Teaching Ethical Reasoning: Program Design and Initial Outcomes of *Ethical Reasoning in Action*, a University-wide Ethical Reasoning Program

G. Fletcher Linder  
James Madison University  

Allison J. Ames  
University of Arkansas  

William J. Hawk, Lori K. Pyle, Keston H. Fulcher, and Christian E. Early  
James Madison University

**ABSTRACT:** This article presents evidence supporting the claim that ethical reasoning is a skill that can be taught and assessed. We propose a working definition of ethical reasoning as 1) the ability to identify, analyze, and weigh moral aspects of a particular situation, and 2) to make decisions that are informed and warranted by the moral investigation. The evidence consists of a description of an ethical reasoning education program—*Ethical Reasoning in Action* (ERiA)—designed to increase ethical reasoning skills in a variety of situations and areas of life. ERiA is housed at a public, major comprehensive U.S. university—James Madison University—and assessment of the program focuses on interventions delivered prior to and during orientation for incoming first-year students. Findings indicate that the interventions measurably enhance the ability of undergraduate students to reason ethically. ERiA's competency-targeted program and positive student learning outcomes offers a promising model for higher education ethics programs seeking to connect classroom learning in ethics to decision-making in everyday life.

**KEYWORDS:** ethics, ethical reasoning, ethics education, critical thinking, ethics program assessment

**Introduction: A Push for More Ethics in Higher Education**

Colleges and universities have in recent years become increasingly interested in encouraging and tracking the development of ethics among its students.
Cynically, one could suspect that the recent interest in ethics in higher education is merely a self-protective response to marketing disasters from headline news reports involving NCAA violations, admission scandals, and Title IX complaints. A less cynical response, however, seems to be warranted once it is recognized that the push for more ethics education comes from multiple sources.

Parents and students themselves report a need for more ethics education as part of the expectation on colleges and universities to help enhance the autonomy and responsible decision-making ability of emerging adults (Kenyon and Koerner 2009). Employers in the workplace have also helped drive recent attention to ethics. Hart Research Associates (2018: 11) discovered that 87% of hiring managers and 77% of business executives viewed ethical reasoning as among their top collegiate learning outcomes. Hart’s prior research noted how colleges can help students prepare for future success in the workplace if students worked through “ethical issues and debates to form their own judgments about the issues at stake,” and 75% of employers said colleges should place more emphasis on developing students’ abilities “to connect choices and actions to ethical decisions” (2010: 8–9).

National education-focused organizations have also been vocal advocates for ethics education. In A Crucible Moment: College Learning and Democracy’s Future, the National Task Force on Civic Learning and Democratic Engagement (2012) insists democratic societies should enhance civic capacity as they also maintain vital economies, with the task force recommending higher education provide opportunities for students to hone knowledge, skills, values, and ethical integrity necessary for both employment and public purposes. The Crucible Moment report echoes the Association of American Colleges & Universities (AAC&U) publication on Essential Learning Outcomes, which argued that “ethical reasoning and action” is a component of personal and social responsibility, and urges higher education “to match its commitment to educating responsible and ethical citizens with learning practices, in both the curriculum and co-curriculum” to help college students meet responsibilities to self and others (AAC&U 2007: 38).

Universities have responded to the need by creating ethics centers, introducing ethics courses that emphasize code compliance in professional and pre-professional programs, and creating ethics-focused mission statements. Ethics courses and code compliance in particular are vital, but these efforts often suffer from the problem that unless a violation is at stake, the code remains inert and ethical theories require too much effort to deploy in the middle of the flow of action to be useful.

Ethical Reasoning in Action (ERiA) offers a different approach. ERiA is a university-wide, empirically grounded attempt to teach ethical reasoning as a skill. The framework to build these skills is provided by the “Eight Key Questions” (8KQ, see below for description), which prompt an ethical reasoner to
approach a situation with curiosity instead of relying solely on habituated thought processes. Approaching an ethical situation with curiosity using the 8KQ enhances critical thinking and informs decision-making by broadening the scope of morally relevant information. The hope is that the acquired skill of ethical reasoning can then be applied to a variety of ethical challenges occurring in personal, professional, and civic domains.

**Empirical and Theoretical Grounds**

Developments in neuroscience, behavioral economics, and psychology provide the empirical foundations for ERiA, which is an attempt to respond to and integrate rational, emotional, and perceptual dimensions of reasoning and decision-making that are relevant to ethics education.

Neuroscientist Antonio Damasio has successfully argued for over two decades that the brain’s behavioral reasoning systems are *enmeshed* with emotion systems, which in turn are *interwoven* with systems that regulate the body. Thus, he says, there is “a connecting trail, in anatomical and functional terms, from reason to feelings to body” (Damasio 1994: 245). This connecting trail significantly improves the effectiveness of human behavior in social space such that when this trail is damaged the consequences are a loss of an ability to navigate social situations and a marked increase of hazardous risk-taking behavior, the combination of which can be life-threatening. Damasio hypothesizes that the effectiveness of decision-making is due to what he calls “somatic markers”—quick, affectively valanced evaluations of possible actions in any given situation—that guide human behavior toward homeostasis and survival. If Damasio is correct, then the role of emotion in human decision-making is significant.

