

# **CRITICAL THINKING AND INTERDISCIPLINARY DEVELOPMENT FOSTERING CRITICAL THINKING IN AN INTERDISCIPLINARY WELLNESS COACHING ACADEMIC PROGRAM**

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## **Abstract**

Critical thinking skills are seen as increasingly important in meeting the complex demands of the global workplace (Pithers, 2000). Developing curriculum that crosses and integrates specific disciplines is one important mechanism that institutions of higher learning can use to foster higher-order critical thinking skills among their students (Behar-Horenstein & Niu, 2011; Nosich, 2009). This paper explores the interdisciplinary curriculum development process to develop a minor in Wellness Coaching, where critical thinking was a unifying core component. The steps used in the curriculum development process are described, and implications for interdisciplinary programs focusing on critical thinking skills are examined.

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**Keywords:** Critical thinking, interdisciplinary program, wellness coaching

## **Introduction**

Two aims which characterize many University efforts across the globe are to foster critical thinking skills among students (Roth, 2010) and to encourage interdisciplinary programs which help students see linkages among the functional areas they study. Critical thinking and cross-disciplinary skills are seen as pivotal for addressing the challenges of today in all fields of study. No longer can a student expect to be successful by simply learning content knowledge from their major field of study. Rather, students need to develop skills in critically evaluating and integrating knowledge across a variety of fields in order to solve unique problems that arise in the ever-changing economic and global environment in which they will be pursuing their careers.

Critical thinking has been described by scholars in a variety of ways, including a classic definition by Robert Ennis (1987) as “reasonable, reflective thinking that is focused on deciding what to believe or do” (p. 9). Critical thinking is seen as an artful process of cultivating high quality thought that involves skill in application of concepts, analysis, synthesis, and evaluating information as it relates to observations, experiences, and reflections, in order to guide belief or action (Nosich, 2009).

The purpose of this paper is to describe the development of an interdisciplinary academic minor in Wellness Coaching, where critical thinking was a unifying core component of the academic curriculum. The minor was developed by a committee comprised of individuals from a variety of academic disciplines within an urban University, with the goal that it could be attached to an array of different majors in the helping professions without undue burdensome requirements. In order to achieve this goal, the Paul-Elder model of critical thinking was used as a framework for curriculum development. This model will be described below, along with an overview of the strategic goals of the University, to provide a context for the description of the process and steps used to develop the interdisciplinary minor.

## **I.**

### **Conceptual Framework and Context**

The incorporation of critical thinking into the curriculum is a strategic core goal for many universities (Behar-Horenstein & Niu, 2011; Pithers, 2000), given the increased demands for critical thinking skills in the workplace and within the context of the ever-changing global economy. As noted by Pithers (2000), “National government policy as well as employers

are demanding that education, no matter in what discipline or at which level, ought to enable graduates to think ‘smarter’ than was the case in the past” (p. 237). The curriculum development process described in this paper took place within the context of a strong university-wide strategic emphasis on developing students’ critical thinking skills.

In the university setting described here, the development of students’ critical thinking skills is a specific focus for “educational excellence,” which is one of the five key strategic elements in the university’s strategic plan. To provide tools for promoting the goal of fostering students’ critical thinking across the curriculum, the university has developed an extensive operational plan and critical thinking initiative. This critical thinking initiative provides a variety of resources - including workshops, year-long funded courses, research and teaching-related grants, colloquia, and materials - to help university faculty effectively incorporate critical thinking development into their classes and scholarly activities.

### **Paul-Elder Model of Critical Thinking**

While there are numerous models of critical thinking, the framework chosen by the university and used in its critical thinking initiative to develop students’ critical thinking skills is a model developed by Richard Paul and Linda Elder (2001; 2006). This model, commonly referred to as the Paul-Elder model, consists of three major components: 1) standards, 2) elements, and 3) intellectual traits. The critical thinking standards are applied to the critical thinking elements, in order to develop the critical intellectual traits. Each of these components – standards, elements, and traits - is described briefly below.

