology is brought forth to scrutinize liberal arts institutions. Liberal arts education was established long before the advent of the scientific method, emphasizing personal enlightenment and contributions to cultural development. Such lofty goals are by nature somewhat ephemeral and resistant to quantifiable assessment. Interdisciplinary studies, in the liberal tradition, stresses integration, holistic thinking, and well-roundedness. Such skills cannot infuse pedantically, but rather require a relationship between student and instructor that cultivates inspiration and engagement, along with difficulty, confusion, and eventually, an enthusiasm for ambiguity. A messy pedagogical approach, to be sure, but nevertheless organic and effective. The problem here is the inherent subjectivity of the liberal education model, and thus the lack of a quantifiable standard by which to judge the relative strengths of various teaching methods, and thereby improve educational efficiency. Presumably, the lack of such standards results in a hodge-podge of improvisational instruction, and implies that failure could go unnoticed. My study revealed that interdisciplinary education indeed suffered from this lack of cohesion; many instructors I surveyed felt that they were teaching without the

benefit of a sufficient interdisciplinary curriculum for their courses. Thus, despite the liberal underpinnings of interdisciplinary studies, there is a need for guidance and clarity such as the White Paper seeks to provide.

Here, the social sciences come in to put the interdisciplinary morass in order. The process, though tedious, is straightforward: define problems, assign variables, crunch data, establish findings, and reach conclusions. Having participated in this enterprise myself, I must confess to mixed feelings about empiricism. These feelings are representative of the tug-of-war between the epistemologies of liberal arts and science, and, I believe, are shared by many interdisciplinarians. The value of empiricism cannot be denied. It is an extraordinary tool for unraveling the mysteries of concrete phenomena, but when it comes to the more ineffable qualities of human behavior, things tend to get fuzzier. Undaunted, the social sciences endeavor to reduce the clutter of the human condition by identifying its organizing structures and determining its avenues of causality in quantifiable terms. Nevertheless, cognizance of the strengths and weaknesses of this operation are necessary as it proceeds.

The first order of business for the Teagle Group is the definition of terms. In order to assess interdisciplinary education, it is necessary to identify what, exactly, interdisciplinary education does. The White Paper acknowledges the “granularity” of interdisciplinary education, an interesting choice of words, as it expresses both the particularity and cohesion of interdisciplinarity in a single term. Given its diversity of forms, in the economy of social science methodology, it is necessary to identify a desirable skill set. This set, familiar to readers of AIS literature, includes: a tolerance for ambiguity, ethical sensibility, integration, enlarged horizons, creativity, critical thinking, subjective/objective balance, demythologizing of

experts, and increased empowerment. Once we establish what it is we interdisciplinarians are supposed to teach, we are that much closer to determining how well we teach it. The skill set, broken down into learning objectives, merely awaits properly validated instruments for assessment.

It is interesting to note here that, in contrast with my own study, the institutions responding to the Teagle survey almost unanimously see their commitment to interdisciplinary education as a stable, if not increasing, component of their educational mission. Almost all of the members of my sample identified upper-echelon support of interdisciplinary studies programs as vital to their success, whereas the Teagle study conducted almost five years later relates that top-down enthusiasm for interdisciplinarity is gaining ground. Also of note is the finding that “almost one-fifth of all liberal arts students in our sample graduated in 2006 with an interdisciplinary major.” When I conducted my Delphi study, most of the participants lamented the marginalized status of interdisciplinary studies programs, and many of the ideas that reached consensus concerned bringing a higher level of visibility to those programs, inclusion of interdisciplinary education in university mission statements and organizational structures, recognition of interdisciplinary achievement in professional development, hiring and tenure decisions. Rather than calling the validity of either study into question, I think the difference in findings reflects the improved status of interdisciplinary programs over the last five years.

