

## **Making a Campus-Wide Commitment to Critical Thinking: Insights and Promising Practices Utilizing the Paul-Elder Approach at the University of Louisville**

**by Patricia Payette, Ph.D., University of Louisville  
and Edna Ross, Ph.D., University of Louisville**

### **Abstract**

The purpose of this article is to provide an overview of the multi-year, critical thinking initiative at the University of Louisville called Ideas to Action, or i2a. This article discusses the rationale for the selection of the Paul-Elder critical thinking framework to guide the implementation and assessment of the project across curricular and co-curricular campus arenas. The co-authors used the research of Richard Paul to inform various facets of their project and worked with others on campus to create critical thinking learning communities, and to provide customized instructional consultations, in order to help faculty and staff choose and adopt methodologies that foster students' explicit development of critical thinking skills. The article discusses three examples of scholarship and innovative programs that resulted from professional staff members' integration of the critical thinking framework into their work with students.

**Keywords:** Richard Paul, critical thinking community, professional development

### **I. Beginning with a Quality Enhancement Plan**

In 2005, the University of Louisville, embarked on a journey to develop its first multi-year initiative called a quality enhancement plan (QEP). The QEP is a required and was, at that time, a new part of accreditation for higher education institutions seeking the establishment or reaffirmation of accreditation through the Southern Association of Schools and Colleges—Commission on Colleges, or SACS-COC. The QEP must be proposed as a multi-year initiative with a focused plan to enhance and assess student learning in an area that the institution determines, after reviewing its own student-learning data and engaging campus constituents, will offer significant and lasting gains for its students.

In other words, the QEP requires every campus to commit to continuous improvement of student learning by identifying gaps in

student performance and creating a plan to address one or more of those gaps and then report on its efforts in a Fifth Year Impact Report. In 2005, in order to pinpoint the topic of our university's first QEP, our campus leaders launched a broad effort to engage students, faculty, and staff in voicing how best to improve the undergraduate experience at our institution. With analysis of this input from campus groups and with a close look at our undergraduate students' past performance on campus-wide assessment instruments, the need to address our students' critical thinking abilities became apparent. University leaders quickly took up this theme for the new initiative, citing the need to develop students who can survive and thrive in our rapidly changing world. Simply learning material to pass a series of tests and earn a degree is not the business of universities; we needed to shift the paradigm in thinking about how we engage our students in becoming problem solvers, professionals in all fields, and active

citizens in the 21<sup>st</sup> century. Our university put all of its QEP “eggs” into the critical thinking skill-building “basket.” This is not to say that critical thinking was not a priority in the intellectual development of our students prior to the QEP development. However, while many of our faculty implicitly modeled critical thinking in their instruction, they did so without explicit and systematic discussion of critical thinking skills. This did not allow students to clearly grasp that they were being asked to think in new ways, to practice those ways of thinking, and to receive feedback so that they could transfer those new ways of thinking to contexts across the curriculum and into their lives.

This focus on the need for students to become adept and practiced thinkers is not new to higher education. In 1994, Linda Elder and Richard Paul issued a clarion call to educators for a renewed focus on critical thinking--developing learners whose “minds are eminently adaptable and flexible, which are experienced in continually thinking and rethinking about issues and problems, and which do not resist questioning and overturning fundamental notions and practice.” These students are thus prepared to deal with the “three-fold force” in our world: “accelerating change, intensifying complexity, and increasing interdependence” (Elder & Paul, 1994, p. 34). As the new millennium began, many higher education institutions began to give more sustained attention to these broad but vital goals related to preparing students for success in our global, complex society. Critical thinking-focused projects began to spring up on campuses all over the country as educators recognized the need for creating learners who are “eminently adaptable and flexible” as more important than simply supporting students to successfully graduate with degree in hand.

In 2007, our institution submitted a QEP proposal for SACS-COC with two learning outcomes at its center: (1) students

will be able to think critically and (2) then be able to demonstrate integration of critical thinking skills with disciplinary knowledge in a culminating undergraduate experience, such as a thesis, service learning project, internship, or capstone experience. We named our QEP Ideas to Action, or i2a, to give a focus both on deepening students’ intellectual skills and then on guiding them to apply those skills in new ways. The authors of this paper were hired as part of the original i2a staff team to lead the project; Patricia is the executive director of i2a and Edna is the part-time i2a specialist in critical thinking, which allows her to maintain her teaching duties in the Department of Psychological and Brain Sciences.