#### **Critical thinking standards**

Critical thinking standards are criteria which must be applied to thinking to ensure that it is of high quality. The goal in explicitly teaching and practicing these standards is to help the student apply them automatically to their thinking and problem solving endeavors. The eight standards for effective critical thinking are as follows: clarity, accuracy, precision, relevance, depth, breadth, logic, and fairness.

#### **Critical thinking elements**

The eight critical thinking standards are applied to each of the critical thinking elements of thought, which are: purpose, question, information, concepts, assumptions, inferences, point of view, and implications. For example, all reasoning has a purpose that it is trying to accomplish and a question that it is trying to answer. Information and concepts are used to address this purpose and question. Good reasoning requires that assumptions

and point of view are explicitly recognized, while inferences and implications are logically derived.

### **Critical thinking intellectual traits**

The goal in applying critical thinking standards to the elements of thought is to develop the critical intellectual traits, which are: integrity, humility, confidence in reason, perseverance, fair-mindedness, courage, empathy, and autonomy. These intellectual traits are also considered “virtues” upon which a humane society is built.

### **Development of the Wellness Coaching Minor**

The Paul-Elder model of critical thinking was used to develop an interdisciplinary minor in wellness coaching. The minor was conceived as an interdisciplinary effort between several relevant departments in the university, and was directly aligned with the university’s extensive health promotion program (Connally, 2011). The health promotion program was itself originally designed as a collaborative effort among several university constituents, including the university’s human resources department, its college of education and human development, its university physicians, and the university hospital.

The development of the wellness coaching minor, incorporating critical thinking elements of the Paul-Elder model, is described in a 7-step model below. The objective in reporting these seven steps is to provide a framework that can be used by other faculty engaged in interdisciplinary curriculum development with a critical thinking focus. In addition to the Paul-Elder model of critical thinking, underlying principles guiding each of the seven steps of curriculum development described below include a systems approach to organizational change and development (Anderson, 2010). These principles include an acknowledgement of the value of inputs from all constituents and stakeholders affected by the curriculum development process, as well as an acknowledgement of the importance of focusing on clearly-stated common objectives among the various stakeholders in the curriculum development process.

Figure 1 presents a graphic representation of each of the seven steps used in the interdisciplinary curriculum development process for the coaching minor. Each of these steps is then described below.

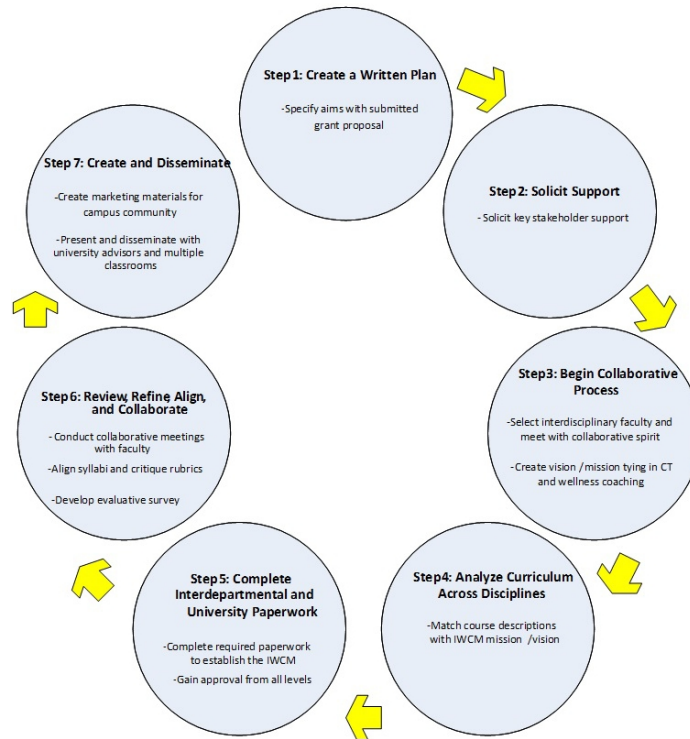


Figure 1. *Process used to develop the Interdisciplinary Wellness Coaching Minor.*

## Process Steps

### Step 1: Create a Written Plan

As shown in Figure 1, the first step in the process of developing the interdisciplinary minor in wellness coaching was to create a written plan in the form of a critical thinking grant proposal, internal to the university. This grant proposal was necessary in order to create the momentum to bring together faculty from different disciplines that typically did not work together on curriculum design. The primary project goals were written to create a mission and vision for the overall plan to establish a new interdisciplinary curriculum model. As stated in the grant proposal (Kommor, 2009), the project goals were as follows:

To establish an interdisciplinary partnership to create a solid curriculum that will teach both critical thinking skills and wellness coaching competencies. The ultimate goal of the partnership is to provide the groundwork for establishment of an Interdisciplinary Minor in Wellness Coaching (p. 1).