The Teagle Group surveyed “the 222 institutions considered ‘Baccalaureate College – Liberal Arts institutions’ under the 2000 Carnegie Classification system,” and received responses from 109 of the institutions solicited. This response rate far exceeds accepted criteria for a representative sample and

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Postdoctoral research training at Brown:

Center for Behavioral and Preventive Medicine has transdisciplinary focus

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There is increasing recognition that underlying health problems today are complex interacting factors from basic biology, to individual behaviors, to community and societal influences. At the same time, we are witnessing rapid advances in technological tools to address health problems. The complexity of health problems combined with the availability of new technology calls for increasing the number of scientists who can cross analytic levels, create new methodological tools, and synthesize different conceptual frameworks (Abrams 2006). These scientists, who are transdisciplinary in approach, hold promise in being able to make unique and accelerated discoveries in health care. Rosenfield (Rosenfield 1992) characterizes transdisciplinary research as scientists working jointly *using shared conceptual frameworks drawing together discipline specific approaches.*

Research at the Center for Behavioral and Preventive Medicine

The Center for Behavioral and Preventive Medicine trains postdoctoral fellows to become transdisciplinary scientists. The Center, originally developed by David Abrams, PhD, and currently directed by Bess Marcus, PhD, is the officially designated research and training center in behavioral and preventive medicine at Brown Medical School and The Miriam Hospital, Lifespan Academic Medical Center. Research activities in the Center provide rich training experiences for postdoctoral fellows. The research addresses the leading lifestyle causes of disease burden and death: weight control and diabetes, physical inactivity, and nicotine dependence. Close to 70 percent of funded research projects focus on cardiovascular disease prevention and

cancer prevention and survivorship. In an independent Fall 2003 external expert panel review of the Brown Medical School's Program in Public Health, the Center was cited as "one of the leading programs in the country, with unusual breadth and depth, and an exceptional training and career development program." Justin Nash, PhD, is the director of training and education for the Center.

Over 20 PhD and MD faculty in the Center conduct research to address the basic, clinical, and public health factors that underlie behavior change related to prominent lifestyle risk factors for disease. The research ranges from primary prevention (e.g., increasing physical activity and preventing tobacco use and obesity among healthy individuals), to secondary prevention (e.g., maintaining exercise after cardiac rehabilitation, prevention intervention in those at high risk), to tertiary prevention (e.g., improving the treatment effectiveness and quality of life for individuals with heart disease, diabetes, and cancer). Research and training are also focused on biobehavioral mechanisms of disease including neuroendocrine responses to stress, effects of managing depression on inflammatory markers associated with disease, and the interaction of genes and environment in disease process.

In conducting research that bridges biomedical, sociobehavioral, and population/public health science, the Center faculty embrace interdisciplinary collaborations. The collaborations are with faculty from other Brown Medical School departments (e.g., Community Health, Medicine, cardiology, endocrinology) as well as universities locally (e.g., University of Rhode Island), regionally (e.g., Harvard, Brandeis,

Boston and Yale universities), nationally (e.g., Stanford University, Duke University, University of North Carolina), and internationally (e.g., Queensland University, University of Oxford). The collaborative experiences provide excellent interdisciplinary training opportunities for postdoctoral fellows.

Training at the Center for Behavioral and Preventive Medicine

Training and education in the Center is focused on developing postdoctoral fellows into independently funded researchers, many of whom cross disciplinary boundaries in their approach. The funding for postdoctoral fellows comes primarily from the National Institutes of Health (NIH) in the form of institutional and individual training grants. There are two funded training programs that emphasize multiple disciplinary training of scientists.

T32 NHLBI Cardiovascular Behavioral Medicine Research Training Program

The primary goal of the National Heart Lung and Blood Institute (NHLBI) funded T32 program is to train postdoctoral fellows to become researchers who address behavioral problems related to cardiovascular disease (CVD). CVD remains the leading cause of morbidity and mortality in the United States, accounting for approximately 60 percent of all deaths each year (U.S. Department of Health and Human Services 2000). Studies demonstrate that at least half of the variability in CVD outcomes is attributable to lifestyle factors. The NHLBI task force on behavioral research in CVD cites cigarette smoking, adverse

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diet, obesity, and physical inactivity as the most prominent lifestyle risk factors (National Institutes of Health & National Heart, Lung, & Blood Institute 1998).

In training postdoctoral fellows to address behavioral factors in CVD, the cardiovascular behavioral medicine training program relies on the cooperative arrangements of Center faculty along cardiology, endocrinology, and pulmonology faculty in the Department of Medicine and epidemiology and biostatistician faculty in the Department of Community Health. Trainees focus on developing research methods primarily from a behavioral science perspective but also incorporate theories and methods from biomedical and public health approaches. Trainees are physicians, behavioral scientists, and social scientists who are in their first two years of their initial postdoctoral training.