While our i2a goals, strategies, and assessment activities were clarified and sharpened over the years as we operationalized our vision with campus colleagues, critical thinking as a central pillar of the project did not change. For the purposes of this paper, we will focus on sharing the lessons learned, the promising practices, and the insights that surfaced as part of our change process. We also provide a review of innovative projects that resulted from our multi-year effort to engage our campus colleagues in creating meaningful, lasting methods for incorporating a common critical thinking vocabulary into their work. These projects used the Paul-Elder approach in order to advance the goals for student learning and engagement. While many colleges and universities host similar projects designed to enhance their students’ critical thinking in academic programs, we are one of the few schools to extend this effort to the realm of student affairs, student services, and co-curricular programs. Additionally, while our central aim was to influence the quality of our students’ thinking, we, as faculty and staff members, found an invaluable benefit for ourselves in this work. As we absorbed and applied the practices and values of critical thought that we espoused for our students, our own decisions and strategies for fostering

lasting, critical thinking-inspired change on campus were solidified and deepened and our services and programs were greatly enhanced.

Shortly after the accrediting evaluation team signed off on our QEP proposal in 2007, we—along with the other members of the i2a staff team and our university-wide committee called the i2a Task Group—shifted our focus to the implementation phase of the project. We realized that our original plan to allow each school or college to adopt their own approach to critical thinking would not facilitate students' consistent intellectual development of common concepts across the undergraduate curriculum as we originally envisioned. We needed a common conception of what critical thinking actually entailed, a shared vocabulary that allowed for articulating and measuring learning goals and assessment methodologies across a wide array of disciplinary learning contexts.

## II. Choosing A Critical Thinking Approach

We vetted over a dozen established critical thinking approaches in our attempt to isolate an appropriate, scholarly concept of critical thinking for our initiative. It quickly became clear that the Paul-Elder framework met all of our criteria because it is a *comprehensive* approach that can be applied across disciplines and it came with a wealth of online and print resources. We readily adopted the Paul-Elder framework because we recognized it as what Linda Elder calls a “substantive conception of critical thinking” (Elder, 2011, p. 2). The Paul-Elder framework allowed us to dismantle our own preconceptions about critical thinking and embrace a framework that could “target both the analysis and assessment of thought and take into account the affective as well as cognitive dimensions of thought. It emphasized not only intellectual skills and abilities but also intellectual traits” (Elder, 2011, p. 2). We found this inclusive, holistic

system helped us look beyond a narrow focus solely on cognitive skills of thinking. It offered our campus a rich conception of critical thinking that eschewed a theory of thinking that “merely offers a list of disconnected abilities applied in narrow ways” (Elder, 2011, p. 3). The framework's inclusion of *explicit standards* of critical thinking revised our initial thinking about how to assess critical thinking, and our faculty reported the framework's vocabulary was relevant to teaching and learning aims across our diverse schools and colleges. Later in the project, our professional staff colleagues who work with students in co-curricular, student affairs, and student services offices reinforced the appropriateness of our selection of the Paul-Elder framework by embracing its components for their own learning outcomes, thus emphasizing the universal nature of the framework.

The Paul-Elder framework involves three different sorts of components: the Elements of Reasoning (also known as the elements of thought), a set of Intellectual Standards, and an array of Intellectual Virtues. The Paul-Elder framework emerged from the original work of Richard Paul, beginning in the 1980's with his earliest writings (Paul, 1990). The Elements of Reasoning consist of purposes, questions, points of view, information, inferences, concepts, implications, and assumptions. The Intellectual Standards include clarity, accuracy, relevance, logicalness, breadth, depth, precision, significance, completeness, and fairness. The Intellectual Virtues are intellectual humility, intellectual autonomy, intellectual integrity, intellectual courage, intellectual perseverance, confidence in reasoning, intellectual empathy, and fairmindedness (Paul & Elder, 2014).

To learn about the Paul-Elder framework—its parts and its system as a whole—and how it can be leveraged for learning, our i2a staff team invested a great deal of time in both reading on our own and discussing as a group the books and guides

written by Richard Paul and Linda Elder, We realized early on that conveying the logic, the significance, and the relationships among the parts of the framework at an appropriate and meaningful level to our colleagues required sustained time, effort, and ongoing discussions that could not fit neatly into a one- or two-hour workshop. We needed to create a space for sustained scholarly discussions and explorations about the nature of critical thinking and about the implications of these discussions for teaching critical thinking in a wide array of disciplinary settings.