The grant proposal also provided a summary of the project including the following:

The project promotes the creation of an interdisciplinary partnership between health and sport sciences, social work, human resources, and

psychology in order to refine the coursework for the Interdisciplinary Wellness Coaching Minor. The ultimate goal for the minor is to involve coursework from numerous undergraduate departments and to be available to all students at the university.

To enhance this process, the health and sport sciences department will also collaborate with Wellcoaches, an American College of Sports Medicine partnered organization and the platinum standard of Wellness Coaching. (Moore, 2011)

The Wellness Coaching Internship course, within the health and sport science curriculum, is to become the culminating experience for wellness coaching students. The internship class provides a hands-on wellness coaching opportunity for students to coach university employees toward a positive health behavior change. By the end of the course, students: (1) develop a critical understanding of the International Coaching Federation (ICF) core coaching competencies, (2) experience and reflect on wellness coaching as a client and a coach, (3) decide which coaching skills to further develop, and (4) clearly identify how coaching theories are relevant to coaching practice.

Wellness coach training is an emerging field in health promotion that students see as a viable career option. At this time, one course is offered entitled Wellness Coaching, which filled to near capacity with 39 students. The plan has been to increase the numbers with more sections offered. Wellness coaching skills are life skills that can be used in all areas of life (pp. 2-3).

## **Step 2: Solicit Key Stakeholder Support**

After creating the written plan in the form of a grant proposal or internal funding, the next step in the interdisciplinary minor development process was to solicit support from key stakeholders. Key stakeholders were identified to include faculty and administration from the various schools and departments who would be advising students regarding the minor. This step of soliciting key stakeholder support was deemed especially important because of the interdisciplinary nature of the project, since the minor needed to be able to span across multiple schools and their unique curriculum requirements.

Prior to meeting with stakeholders, we used the grant proposal as the basis for researching and creating a written report which provided justification for the wellness coaching minor. This preparation allowed us to present ourselves professionally with documentation to back up the reasons for the interdisciplinary minor. Included in this report were the survey results of past wellness coaching students from the one wellness coaching

course that was originally offered prior to the design of the minor. This survey assessed (a) skills learned in the wellness coaching classes, (b) use of wellness coaching skills both on the job and during interview, (c) current employer, job title, and whether the position is wellness related, and (d) what the students would tell other students about wellness coaching.

The survey results demonstrated that the wellness coaching classes not only taught life skills that can be used in any profession, but also that our students were exceling during the interview process due to the communication skills learned in the wellness coaching classes. In addition, our students were landing jobs as a result of their wellness coaching training.

We also researched and demonstrated the benefits of wellness coaching for students. We highlighted our collaboration with Wellcoaches, the platinum standard in wellness coaching. (Moore, 2011). Finally, we communicated how the Wellness Coaching Minor supports the university's critical thinking initiative, as well as the five strands of the university's mission statement.

Once the justification for the minor document was complete, we began engaging numerous key stakeholders and communicating our findings. We reached out to our home departments via phone calls, e mails, departmental meetings and presentations. We also involved deans in other departments and colleges within our university.

Support was obtained from Human Resources and key university departments when a university charge was given to one of the administrators within the university to create a wellness coaching program. The wellness coaching program was created as a collaborative effort by several health related established programs in conjunction with the academic unit which housed the College of Education and Health and Sport Sciences.

The initial wellness coaching class started with just five students. At this time, two years after the development of the minor, the wellness coaching classes are filled to capacity. Marketing, communication, and education on wellness coaching increased the number of students in these classes. Each semester we visit every introductory health and sports science class. During these visits, we facilitate a hands-on hour long wellness coaching session. We follow up with emails to the students interested in the minor.