R25T NCI Transdisciplinary Cancer Research Training Program

The primary objective of the National Cancer Institute (NCI) funded R25T program is to train transdisciplinary researchers to address cancer prevention and control. Over 50 percent of cancers could be eliminated if today's knowledge of cancer prevention and control and population sciences were widely implemented (Curry, Byers et al., 2003). Consistent with the NIH Roadmap Initiative, reducing the national cancer burden is more likely when biomedicine, behavioral, and population sciences work in partnership. According to the Roadmap Initiative, the discovery and pace of scientific advances can be accelerated through the interactive efforts of experts from multiple disciplinary approaches operating, both conceptually and methodologically, at the interfaces of traditional disciplines.

In training researchers to operate at the interface of disciplinary approaches, the cancer research training program capitalizes on the strengths and cooperative efforts of the Center and

two other major programs at Brown, the public health program and the Brown University Oncology Group. Trainees learn to address the complex cancer problem by learning research theories and methods that integrate oncology, behavioral science, and public health approaches. Trainees are physicians and behavioral and social scientists who have already completed an initial postdoctoral program and are ready to receive three years of intensive research training.

Training Structure and Process

In each of the programs, a multi-mentor apprenticeship model is used with program didactics in place to supplement instruction. Training is structured for trainees to develop a set of core competencies and a set of specialized competencies.

Competencies: The core competencies include transdisciplinary research structure and process; clinical trials methodology; theory and principles of behavior change in health and across the lifespan; research methods, ethics, and grantwriting; and sociocultural factors and health disparities. The core competencies reflect the knowledge and methodological skills necessary to conduct behavior change research as a successful independent investigator. The core competencies are primarily developed through program didactics and to a lesser extent, research experiences with mentors. The specialized competencies are specific to each training program (i.e., cancer prevention and control or CVD) and area of concentration of the trainee (e.g., tobacco use, obesity, physical activity). The specialized competencies provide proficiency in the assessment techniques, measurement issues, and intervention strategies of their area of concentration. Specialized competencies are developed primarily through research experiences with mentors and in part through formal didactics.

Program didactics: The didactics in the program include formal coursework and seminars. The coursework can include selected courses, or in some cases within

the cancer research training program, a full academic program in public health leading to an MPH or MS from Brown University. The seminars are used to teach research methods, research ethics, grantsmanship, grantwriting, health behavior change, and other topics specific to each training program (e.g., cardiovascular epidemiology).

Unique to the cardiovascular behavioral medicine training program is the cardiovascular behavioral medicine and epidemiology seminar. The overarching goal of the seminar is to develop a working knowledge of the clinical and research aspects of coronary artery disease with a particular focus on discerning the role of modifiable, behavioral factors. In the first part of the seminar, fellows learn about the pathophysiology, diagnosis and treatment of CVD, epidemiology of CVD, and assessment of subclinical disease for research applications. The second part of the seminar focuses on primary prevention. The presentations cover the range of risk factors, including behavioral and psychosocial factors that have been associated with CVD. The third part of the seminar focuses on secondary prevention, with coverage of acute intervention and cardiac rehabilitation. The seminar includes three field-based sessions, in which fellows shadow faculty in the emergency room, catheterization lab, and the cardiac rehabilitation facility at the Miriam Hospital.

Unique to the cancer prevention and control training program is a seminar that provides a broad outline of biological, behavioral, and population science approaches to cancer prevention and control. Seminar topics include cancer screening, fundamentals of the biological processes in cancer etiology and treatment, epidemiological approaches to cancer prevention and control, behavior change in cancer prevention and control, post-diagnosis issues and cancer survivorship, and end-of-life care and issues. In both seminars

there is specific training on the process of conducting research and training in transdisciplinary approaches.

Mentoring arrangement and research experiences: The multi-mentor apprenticeship approach plays a critical role in the trainee's development. Senior faculty members serve as the primary mentors and oversee the overall mentoring of the fellow. Junior faculty, who serve as secondary mentors, learn how to mentor under the guidance of a senior faculty member. Researchers outside the trainee's home discipline also serve on the mentoring team as secondary mentors. They provide a complementary experience so trainees get integrative cross-disciplinary training. Each mentor helps the trainee to learn the content and skills in a particular disciplinary approach. In addition, each mentor also helps to facilitate the process of the trainee shifting in and out of each discipline and working between the disciplines.