### **III. Faculty Learning Communities and the i2a Innovation Process**

In late 2007, we reached out to a group of diverse faculty members and invited them to participate in a Faculty Learning Community (FLC) on Critical Thinking to “test drive” the Paul-Elder approach during the course of their teaching in the subsequent semester. This FLC was modeled upon the work of Milt Cox (2004) who proposed a mode of professional development to build community among colleagues and to advance innovative pedagogical practices by bringing together a small group of colleagues from across disciplines to engage in a series of facilitated discussions around the scholarship of teaching and learning, curriculum enhancements, and classroom practices.

Our FLC gatherings were led by us and the other members i2a staff, and they included group tutorials for the faculty to explore the underpinnings and central components of the Paul-Elder framework and to get support for redesigning key assignment and assessment tools to explicitly foster and measure critical thinking skills using the framework’s vocabulary. FLC expectations were that members would share their revised assignments with peers and learning community leaders to receive feedback, that they would read relevant scholarly articles prior to each session, and that they would

share along the way their key insights into this new way of teaching their own disciplinary content. Our learning community met every three weeks over the course of a single semester, supplemented by individual and small coaching sessions with members of our i2a team.

We based this strategy on the idea that the way to begin to “move the needle” on our campus-wide conversation around critical thinking—which for some faculty seemed redundant twith what they were already doing—was to first engage a small group of willing faculty members interested in improving their own teaching. These nine faculty members met the criteria for what Everett Rogers (1995) calls “venturesome innovators.” Rogers describes this category of individuals as the earliest group adopters of an innovation in any system or organization. They are well respected by others in the organization, they are willing to take risks in their work, they are resilient and persistent when their attempts at introducing an innovation includes a setback, and they serve as gatekeepers in introducing innovation approaches into an existing professional system. We found our own group of innovators by personally inviting to the pilot FLC individuals who were well-regarded instructors on our campus, regardless of rank or years of teaching experience or discipline. We reassured them that their own teaching practices and goals would serve as a central focus of the learning community and promised them they would be receiving guidance, structure, and support to integrate the Paul-Elder framework into existing courses goals and activities. We helped these innovators pave the way for other colleagues to participate in the project by asking our pilot faculty to share, at the end of the trial semester, the “before” and “after” versions of their critical thinking-infused assignments, to provide testimonials about the efficacy of the framework, and to co-lead workshops and

presentations with members of the i2a team.

The success of the initial learning community led us to offer similar learning communities for faculty each fall and spring semester from 2008 through 2010. Participating faculty reported that the learning communities were essential in supporting them as we modeled use of the framework tools, as we coached them through their course goals, and as we helped them choose and adopt methods for explicating fostering their students' critical thinking skills. (Cosgrove, 2013). We also offered customized instructional consultations to actively model the use of questions and concepts from the Paul-Elder framework to help our instructors think through their assignment and course design, to surface explicit expectations for students' learning, and to help them "map" their specific intellectual goals for learners using the framework's elements, standards and traits. These individual and small-group meetings that we conducted prior to and during the course of the semester to bolster the group FLC experience, prompted some profound "Aha" moments for us and our faculty colleagues about what critical thinking "looks like" in their discipline and in their course and about how to more clearly convey that thinking to their students. These meetings provided an opportunity for the "person-to-person," focused intellectual work that is necessary for internalizing the foundations of critical thought (Paul, 2007).

#### IV. The Reported Gains

The gains for our faculty reported as a result of the learning community experience—and the "wins" they shared as a result of their newfound engagement with students—were paralleled by our own insights into the nature of the QEP itself. Very quickly we began to see that our long-term project was transforming our own thinking. We came to see that i2a was less about having faculty add the magic words "critical thinking" to a syllabus and

"more about a new ways of thinking about student learning. Our faculty needed to rethink assumptions and adopt intentional and integrative practices -- to see their disciplines as modes of thinking, to help students make authentic connections to the world around them and to connect the dots, across courses, campuses and community" (University of Louisville, *QEP Impact Report*, 2013, p. 8). The only way to create the conditions that would give faculty the opportunity to do this reflective, intentional thinking and planning with us and their peers would be to provide a professional, safe "space and place" for this intellectual exploration.