### **Step 3: Begin Collaborative Process**

After soliciting key stakeholder support by communicating with faculty and administrators in the schools and departments within the university, the next step in the curriculum design process was to form the interdisciplinary wellness coaching minor committee (IWCM committee). This committee formation process began by selecting interdisciplinary

faculty. We selected energetic and talented committee members. We sought out committee members that demonstrated passion and expertise in Psychology, Social Work, Health and Sport Science, or Coaching—the disciplines creating the foundation of coaching. We met with a collaborative spirit.

The committee members agreed from the start that the ultimate goal of the committee was to establish an interdisciplinary partnership to create a solid curriculum that will teach both critical thinking skills and wellness coaching competencies. Each IWCM meeting was interactive and included positive strength-based introductions of each committee member and a focus on the opportunity we had as a committee to create a meaningful and unique educational experience for students interested in wellness coaching. During the initial meeting, an expert on the application of critical thinking introduced concepts and strategies for incorporating critical thinking in the classroom to our committee in an experiential manner.

Every IWCM meeting engaged the committee members through the use of a variety of critical thinking exercises. The meetings became fun to be engaged with as there was no overt pressure to incorporate all of the exercises. The exercises were presented in a creative manner such that instructors could select from the exercises and therein build critical thinking skills within their own classrooms. The following IWCM committee member reflections, submitted as part of the grant summary report (Kommor, 2009) demonstrate the success of this committee's group processes:

- *This dynamic group was enjoyable to work with and a perfect model for how interdisciplinary efforts should be employed.*
- *The positive energy and synergy of this group were truly outstanding and fun to experience.*
- *We are truly interdisciplinary—doing together what none of us could do separately.*
- *My thinking about critical thinking has enlarged to incorporate new ways of quick evaluation of meetings, classroom experience, and the importance of focusing on main points.*
- *This group of enthusiastic and passionate professionals has impacted me by showing that through collaboration, action-oriented thinking, and thorough follow-up a discipline can be designed and implemented.*

#### **Step 4: Analyze Curriculum across Disciplines**

After the formation of the collaborative interdisciplinary committee, the next step in the curriculum development process was to analyze the relevant curriculum across disciplines. To do this, key administrators dealing with health and coaching topics on campus were brought together to



brainstorm possible courses to be included in the minor. Once a list of potential courses was identified, each course was researched for the appropriateness of inclusion in the curriculum. Next, instructors of record were contacted and presented with the idea of participation in the minor as well as some contact with deans and directors to continue to boost awareness and buy in across various disciplines. Course syllabi were reviewed with the instructors and involved in discussion of how these courses might play pivotal roles in the instruction for wellness coaching. Once an initial analysis of selected syllabi was completed and instructors had agreed to participate, a preliminary curriculum sheet to describe the minor was created. The curriculum sheet provides written documentation of the requirements of the minor – including hours, core courses, and elective courses.

### **Step 5: Complete Interdepartmental and University Paperwork**

After deciding on the specific courses to be included in the minor, our next step was to move the minor through the curriculum approval process. We completed the necessary forms and submitted these through the college and university level for approval. The required documentation included a *Program Curriculum Request form* that detailed the actions needed to create the minor and provided justification for the minor. In this university's process, this form had to be signed by the Department Curriculum committee chair, the Department Chairperson, the college Curriculum Committee, and the Associate Dean of the college.

In addition to the Program Curriculum Request Form, our university also required that we attach an *Establishment of a New Degree Option in an Existing Degree Area form– Proposal for Interdisciplinary Minor in Wellness Coaching*. This document justified the rationale for the minor, detailed the degree options, and elaborated on the impact on the university's mission, strategic plan, and goals. In addition, we projected impact on faculty, student enrollment, financial resources and other programs. Finally we attached letters of support from two university professors from other departments championing the minor and the Curriculum Sheet detailing the course requirements.

Throughout the involved curriculum approval process, we continued to involve numerous stakeholders at the departmental and college/school levels in order to gain approval from all levels in the process. Persistence and focus helped us stay on task and complete the paperwork for the minor.