Trainees work closely with their mentors on existing research projects as well as developing an independent line of research. The roles on the mentor's projects vary, with the goal of providing experience in different phases of the research process, from idea generation and grant writing to data collection and analysis through manuscript writing. Trainees function as members of multidisciplinary research teams. From the beginning of the program, fellows are encouraged to develop their own ideas and begin movement toward more independent work. The goals of presenting at conferences, submitting manuscripts for publication, and especially preparing a grant proposal during the fellowship, with input and support from the mentor and other training faculty, facilitate progression toward independent work.

Grantwriting: Preparation of an individual grant proposal for submission to NIH or an appropriate foundation is expected of all research trainees. Each trainee works one-on-one with his or her mentor, and presents his or her research plans at weekly

research discussion group meetings as part of the grantwriting seminar. Seminar sessions are devoted to analysis and feedback on grant proposals as trainees develop them. Study aims, significance, preliminary studies, and methods of study are written section by section, and rewritten following the critiques. At the culmination of this experience, each fellow completes an entire application that is reviewed by program faculty with pertinent expertise. The development of the grant is typically completed by the end of the first year of training.

Associated Training Programs and Shared Resources

The trainees in the Center's training programs have the opportunity for formal and informal interactions with trainees from other NIH-funded training programs at Brown. The Department of Psychiatry and Human Behavior (DPHB) and the Department of Community Health (DCH) at Brown Medical School have research training programs in alcohol and addiction studies; health services research on chronic illness and long term care; child psychiatry; psychosocial treatment research; and dementia and aging. The combined presence of the programs allows for shared operational structures and streamlined use of resources. For example, the core training in research methods, ethics, and grantsmanship is conducted for postdoctoral fellows in all the related training programs at Brown.

Jeanne McCaffery, PhD: A Training Example

Jeanne McCaffery, PhD, currently an Assistant Professor of Psychiatry and Human Behavior at Brown Medical School, is a good example of a trainee who benefited from the team mentoring arrangement while she was a trainee. Dr. McCaffery arrived at Brown Medical School as a clinical psychology intern from the University of Pittsburgh. Her research interests included: (1) quantitative genetic methods to further discern the role of behavioral factors in

CVD, cognizant of genetic influence; (2) the use of psychophysiology as an endophenotype, or intermediate trait, to aid in uncovering molecular genetic predictors of CVD; and (3) gene and environment interactions. Brown Medical School faculty member Dr. Raymond Niaura, a cardiovascular behavioral scientist, was her primary mentor. Stephen McGarvey, PhD a cardiovascular epidemiologist focused on international health, and Patrick Vivier, MD, a pediatrician, were her secondary mentors. Dr. Niaura and Dr. McGarvey partnered to expand Dr. McCaffery's training into cardiovascular epidemiology and international health. Working with her mentors, Dr. McCaffery traveled to American Samoa, where she piloted cardiovascular and cortisol reactivity tasks for use as endophenotypes to further understand the role of genetic variation within the stress response systems to CVD. Samoa represents a unique opportunity for the study of both behavioral and genetic risk factors for CVD. Despite known genetic homogeneity of the population, there is substantial variation in risk for obesity, hypertension, and dyslipidemia, according to degree of modernization, strongly suggesting purely environmental effects or gene by environment interaction for CVD risk. Together with Dr. Patrick Vivier, the group is also investigating novel approaches to the treatment and prevention of childhood obesity.

Addressing the Challenge of Integrating Insights from Multiple Perspectives

Among the many challenges trainees face in becoming transdisciplinary scientists is learning to integrate the insights that are drawn from multiple perspectives (e.g., biological, psychological, community, societal). Learning to integrate different disciplinary perspectives is particularly challenging when the scope of training is broad gauged; that is, when training requires integration of concepts and methods of disciplines that differ widely

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thus lends a great deal of validity to the findings. After thoroughly breaking down the curricular offerings of the sample group, the Teagle Paper presents its analysis of the data collected from the survey responses. These data are supplemented by “semi-structured interviews with frontline faculty and administrators,” who were part of the Working Group. They begin by investigating the motivations for interdisciplinary education, finding that interdisciplinary programs provide opportunities for researching multifaceted problems. Student demand for interdisciplinary studies also ranked high, along with the assertion that “institution’s desired student outcomes are best achieved through interdisciplinary education.”