#### V. Scaling Up the Effort

With this realization in mind and with the awareness that we couldn't manage to enroll hundreds of our faculty in the learning community approach, we needed to add a large-scale program to our training offerings. Accordingly, in 2009 we created a campus-wide conference on critical thinking. This multi-day conference, called the i2a Institute, provided an opportunity to invite all faculty in our University for full-day sessions on the Paul-Elder framework of critical thinking, and it created a venue in which they could learn from peers who had already begun to integrate explicit critical thinking concepts into their work with students. We offered a different iteration of the i2a Institute every May from 2008 through 2016, and we invited colleagues to attend from across the country who were engaged in similar initiatives with the same framework to share their strategies and results. Hallmark components of the i2a Institute included poster sessions and networking opportunities to facilitate peer sharing of critical thinking strategies and tools, small group workshops on various aspects of the framework, and plenary sessions and workshops that featured critical thinking scholars.

A cornerstone of the i2a Institute that

we hosted during the first six years were full-day workshops with Dr. Gerald Nosich from the Foundation for Critical Thinking. Dr. Nosich's sessions focused on sharing the fundamentals of critical thinking and the Paul-Elder framework, and, in a series of scaffolded sessions, through introducing the framework he effectively engaged participants in thinking about their own teaching and he employed related concepts and tools that the faculty could adapt and adopt in their own teaching contexts.

The strategies and sessions of the i2a Institute mirrored our strategies in the faculty learning communities and followed Richard Paul's recommendations for professional development programs that guide faculty in remodeling lessons for critical thinking. These recommendations include helping instructors to explore and solidify a coherent, unifying, complete concept of critical thinking, to generate strategies on how to operationalize that concept in their own teaching, to provide access to "before and after" lesson examples, and to gain practice in critiquing their own lesson and those of their peers (Paul, 1990). We embraced this emphasis on both theory and practice with peer engagement in every version of the Institute we held. As the years progressed many faculty members returned to the i2a Institute year after year, deepening their own thinking and practice in teaching for critical thinking. Some of these innovators and early adopters eventually began leading sessions and participating in panels at future Institutes where their enthusiasm, insights and classroom strategies served to illuminate the path for their peers.

## **Vi. Bringing Staff into the Critical Thinking Conversation**

Our inaugural i2a Institute in 2009 was an appropriate opportunity to invite a wider spectrum of faculty and our professional staff colleagues into the critical thinking conversation. Although our original QEP plan

for SACS focused exclusively on goals related to student learning in academic programs, we came to see that this worthy, but narrow, focus would send a misguided message to our students. We were in danger of inadvertently promoting the idea that critical thinking is something our students did to perform in the classroom, but something they need not bother with in other parts of their lives. We did not want to fall into the trap that our students do when they perceive our academic course material as merely "school stuff." This is a category of ideas or information that is neatly compartmentalized in students' minds as relevant only for regurgitation on an exam, and, therefore, a category to be relegated to the classroom with no relevance to the outside world (Nosich, 2011). Since we frequently promoted the idea that the Paul-Elder critical thinking framework was applicable to thinking through problems in all parts of a learner's life, it was time to reach out to our professional staff colleagues who worked, mentored, and taught learners in other campus settings. Again, critical thinking was not to be viewed as simply another example of "school stuff" to be saved for thinking through problems or issues in the classroom—rather it was a vital, intentional set of intellectual moves that could be instructive in every part of a student's life.

As we did with our faculty colleagues, we invited an initial group of staff innovators to be part of a learning community for professional staff). We formatted this learning community as a two-year program designed for those who have oversight over programs in the areas of co-curricular departments, student services, and student affairs. From the beginning, we challenged the notion that critical thinking outcomes were simply an "add on" to what they were already doing with their students and departmental colleagues. Instead, we engaged them in a series of questions, prompts, and conversations to unearth the thinking and developmental goals they had for their undergraduate students. We did this

in order to identify the gaps and opportunities to enhance, emphasize, and strengthen what we called “the thinking they valued most for students.” In this way, the focus was on the thinking and growth their student clients needed to do, rather than the programs students need to attend. In the first semester of the staff learning community we helped participants solidify a scholarly concept of critical thinking, and we guided them to become familiar with the Paul-Elder framework and apply to their work. In the second semester, they selected an existing program or effort in their department in which to infuse critical thinking. Participants created a plan to pilot and assess that effort throughout the two semesters of the next academic year and to share their epiphanies, strategies, challenges, and triumphs along the way in our monthly meetings.