### **Step 6: Review, Refine, Align, and Collaborate**

After gaining approval for the minor through the university's formal curriculum review process, we conducted collaborative hands-on working

meetings to review the specific syllabi to be used for each course in the minor. To do this, we started with the end in mind - the vision we had created during our first collaborative meetings to create an interdisciplinary curriculum which incorporated critical thinking concepts using the Paul-Elder critical thinking model (Paul & Elder, 2006).

To organize this course design process, we created a detailed time line for the committee to accomplish its vision of incorporating critical thinking into the course design. In addition, prior to each meeting scheduled in the detailed time line, an agenda was sent to each committee member to encourage processing of the information. After each meeting, minutes were distributed to the team including action steps and due dates.

Our main tasks during this step were to: 1) critique and align the syllabi and rubrics of the core courses with critical thinking concepts, 2) create common verbiage in the syllabi of the core courses to communicate the connection between the courses, and 3) create a plan for assessing critical thinking skills and wellness coaching competencies of students taking the IWCM core courses.

In line with the third task of assessing critical thinking and core coaching competencies, the IWCM committee created an assessment instrument to evaluate progress toward critical thinking outcomes and wellness coaching competencies in the core courses. After two semesters, the evaluation was given in the core courses to provide an initial pilot test of the assessment instrument. The assessment instrument was designed with five Likert-scaled items using 5-point agreement scale. Three items were designed to measure wellness coaching competencies while two items were designed to measure students' perceptions of the course's development of critical thinking skills. All students (N=89) in the IWCM core courses during the second year were given the evaluation, the results of which are shown in

Table 1. Descriptive Statistics for Results of Initial IWCM i2a Evaluation

<i>Item</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>SD</i>
#1 This course helped me recognize the importance of establishing an effective collaborative partnership with clients.	89	2	5	4.80	.55
#2 This course helped me apply theories of behavior change to practical situations.	89	2	5	4.67	.60
#3 This course helped me learn how to formulate learning objectives for myself and others.	89	2	5	4.63	.63
#4 This course provided learning experiences that go beyond simply memorizing the facts.	89	4	5	4.84	.37
#5 This course provided useful guidelines for developing critical thinking skills.	89	3	5	4.72	.50

Note. Items were rated on a 5-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree).

As shown in Table 1, overall assessment scores on each of the items ranged from 4.63-4.84, on a 5-point scale where higher ratings indicate higher levels of the variable. These evaluation results suggest that students rated highly the value of the core courses to their critical thinking skills and their competence in wellness coaching.

### **Step 7: Create and Disseminate**

The final step in the process of developing an interdisciplinary wellness coaching minor was to create and disseminate marketing materials pertaining to the minor, so that all students could have access to this minor in planning their coursework.

We began this step by using an inductive approach during a creative working meeting to devise a marketing logo and tag line to be used in developing a summary sheet describing the minor. This inductive approach entailed splitting the IWCM committee into two groups during the creative meeting. Each group was tasked with coming up with a definition of wellness coaching that encompassed the positive possibilities inherent in the wellness coaching minor. While each group came up with different wording for their definitions, the committee realized the need for both definitions: a succinct definition for the marketing sheet, and a more detailed definition for the Information Sheet provided to academic advisors.

The committee then created marketing materials that were professional, colorful, and appealing. As a group, we also chose a logo of an acorn, symbolizing growth, and a marketing tag line of: plant a powerful seed for your personal and professional success.

To spread the word about the new interdisciplinary wellness coaching minor, we took a variety of steps, including meeting with the academic advisors in the schools and departments involved in the core courses of the minor, and presenting our marketing sheet and information sheet to the university's Directors Council of Undergraduate Advisors. We also utilized web marketing by creating a Wellness Coaching Minor web page within the university's web site, marketing the minor on the university's web page for its health management program for employees, and communicating information about the minor in the university's daily email newsletter.

### **Conclusion**

The development of interdisciplinary academic programs requires a high level of collaboration among participating departments and programs. In this paper, we describe the evolution of an undergraduate minor in Wellness Coaching (IWCM) that draws on a broad range of resources within the context of a mid-size, urban university setting. Wellness Coaching is an emerging health profession that offers practice opportunities for college

graduates who complete core academic coursework in conjunction with their major (often, but not necessarily, in Health and Exercise Science-related fields). It is one manifestation of an emerging national trend to foster collaboration between applied health professions and university affiliates, which in this instance took the form of a partnership between Wellcoaches, an affiliate of the American College of Sports Medicine, and the University of Louisville.

