Heutagogy and Adults as Problem Solvers: Rethinking the Interdisciplinary Graduate Degree

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Abstract: This presentation proposes a refocus of the graduate educational experience for those adult students who are interested in solving complex social problems. We suggest the need to invest in and develop flexible interdisciplinary degrees that allow the heutagogical learner to address specific social needs through their educational experiences.

A large number of adult students are attracted to interdisciplinary graduate degree programs given these degree programs apparent flexibility and the opportunity for students to study a variety of subject material of interest to them. Interdisciplinary programs often have the flexibility to be individually designed around student interests as opposed to being discipline centric. One of the critical elements to a successful experience in a graduate interdisciplinary program is the "tying together" of the disparate courses used to complete the program. In our experience as faculty members in an interdisciplinary masters program, there are several challenges to implementation in such programs. This paper discusses a paradigm of program design and delivery based on adults-as-problem-solvers and heutagogy, an extension of Knowles' andragogy.

Given our location in Central Texas and nearness to Austin and San Antonio, we serve a number of working adults desiring interdisciplinary, career-oriented masters degrees. Based on student self-reports, some students come to us because of their experience in our undergraduate program (which is structured around the needs of working adults); the convenience of locations, times, or delivery methods offered for courses; the ability to design a program around their academic, professional, or personal interests; or some come looking to solve a social ill or problem.

We recognize that programs that are more focused on a single discipline are important to the social world, yet we see that for some students, these uni-disciplinary programs are not a good fit for all students. Many adults engaged with the social world begin to see problems as multi-faceted and *wicked*, without a unitary means to address these problems. Single dimensional programs seem to address problems from one perspective and students recognize that many social problems have multiple perspectives from which to both understand and address those problems (see Rittel & Webber, 1973 for a discussion of "wicked problems"). This view of social ills may be similar to Kohlberg's (1958) moral development stages, and Jacques' (1998) levels of cognitive complexity where greater understanding of complexity coming with more experience. As individuals gain experience in the world their view of the world and associated problems broadens.

Indeed, Knowles (1975) recognizes this in his formulation of the assumptions of Andragogy, particularly in this statement "Adult learning is problem-centered rather than context-oriented." In short, adults may be less interested in learning about a discipline (context-orientation) rather than how the discipline may address a particular problem. Alternately, under this formulation, an adult may be interested in a discipline only as far as the discipline provides solutions to a problem of interest to the

student, such as getting viable employment or practitioner status or the solving of a particular problem of practice.

While Knowles might provide the basis for thinking about adult learning, we see that it does not go far enough in addressing the sophistication of adult learners with work experience in a field of social practice who have extensive experience. Kolb and Fry (1975) theorized the role of experience in shaping learning that occurs in practice. Adults who have a problem-solving orientation may be naturals at using Kolb and Fry's experiential learning, yet may not have the skills or tools to pass along this learning to others, the tools to formalize this knowledge, or the means to apply this learning towards a credential.

As stated earlier, one of the challenges with interdisciplinary degree programs is the "tying together" of the strands or disciplines into a meaningful or coherent body of learning. The same academic plan may serve two students, one of whom has capitulated the meaning of the interdisciplinary degree and the other who sees it as a series of disconnected classes leading to a degree (we see both types!). The distinction here rests partially with the ability to articulate the meaning of the degree program as an interdisciplinary program to those outside the realm of such programs. In other words, part of a student's successful interaction with an interdisciplinary program is their ability to bridge ideas from various disciplines to the problem for which they are trying to find solutions. Then the task becomes applying the interdisciplinary stance to the problems in the student's world in a meaningful way that engages others socially.

Heutagogical Orientation

Heutagogy, as proposed by Hase and Kenyon (2000, 2007), is not a totally separate entity from Knowles' notion of Andragogy, instead focusing on adults learning how to learn and evaluate their own learning. Heutagogy has been called a theory of *self-determined learning*. We believe this can be fostered in our adult interdisciplinary graduate students through careful reflection and the introduction of students to tools that allow them to practice their learning in the workplace. For example, in our context, we encourage students to view problems as complex using systems theory to inform their understanding of the multiple elements and relationship between the elements in a wicked problem (Dietz & Porter, 2009, 2012; Northcutt & McCoy, 2004). Heutagogy calls on us to teach and empower students to evaluate their own thinking and learning about a given problem. The responsibility can be passed on to the student for determining the relevancy of a given disciplinary perspective to a problem and even theorizing the effect of a given disciplinary perspective on the wicked/complex problem in question. Additionally, heutagogy requires faculty to go beyond the teaching of competencies that are the application of a given tool or perspective within a given context/discipline, to capability – the ability to determine what tools or perspectives are relevant and potentially useful in understanding and proposing novel solutions to a wicked problem.