This learning community, like the prior faculty learning community, created a collegial, safe space for both new and seasoned professionals to be “learners with peers” and to have ready access to i2a team members and a wealth of resources to undergird their “trial and error” work with making critical thinking an explicit part of their everyday work. Ashley Finely explains that we can cultivate innovative ways of practice with colleagues on our campus and help professionals become learners by creating the conditions for “conversations, demystification and a low-stakes trial run” (Finely, 2016, p. 19). Finley has this advice for campus leaders who wish to promote new paradigms of teaching, learning and student success: “Faculty and staff need to pilot courses or programs in order to work out the kinks and to learn what they could not have known ahead of time.” She posits that securing buy-in for new initiatives or focused efforts on campus is not like selling a car; it’s about engaging faculty and staff in exploring practical ways to integrate new concepts into their academic and professional lives.

To support this alignment between their work and our approach, we began every

learning community cohort by asking faculty and staff to articulate the learning and thinking goals they have for their students in a specific context. Then we proceeded to guide them in “mapping” those goals to the language and concepts of the Paul-Elder framework. We aimed for commitment to fostering a new way of practice, not compliance with a university expectation. We were careful not to advertise i2a—or our learning communities-- as a quick fix to help the university “jump through hoops” with SACS-COC. Instead we stressed that it was a program to support a shared goal that we all had, regardless of where our office was located on campus, namely the goal of supporting students’ learning and their transformation as thinkers and whole human beings.

Although the learning community brought in an initial group of staff innovators, we expanded our pool of i2a early adopters by opening up i2a Institute registration to any staff member, regardless of rank or professional title. In doing this, we created the conditions for innovative projects that explicitly used the Paul-Elder critical thinking framework to take root among diverse sets of groups and programs we could not have predicted at the start of our initiative.

Our commitment to widening the scope of those who could get introduced to the tenets of the Paul-Elder framework supports Elder’s prescription that any institution that wishes to commit to taking critical thinking seriously as a central part of its work must choose a substantive concept of critical thinking, must provide ongoing faculty and staff workshops, and must be inclusive in inviting individuals into the effort, thus ensuring the work is not reserved for an exclusive group of practitioners (2011).

## **VII. Critical Thinking Infusion in University Libraries**

Our staff colleagues had a variety of

motivations for embracing the Paul-Elder framework and its core critical thinking concepts. Overall, they reported that i2a was an external catalyst inviting them to re-focus on programmatic goals that were already a priority for them. Richard Paul's critical thinking framework with its specific concepts, tools, and terminology combined with our specific programs to offer a supportive venue for faculty to re-tool and enhance their students' intellectual development.

Faculty librarians Anna Marie Johnson and Robert Detmering attended one of the first offerings of the i2a Institute. They were looking for an opportunity to get engaged in the QEP and felt our adopted critical thinking framework could yield benefits for their commitment to promoting information literacy with undergraduates. Their traditional strategy for teaching information literacy took place during a "one shot" session—face to face or online—in which they took a tool-based approach when walking students through information-seeking strategies, using databases and seeking sources for research papers and other scholarly activities. They soon discovered this method put the emphasis in the wrong place and focused on the "practical concerns" of finding information. They missed their mark of "teaching students to think more critically about information and the information-seeking process as a whole. In other words, our instruction sometimes fails to help students conceptualize research in a larger sense, as a process of critical thinking, primarily because time constraints compel us to focus on students' immediate needs" (Detmering and Johnson, 2011, p.103). Their former emphasis on the nuts and bolts of how to search for information overshadowed their ultimate, and far more important, aim of helping students think through the research process itself, from a critical perspective.

At the i2a Institute, Gerald Nosich introduced Johnson and Detmering to the idea of "fundamental and powerful" concepts. Nosich

provides this explanation of a fundamental and powerful concept:

A fundamental and powerful concept is one that can be used to explain a huge body of questions, problems, information and situations. All fields have f&p concepts, but there are a relatively small number of them in any particular area. They are to be contrasted with individual bits of information, or with less general concepts (Nosich, 2011, p. 106).

Johnson and Detmering found the idea of fundamental and powerful concepts attractive in their specific teaching situation because these concepts allow librarians or research instructors to "refocus our instruction on broader concepts that students can utilize to 'explain or think out' all aspects of the research process." (Detmering and Johnson, 2011, p. 104). What students could adopt in that one-time session was a new mental model of research as a process of inquiry, discovery, and judgment, rather than simply a laundry list of databases, tools and tips for using an online search box.

With this critical thinking approach in mind, Johnson and Detmering revised an information literacy module for an introductory course for business majors called Business Campus Culture (BCC), to address the nature and context of business research at the college level. Using both the Paul-Elder framework and the idea of fundamental and powerful concepts, they shifted the central focus away from search techniques and foregrounded three fundamental and powerful concepts to shape students' thinking about the nature of information and how it is organized and made available to them:

1. *Evaluation of information:*  
Understanding the importance of reading and evaluating information critically.