In the process of establishing the IWCM, our core interdisciplinary workgroup was fortunate in being able to forge common ground with respect to a) identifying a significant need for an academically-based professional training program; b) forming a preliminary vision of what the program would look like; c) establishing the core academic curriculum and ensuring its compatibility with Wellcoaches certification requirements; and d) developing a network of University personnel with complementary skills and resources.

The IWCM is unified across disciplines by an emphasis on cultivation of critical thinking skills, based on the widely used Paul/Elder (2006) model. This model incorporates quality assurance standards and specific critical thinking practices ('elements') to foster the development of trait-like, pervasive intellectual skills. Prioritizing critical thinking enabled us to align IWCM with the University's strategic plan for academic excellence, and provided access to a wide range of developmental resources through the critical thinking initiative. The particular choice of Wellness Coaching as the subject of the academic minor reflects a decision to align with the university's long-standing leadership in healthcare and wellness, reflected in strong health-oriented academic programs; an innovative, highly effective health promotion program; and a community-oriented commitment to help reduce significant health disparities in the greater metropolitan area, in keeping with the our identity as an urban university.

Development of the IWCM proceeded systematically through a series of steps beginning with an operational plan, obtaining administrative approval within the host college, and culminating in dissemination of information about the program to potential students and advising personnel (see Figure 1). Preliminary outcome assessments of individual courses comprising the IWCM curriculum suggest a very positive response to the program; these are summarized in Table 1.

We believe that our experience in developing an academic minor in Wellness Coaching has several important implications for interdisciplinary education. First, it illustrates the advantage of employing an over-arching conceptual framework -- in this instance 'critical thinking' -- to help unify potentially divergent and yet complementary academic disciplines. Second, it highlights the potential value of extending the concept of interdisciplinary

education to professional organizations external to the university, broadening the spectrum of potential collaborators. In an era of shrinking academic budgets and academic belt-tightening, creating partnerships with outside organizations can be a decided advantage in terms of sharing resources and personnel. Third, by merging academic coursework with applied practice opportunities, the IWCM anticipates growing interest in translational research, which enables the fruits of institutionally-based scientific investigations to be shared with community practitioners and residents. Fourth, the creation of an academic minor represents an innovative way to diversify professional practice. In the same way that medical schools have sought diversity in entering students with respect to college majors (in the social sciences, arts, humanities, etc.), the IWCM fosters commensurate diversity through recruitment of students from a broad range of majors. ‘Wellness Coaching’ benefits practitioners with diversified backgrounds and interests, despite possessing a core knowledge base. By emphasizing the importance of diverse coursework and critical thinking skills, rather than lock-step adherence to a rigid academic curriculum, students who engage in wellness coaching are likely as a group to be more innovative and productive in working with an equally diversified clientele in an increasingly complex and stressful world.

Finally, interdisciplinary studies mirror the increasingly interconnected nature of our world, and how our fundamental interdependence makes it ever more vital that we learn to collaborate effectively in the face of mounting health, environmental, and social problems. Because of this, lines that currently dichotomize many disciplines: academic and professional training; applied and laboratory-based research; humanistic and scientific philosophies; are of necessity likely to diminish. Increasingly, universities are being pressured to demonstrate their ability to teach students how to think and respond effectively to complex, constantly evolving, real-world problems that do not lend themselves to straightforward textbook solutions. This is especially true in the health and environmental sciences, where crises of epidemic proportion -- obesity, chronic illness, global warming, and pollution – have created a sense of great urgency. In this context, interdisciplinary programs such as the IWCM offer a means of unifying powerful resources to effectively address real-world problems. Our experience in developing this program has taught us the value of relying on pooled resources to develop a unified approach to a major health challenge: That of helping people lead healthy, productive lives and to avoid where possible the onset of premature chronic illnesses that currently comprise a significant liability to our social, psychological, and economic well-being.

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