The Teagle Paper then turns to identifying the goals of interdisciplinary education and developing the means to measure its success. They approach the former by comparing the expectations of disciplinary versus interdisciplinary education across a common set of variables. They found that both groups value critical thinking, problem solving, and analytic skills highly, whereas interdisciplinary education emphasizes multidisciplinary breadth and integration over disciplinary depth. This last finding, although predictable, is cause for concern among the Teagle Group, and indeed, breadth versus depth is a central conundrum of interdisciplinarity. The Working Group asserts that “students need both (sub)disciplinary and interdisciplinary training in order to become successful divergent *and* convergent thinkers.”

The Working Group further highlights the goals of creativity and civic engagement identified in the survey. Such goals are all but universally revered; however, because they are more difficult to quantify, they are often neglected in studies that emphasize empirical validity. Nonetheless, these goals have been held up as crucial

components of personal development through a liberal arts education since ancient times, and they require a kind of student and faculty engagement that is often improvisational, emotional, or inspirational. In this empirical pressure to measure and test the effectiveness of interdisciplinary education, we must remember that interdisciplinarity is not merely a problem-solving tool, but also a philosophical outlook which radically transforms one’s worldview and the conduct of one’s daily life. Interdisciplinary education is not simply about creating an army of integrative scholars and researchers, but also developing citizens, workers, parents who will contribute to the evolution of culture.

The Teagle Paper moves on to the matter of assessment. According to the study, student grades were the most common method of assessment in the sample group, followed by student surveys and locally-developed assignments. Although the survey responses rated these methods useful at measuring the more traditional skills of critical thinking, problem solving, and analysis, when it came to assessing skills peculiar to interdisciplinary education, the sample’s responses to more traditional methods were less favorable. Furthermore, even though the institutions surveyed attested to their success at offering quality interdisciplinary education, “these same schools feel less sanguine about their success in assessing interdisciplinary learning outcomes.” These findings support the Teagle Group’s assertion that new methods of assessment must be developed.

This call is echoed by the institutions surveyed: “more than half were explicit in their request for assistance with developing ‘comprehensive,’ ‘rigorous,’ ‘standardized,’ and ‘formal’ indicators and models for assessing interdisciplinary outcomes.” The Teagle Paper proceeds to delineate various types of direct and indirect assessment but states that current models

“are often not as well-suited as they might be to measuring the complexity, ambiguity, and multiplicity of skills and aptitudes involved in the creation of new meanings, explanations, or products via interdisciplinary synthesis and integration.” They favor instead the more “authentic” methods of value-added and performance assessment. Value-added assessment measures improvement, generally gauged by a pre-test/post-test model, whereas performance assessment is based upon student demonstration of skill or ability. The Teagle Paper recommends some pre-existing value-added instruments for assessing general skills but admits that typical instruments run into problems when it comes to measuring more ineffable outcomes such as creativity and innovation. Further problems arise when assessment is topic-driven or seeks to measure multidisciplinary facility, due to the fact that skills needed in one subject area are often not generalizable to another. Similarly, in assessing interdisciplinary teams, it is not individual achievement that needs to be measured, but rather group dynamics.

Performance-based assessment gives students the ability to demonstrate and reflect upon their skill development and faculty the opportunity to supply feedback during the course of education, as opposed to merely rating students at its end. This technique may have its advantages, but in order for assessment to have any generalizable validity, interdisciplinary educators must agree on what these assessments are measuring. To this end the findings of the Harvard Interdisciplinary Studies Project are brought into the Teagle Paper, identifying four areas that seek to provide a framework for what it is that interdisciplinary education does. First of all, it is purpose-driven, aiming to solve problems and make cognitive advances. Thus, students can be assessed as to how effectively they accomplish their purpose. Secondly, it requires disciplinary grounding in order to integrate disciplinary insights.