Heutagogical students represent challenges to professors in that they are self-motivated concerning the experiences they expect from their graduate endeavors. They ask questions about the fit of different courses with their expectations and look more deeply into the available courses than most of their instructors. They are looking for the aforementioned bridges between disciplines and their problem focus, and expecting their advisers to help them build those bridges (Eichler and Dietz, forthcoming).

Building bridges between disciplines is difficult at best, requiring faculty members to network in novel ways; however, this networking can provide substantial advantage to the university. Allowing

students to move freely across the university course landscape means disciplinary classes will have added dimensions of thought in their discussions. Though this may have some challenges in terms of administration, the net effect will be a broadening of thought for both students and faculty alike. We have found in our program that students tend to look between the disciplinary cracks for solutions to problems, usually starting with describing problems from an interdisciplinary perspective. This leads to new thinking within disciplines and often to new avenues of research.

For example, we have a student who looked specifically at Spanish language popular music. Her rich description of these unique music genera has generated interests from other disciplinary groups on campus to further understand her contribution to the academic dialogue. For faculty involved, questions arose about the role of traditional/corporate media venues in the defining of Latin music of North America, whether some distinctions are meaningful, and how Latin music in many forms might be preserved. Another student looked at how the hungry are fed through different non-profit groups in a metropolitan area and found competing goals and expectations from the leaders of these groups. Her work helped all of these groups work better at meeting their overall goal of feeding the hungry. There many other examples similar to these from students in our program. The point being that students who are problem focused recognize the gaps of understanding in the real world.

Problem-solving Orientation

The fostering of heutagogical learning in conjunction with a problem-solving approach to the degree program can enhance the ability of students to make meaning of an interdisciplinary program and create a highly relevant program to meet the needs and desires of the student. Problem-based learning has been written about at great length, but is usually focused on a very specific problem, and the students addressing these specific problems are expected to generate a specific answer. Problem-based learning typically fits a problem within the structure of a single class, or fitting a single problem into a semester. For example, addressing a specific behavioral problem within a classroom setting, or processes used in the workplace without considering the effect of elements outside of the setting in which the problem is occurring. Most of the time, these specific problems have a small set of correct answers and are designed to be addressed collaboratively. Though problem-based learning is extremely useful for allowing students to virtually experience a particular concept related to a relatively simple problem, it is less helpful in allowing students to see the complexity of many real world problems.

However, complex social problems must be examined in a broader context. For example, a behavioral problem in a classroom would be examined from not just the classroom context or teachers perspective, but also from the perspective of the environment of the school, the environment in which the school presides, economics, characteristics of faculty, students, administration, community, parents, etc. Examining a workplace process problem would involve looking at the culture of the organization, the attitudes, capability and capacity of employees, other processes associated with the process in question, etc. When examining a complex social problem there are a variety of right answers that are developed – a matrix of solutions. In fact when students look at complex social problems the first step is to provide a detailed description of the problem which includes examining the context of the problem, the relationships between the constituents involved in the problem, the values that underlie the problem, and how these create shared meaning for the constituents (Owen & Dietz, 2012). Clearly understanding all of

the elements of the system or systems which encompass a complex social problem is highly interdisciplinary.

In problem-based learning, the instructor usually provides the information about the problem, rather than the student. A change here in the magnitude, type, and source of the problems may be warranted. If a portion of students bring complex problems with them as the focus of their degree, then they provide some of the context and understanding of the problem. This shifts the instructor's role to assisting in bounding the problem to fit within the capacity of the degree and the availability of university wide courses. In other words, problem-based learning is utilized by focusing on a particular problem as the effort of the degree and designing the degree program (including course choices and sequencing) around the wicked problem in question. The most influential problem-based learning surround problems that are nested in the real world, have few rules and allow students to incorporate their own life experiences into the most probable solutions to the problem. This process for problem-based learning helps students develop bridges between the classroom and the real world. Moving this concept to a programmatic level would involve the instructor working with his or her students to build problem-based scenarios to help both better understand the complex problem.