1. *Organization of information:*  
Understanding that information is organized in different ways or perhaps not organized at all.
2. *Diversity of information:*  
Understanding that there are many different types of information sources that may or may not be useful in different situations.

Johnson and Detmering assert that these fundamental and powerful concepts are instructive for all types of research settings, not just for their business students' contexts. Furthermore, the module asks students to think critically not only about the search process itself and the relevance of sources, but also it guides students to think through how a given source informs or alters one's point of view on a research question. "In this sense, the fundamental and powerful concepts become a pathway to understanding critical thinking itself, which is crucial if students are to develop as engaged thinkers in all their endeavors" (Detmering and Johnson, 2011, p. 107). This revised information literacy module served both to guide students in an explicit process to foster their critical thinking about research processes while also encouraging them to be actively critical and engaged with the information they find, allowing it to alter, extend, and advance their thinking about the research topic itself.

### **VIII. Critical Thinking Infusion in the Tutoring Center**

Another staff colleague, Julie Hohman, participated in the i2a staff learning community program and saw the potential of the Paul-Elder framework in her particular setting with students. She believed the framework could support both peer tutors and their students in thinking critically and making meaning of material during small-group tutoring sessions offered through the Learning Resource Center. Hohman's goal was to "create a rubric to

measure students' ability to think critically about concepts covered during a tutoring session and to induce students to connect learning to meaning" (Hohmann & Grillo, 2014, 43). Peer tutors who had reached certification as "master tutors" were taught to be critical thinking coaches to "motivate and encourage students to form essential questions about the material, to motivate and encourage students to form essential quests about the material, and make connections among concepts (Hofmann & Grillo, 2014, p. 42). The rubric she created in collaboration with the i2a staff team measured students' capacity for critical thinking using the following components of the critical thinking framework: question and problem; information; intellectual perseverance; and intellectual autonomy.

Hohman first trained her master tutors in the Paul-Elder critical thinking framework, teaching them to formulate a central question on a specific topic or problem that would serve as the primary focus of each tutoring session over the course of weekly sessions. At the conclusion of each tutoring session, the master tutor completed the rubric to assess and capture evidence related to each student-client's critical thinking abilities on a scale of one to four. Like Detmering and Johnson, Hohmann's selection of some aspects of the Paul-Elder framework allowed her to highlight the specific intellectual abilities and traits she wanted her student-clients to cultivate.

These specific aspects of the framework were deemed suitable for this study as they coincided with the mission of our Learning Resource Center and had potential to assist students in overcoming common barriers they faced during tutoring sessions. The typical hurdles of their struggling students included the inability to identify "essential questions to ask about course material and gathering and organizing important information in order to gain clarity and make connections between concepts" (Hohmann & Grillo, 2014, p. 43). Thus the tutoring sessions were

more than an opportunity to help students strengthen their academic performance. The coaching conversations between master tutor and student-client were structured to help students practice and develop vital questioning behaviors about their sometimes difficult experience as learners in order to identify problems, gather relevant information, and persist as novice thinkers who must learn to think conceptually about unfamiliar academic material and continue despite confusion or difficulty. The concept of asking essential questions emerges out of the work of Richard Paul and other scholars working in this tradition. (Elder and Paul, 2009).

The results of the two-year study using the critical thinking rubric confirmed Hohmann's hypothesis that "repeated use of the rubric was associated with an increase in final course grades," even though the total hours spent in tutoring were not a statistically significant factor. "This suggests that repeated use of the rubric is more effective in improving course performance than the amount of time spent in tutoring sessions is." (Hohman & Grillo, 2014, p. 45). The students who demonstrated a higher level of critical thinking skills, as determined by their rubric scores, also earned higher course grades in the subject that was the focus of the tutoring session. Through focused questioning strategies and an intentional emphasis on students' abilities to fully grasp information, solve problems independently, and persevere while learning challenging concepts, the master tutors were able to advance their students' thinking skills while assisting them in accomplishing learning goals in a course. Additionally, master tutors reported that as a result of participating in the study, they noticed their own critical thinking skills and tutoring skills were enhanced.

Hohmann's creation and application of a new rubric, along with Detmering and Johnson's module revision, illuminate the power of critical thinking to help staff members take a developmental approach to

influencing the thinking of their students. These examples highlight the fact that the work we were asking of faculty and staff was not a hollow "add on" to their already long list of priorities. Rather, the Paul-Elder framework offered them a significant, expansive, and deep set of concepts and tools that could richly enhance their work with others.