Thus, students can be assessed on how well they know, choose and utilize the disciplines involved in their course of study. Furthermore, integration itself needs to be assessed. Here, the advantages of the performance model become apparent. The notorious difficulty of setting up standardized criteria for integration, which by its nature manifests variably and contextually, is obviated by gauging student accomplishment as it is happening. Integration may be difficult to describe, but it is not so difficult to observe. Lastly, the Harvard study identifies thoughtfulness as a key component of the interdisciplinary framework, and this brings us full circle back to the goals of liberal arts education. Thoughtfulness is demonstrated by students' engagement with their course of study, their "ability to consider choices, possibilities and challenges with care." It is the very mark of liberal education. ■■■

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in levels of analysis (Nash, Collins, et al., 2003). Trainees who try to bridge widely varying levels of analysis run the risk of confusion, frustration, and ultimately regression back to operating within their familiar disciplinary approach. Also challenging is for biomedically-oriented trainees to incorporate psychosocial or population based approaches. The reverse is also true; behavioral and social scientists have more difficulty integrating biomedical approaches than behavioral or social science perspectives.

To help trainees achieve disciplinary integrations that are more complementary, it is important to focus training around the specific programmatic research that the postdoctoral trainee is developing. By orienting training around the trainee's specific research question, the training is kept focused on disciplinary integrations that are most relevant and complementary. For example, a postdoctoral fellow who is studying the

The performance model that the Teagle Group is recommending differs fundamentally from traditional methods of assessment. It is not a passive and objectively distanced means of measuring student progress through tests or surveys, but rather is assessment through active engagement. In many ways, this answers many of the problems with empiricism I've pointed out, and successfully integrates the liberal arts and social science methods of assessment. This synthetic approach clarifies variables and identifies parameters while allowing for individuality and nuance. Although I find the performance model compelling, I have difficulty visualizing these assessment instruments and how they might come to be standardized across the interdisciplinary field. This is due to the fact that the White Paper describes them only in terms of general guidelines, supplying a single example of the model. Nonetheless, it sounds

like an exciting project, and the high-powered minds of the Teagle Group are working on it. This White Paper goes far in examining the current state of affairs in interdisciplinary education and gives us reason to believe that our star is rising. It brings some clarity and definition to our usual muddle by defining terms and establishing frameworks.

Here, it is necessary to pause and remember that frameworks such as this do not simply describe; they also orient. Frameworks, once they have gained empirical authority, tend to impose themselves. Empiricism itself must learn to share, to become integrated into a greater understanding. Despite their initial insistence upon empirical evidence, I believe, in the end, that the Teagle Group understands this dynamic and is endeavoring to synthesize assessment models that could serve interdisciplinary education well. ■■■

interaction of genetic, psychological, and cultural factors underlying poor quality of life following implant of a cardiac defibrillator will focus on integrating only the specific elements of the biomedical, psychological, and sociocultural approaches that are relevant to the research question. Another way to facilitate the integration is to provide seminar training that includes instruction on how to manage the challenges in working across disciplinary boundaries. For example, seminar training at Brown includes components to help trainees anticipate the challenges in shifting in and out of disciplinary frameworks and working between frameworks that are so paradigmatically different. Ultimately, overcoming the challenges of integrating the insights from the different disciplinary approaches requires a combination of formal didactics, research experiences, and close mentorship.

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AIS conference lineup to 2010

The Association for Integrative Studies has conferences lined up through 2010! The AIS Board invites you to attend all of them.

AIS is becoming increasingly important as a professional organization in the life of its members, and the annual conference offers a perfect forum for intellectual exchange and engagement with colleagues from around the country and the world. Please join us!

2007 AIS Conference, hosted by Arizona State University-Tempe, September 27-30; contact: Kelly Nelson (kelly.nelson@asu.edu)

2008 AIS Conference, hosted by University of Illinois-Springfield, September 24-28; contact: Karen Moranski (moranski.karen@uis.edu)

2009 AIS Conference, hosted by University of Alabama-Tuscaloosa, October 8-11; contact: Jim Hall (jhall2@nc.ua.edu)

2010 AIS Conference, hosted by San Diego State University, dates to be decided; contact: Stuart Henry (stuart.henry@sdsu.edu)

Anyone who may be interested in hosting a conference in the next decade should contact Roslyn Schindler, AIS Board liaison to conference planning teams, at rozschind@aol.com or roslyn.schindler@wayne.edu. Also: go to the AIS Web site (www.muohio.edu/ais/) to learn more about AIS conferences. ■■■



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Association for Integrative Studies 29th Annual Conference

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Interdisciplinarity at the Border: Creating, Thinking and Living New Knowledge



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