Re-thinking Interdisciplinary Learning

Given the change in perspective we advocate, a change to viewing interdisciplinary degrees as problem-solving enterprises and opportunities for heutagogical development, several challenges remain for the full use of these perspectives:

1. Interdisciplinary graduate programs often call on students and their advisors to formulate a course of study at the beginning of a program. While changes may be allowed after a student is taking classes, this may be difficult and a student may believe he or she is locked into the chosen courses. We believe that perspectives evolve over time, and an interdisciplinary masters degree should evolve over time as both the students and instructors perspective on the problem changes.
2. It may also be difficult to say that such a problem is addressed through a certain number of courses, as the problems and understanding of the problems evolve over time. Practically, within universities, particular degrees are awarded after a certain number of courses (along with other degree requirement). Administrative pressure tends to put a suggested time frame on degree completion. In administrative milieu increasingly measuring program, department, and faculty success by metrics such as time to degree completion and completion rate, interdisciplinary programs may find themselves without comparable metrics to uni-disciplinary programs.
3. Not all students coming to interdisciplinary programs are interested in a problem-solving orientation or heutagogical orientation. Some may lack the past experience and reflection necessary or simply be interested in the degree as a credential (and not the skills gained in the degree program). Others may simply be disappointed with the notion that faculty are not experts on every problem and situation and ask the student to reflect on these problems themselves.
4. Heutagogical students will require a different level of advising compared to students who are not necessarily interested in focusing on a complex problem. Advising may fall on the students' faculty advisor in the role of advocate.

5. Some complex problems may fall nicely into large groups such as sustainability, education, social needs, or organizational dynamics. In may work well for faculty advocates to form loose groups of other faculty who have similar interests to specific complex problems.
6. There are some courses that may add value broadly to interdisciplinary students and specifically to problem-focused students, such as critical thinking, human systems theory and methods of inquiry, especially if these courses are offered from an interdisciplinary perspective.
7. The advising and service need of students in an interdisciplinary program is high, both administratively and in student support. Such a program may not scale well to serving large populations of students without increasing support and advising available to students at a higher rate than other masters programs.
8. Given the unique nature of interdisciplinary programs, not all faculty may be prepared or inclined to work with interdisciplinary students.
9. Interdisciplinary thinking requires strong reflection, which requires time for reflection. Students in interdisciplinary programs may require more time than usual to reflect and apply their knowledge to complex problems and may not be able to keep up with the pace of full or even half-time studies in the university environment. This is particularly troublesome with increasing pressure to move students to graduation rapidly.
10. A common core may need to be developed for courses that will serve the students, so there is a common framework for communicating outcomes of an interdisciplinary program. One feature of the program we teach is the use of a research project that is loosely based in the social sciences that the student selects and develops based on his or her interests, coursework, and goals. As such, our students are oriented towards the social sciences. Other formulations may be useful, including one based in the arts or humanities.
11. As departments within universities are often measured based on credit hour generation, and have the need to produce classes with enough students to be economical, the unpredictability of student programs becomes a challenge. For example, careful planning is needed to know whether a popular course that serves as an elective for this program will bring enough student enrollment to be feasible.

There is a need for a better understanding of the heutagogical student to better understand their contribution to the academy and to professional practice. Structured research that moves beyond anecdotal information may help in identifying these students and better meeting their needs. Also, there is a need to more closely examine the academy and the siloing of knowledge within disciplines. Building formal bridges better disciplinary silos through interdisciplinary programs may help reduce this issue.

We see the use of a problem-solving orientation and heutagogical orientation for the planning of individual interdisciplinary graduate degrees as critical to the development of students who are able to transcend disciplinary boundaries and become effective social practitioners. The most interesting aspect of the academy is the spaces between the disciplines, and this is the place in which heutagogical students do their work. In working on those spaces students and their instructor advocates begin building interdisciplinary “bridges”.

Programs informed by sound adult education and adult development practices may be a natural fit for students in interdisciplinary courses.

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