### **IX. The Infusion of Critical Thinking in Academic Advising**

A related effort to break new ground in fostering students' critical thinking abilities was taken up by two leaders in our institution's Undergraduate Advising Practice unit. Janet Spence and Nora Scobie participated in our first staff learning community and immediately concluded that the Paul-Elder framework could be leveraged to supplement typical academic advising practices as part of a technique called "intrusive" or "proactive" advising to deliver to a subset of students on academic probation. This proactive technique of advising includes more frequent communications and face-to-face contact between advisor and advisee. Spence and Scobie worked with us to co-design and co-lead their own form of learning community for academic-advising colleagues. They asked us to assist them in learning the foundational principles of the Paul-Elder framework in order to better engage and support struggling students through ongoing dialogue and training in critical thinking principles. This project was called the Academic Improvement Model.

Over the course of the Academic Improvement Model's year-long learning community, it became clear that using critical thinking concepts to engage students in advising conversations had promise for supporting the growth and improvement of all students, not just those in academic distress. Spence and Scobie brought together best practices from their own field in academic advising, a new appreciation for the universal applicability of the Paul-Elder framework, and

the dialectic method of Socratic inquiry and labeled their technique “Socratic Advising.” Their Socratic approach to advising

teaches students to become self-aware thinkers who can analyze their own thought processes, beliefs and behaviors. When students recognize inconsistent or faulty thinking, challenge long-held belief systems, and fully explore desired outcomes, they become engaged learners who take full responsibility for their own actions. The Socratic process helps students become more autonomous, independent and resilient (Spence and Scobie, 2013, p. 198).

This goal, reaching far beyond simply helping students get back on-track academically, echoes the efforts of their colleagues Hohmann and Grillo who discovered that both broadening the scope and sharpening the focus their interactions with students to include probing questions and metacognitive conversations, rather than simply assisting them to perform at an intellectual task, generated lasting benefits for learners. Socratic advising walks students through a process of critically examining firmly-held beliefs about academic majors or career options, surfacing implicit assumptions about their own experiences or choices, and exploring the implications of their behavior. By helping advisees “analyze, deconstruct, and reconstruct” their thought processes, advisors guide students to develop more lucid choices and well-reasoned goals (Spence and Scobie, 2013, p. 203).

The Socratic advising model as articulated by the cohort of their advisors includes: (1) selected elements of the Paul-Elder framework, (2) an assessment of student thinking, (3) Socratic questioning, (4) a proactive advising style, (5) helping techniques, and (6) a teaching and learning approach. To aid advisors in fostering Socratic dialogue with students on academic probation,

for example, they developed a “Socratic questioning toolbox” with questions based on the eight Elements of Thought and the eight Intellectual Standards. Sample questions include those based on *concepts* “Why do you think the university places students on academic probation?”, *point of view* “From your point of view, why do you think you were placed on academic probation?”, and *relevance* “What issues are impacting your academic standing?” (Spence and Scobie, 2013, p. 208-209).

The authors stress that the Socratic advising approach is not a magic bullet; it requires time, patience and discipline on the part of both the advisor and advisee. The advisor must pay attention to the readiness of the student as a thinker and must recognize that the Socratic advising approach can lead to cognitive dissonance and confusion, and that dissonance either may fail to move the student forward or it may succeed in opening the door to profound realizations.

These three innovative programs designed and led by our staff colleagues represent a rethinking and revitalization of typical services related to libraries, tutoring programs, and academic advising offered on almost every campus. They are not a perfunctory nod to helping our campus meet the expectations of SACS-COC. Many of our faculty colleagues reported that the journey to make critical thinking an explicit part of their teaching and assessment of students refreshed and renewed their commitment to their professional priorities.

## X. In Conclusion

Many of our colleagues’ i2a-related publications and presentations can be accessed on our i2a website: <http://louisville.edu/ideastoaction/resources/research>. Our prolonged, sustained commitment to making critical thinking skill building an explicit part of campus culture continues on, even as we

begin to prepare our next QEP for review by SACS-COC in 2017.

We ourselves have been buoyed and energized by the hundreds of faculty and staff members who spent many personal and professional hours working with us to advance their own thinking and discover how to advance the thinking of their students. Our original i2a goals were focused exclusively on how to help students foster and apply critical thinking, and yet it was impossible to engage students in this work if we ourselves did not take a metacritical and deep dive into our own thinking processes and programmatic choices as professional educators. Our own commitment, as leaders of i2a, to applying the principles of critical thinking earned us credibility with our colleagues who we asked to participate in our development programs such as the learning community (Cosgrove, 2013). As we gained facility with the principles of the Paul-Elder framework, we discovered that its use brought greater clarity, intentionality, and depth to our methods for implementation of i2a and induced us to make our thinking and decision-making process transparent and explicit with our colleagues; this, in turn, helped them do the same with their students and coworkers.

### References

- Cosgrove, R. (2013). *Improving Teaching and Learning of Critical Thinking Across the Curriculum at a Large Research University: An Empirical Study Using Qualitative Methods*. Unpublished Ph.D. Dissertation. Cambridge University.
- Cox, M. D. (2004). Introduction to faculty learning communities. In M. D. Cox & L. Richlin (Eds.) *Building faculty learning communities*. No. 97 in the series *New Directions for Teaching and Learning*, San Francisco: Jossey-Bass.
- Detmering, R. & Johnson, A.M. (2011). Focusing on the thinking, not the tools: Incorporating critical thinking into an information literacy module for an Introduction to Business course. *Journal of Business and Finance Librarianship*, 16(20), 101-107.
- Elder, L. (2011). Achieving critical mass. *The Times Higher Education Supplement*. Retrieved from <http://www.timeshighereducation.co.uk/story.citationcode=26&storycode=414351&c=1>
- Elder, L., & Paul, R. (1994). Critical thinking: Why we must transform our teaching. *Journal of Developmental Education*. 18(1), 34-35.
- Elder, L. & Paul, R. (2009). *The thinker's guide to the art of asking essential questions*. (4<sup>th</sup> Ed.). Dillon Beach, CA: Foundation for Critical Thinking.
- Finley, Ashley. (2016). Well-being: an essential outcome for higher education. *Change: The Magazine of Higher Learning*. 48(2), 14-23.
- Hohmann, J. W. & Grillo, M. C. (2014). Using critical thinking rubrics to increase academic performance. *Journal of College Reading and Learning*. 45(1), 35-51.
- Nosich, G. M. (2009). *Learning to think things through: A guide to critical thinking across the curriculum (4<sup>th</sup> Ed.)*. Upper Saddle River, New Jersey: Pearson Education, Inc.
- Paul, R. (1990). Critical thinking staff development: The lesson plan remodeling approach. In *Critical Thinking: What Every Person Needs to Survive in a Rapidly Changing World*. Santa Rosa, CA: Foundation for Critical Thinking.
- Paul, R. (2007). Critical thinking in every domain of knowledge and belief.

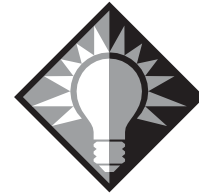
Keynote Presentation at the 27<sup>th</sup> Annual International Conference on Critical Thinking. Retrieved from: <http://www.criticalthinking.org/pages/critical-thinking-in-every-domain-of-knowledge-and-belief/698>

Paul. R. and Elder. L. (2014). *The miniature guide to critical thinking: concepts and tools*. (7<sup>TH</sup> Ed.). Dillon Beach, CA: Foundation for Critical Thinking.

Rogers, E. (1995). *Diffusion of Innovations*. (4<sup>th</sup> Ed.). New York, NY: The Free Press.

Spence, J.M. & Scobie, N.A. (2013). Socratic advising. In *Academic Advising Approaches: Strategies that Teach Students to Make the Most of College*. San Francisco, CA: Jossey-Bass.

University of Louisville. (2013). *QEP Impact Report, March 2013*. Retrieved from: <http://louisville.edu/ideastoaction/about/accreditation/fifthyear>.



### **Author Information**

Patricia Payette, Ph.D, has been the director of the Ideas to Action campus-wide critical thinking initiative at the University of Louisville since 2007. She also serves as the senior associate director of the Delphi Center for Teaching and Learning at UofL and consults regularly with other schools and colleges on critical thinking programs and their QEP initiatives. She can be reached at [patty.payette@louisville.edu](mailto:patty.payette@louisville.edu)

Edna Ross, Ph.D., is an associate professor in the Department of Psychological and Brain Sciences at the University of Louisville. She has a joint appointment in the Delphi Center for Teaching and Learning as the specialist for critical thinking as part of the Ideas to Action initiative team. Dr. Ross has received several teaching awards and has been a nominee for the U.S. Professor of the Year Award. She can be reached at [edna.ross@louisville.edu](mailto:edna.ross@louisville.edu)