Consistent with Damasio’s findings, behavioral economist Daniel Kahneman has proposed that human action is supported by two thinking systems (Kahneman 2011). System 1 “operates automatically and quickly, with little or no effort and no sense of voluntary control” whereas System 2 “allocates attention to the effortful mental activities that demand it . . . [and is] often associated with the subjective experience of agency, choice, and concentration” (Kahneman 2011: 20–21). Kahneman distills the two systems as “thinking fast” and “thinking slow.” When human-world interactions go well, System 1 (thinking fast) generates suggestions to System 2 (thinking slow) in the form of impressions, intuitions, and feelings. System 2 usually adopts these suggestions with little or no modification. The full resources of System 2 are only activated and mobilized when System 1 encounters a problem that requires more detailed and specific processing. System 2 is activated, for example, when “an event is detected that violates the model of the world that System 1 maintains” (Kahneman 2011: 24).

Psychologists Mahzarin Banaji and Anthony Greenwald (2013) have studied the perceptual-level bias humans develop as a result of learning cultural systems that place differing values on such social distinctions as age, gender, race, ethnicity, religion, social class, sexuality, disability status, and nationality. In
their work, they have devised a simple test—the Implicit Association Test—that aims to reveal so-called implicit bias. The test trades on the distinction between System 1 and System 2 in the way that, *ex hypothesi*, it would take our behavioral systems longer to process an event that violates the model of the world maintained by System 1. For example, when Western European participants take a gender-role implicit bias test, it indeed takes them on average about 400 milliseconds longer to associate female with career and male with home than it does to associate male with career and female with home. Banaji and Greenwald's research suggests humans should routinely interrogate their reasoning processes because their reasoning may be influenced by unexamined enculturated biases.

Psychologist Jonathan Haidt (2001) advocates for what he calls a *social intuitionist* model of moral judgment. Haidt proposes that moral judgment should be studied as an interpersonal process and that moral reasoning (Kahneman's System 2) arrives after a moral intuition (Kahneman's System 1) has already been registered within the subject/agent. Take the example of a subject or agent's moral judgment regarding incest. Haidt claims that, when looking through a social-intuitionist lens, one can observe that the subject or agent feels a quick flash of revulsion at the thought of incest, knowing intuitively in their gut that something about incest is morally wrong. It is only when asked in a social setting to explain the grounds of the moral judgment that the subject or agent turns to reasoning to build a case for the correctness of the judgment (Haidt 2001: 814). Given what we already know about the role of emotions in decision-making from Damasio, intuitive cognition and behavior from Kahneman, and implicit bias from Benaji and Greenwald, Haidt's social intuitionist model raises the sharp suspicion that reasoning often plays a *post hoc* role in moral judgments and decision-making.

One of the advantages of Haidt's proposal is that it would go a long way towards explaining the persistent difficulty of teaching ethics in a way that changes behavior. A common strategy among ethics courses and programs is to teach ethics by having students interpret a number of case studies from within a particular constructed model or theoretical standpoint and then explain what is morally deficient about actions that have already taken place. If Haidt is right, judgments gained from moral models and ethical theories are unlikely by themselves to shift the deep emotions and moral intuitions that motivate so much of our behavior. These intuitions and emotions are generated and maintained by System 1, a system that is shaped through a long process of enculturation and life experience, and which is interrupted only when its habituated, impressionistic, and unreflective ways of perceiving-and-knowing encounter a challenge.

To overcome such barriers to the role of moral reasoning in guiding judgments and behavior, Haidt posits that it may be possible to get reasoning and intuition to work together more effectively. One approach to that aim, he says, “would be *to directly teach moral thinking and reasoning skills* thereby encouraging people to use [reasoned and reflective judgment] more often” (Haidt 2001: 829; emphasis added). Haidt goes on to suggest what such a strategy might
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involve. When evaluating the moral complexity of a scenario, while focusing in turn on each stakeholder involved, various intuitions may be triggered leading to various contradictory judgments. Reasoning could then be used to construct a case to support each judgment. If reasoning can build a more convincing case for one judgment than for others, then the judgment may “begin to feel right” (Haidt 2001: 829). This feeling right arises as a result of reasoned comparative assessments of the many intuitive judgements maintained by System 1.

Haidt imagines the possibility of overcoming the barriers posed by post hoc rationalizing by placing our moral reasoning (Kahneman’s System 2) into conscious, explicit dialog with our moral intuitions (Kahneman’s System 1) such that our intuitions begin to be reshaped. Along the lines of Haidt’s proposed use of imagination and perspective-taking to explore and develop ethically-complex judgement, ERiA uses well-developed scenarios (thought experiments) that place students in morally complex settings with multiple stakeholders in which students’ ethical reasoning has a chance to reshape their moral intuitions. This reshaping process is prompted by student-agents who participate in a deliberative social group charged with making an urgent and important group decision. The deliberative social setting of the ERiA program is thought to be central to the process of getting moral reasoning and moral intuitions to be in conscious dialog. In a social setting, multiple and diverse intuitions are likely to be evoked by a morally complex scenario and in turn are interrogated through the use of the Eight Key Questions, explained below. Additionally, the reason for the agential stance of facing an urgent decision together is that, in contrast to experience and action-distant interpretation and explanation, proximal cases more effectively activate and engage moral affect and intuitions such that they can be the target for deliberation and self-interrogation.

Following the empirical and theoretical insights noted above, the hope and ultimate goal of ERiA is that students will: 1) acquire the skills of ethical reasoning so that they can make more deliberative decisions in morally complex situations; and 2) begin an ongoing process of self-interrogation such that a more complex and inclusive internal ethical dialog begins to feel right.

The Eight Key Questions

The Eight key questions (8KQ) are central to the ERiA framework and they provide a structure for the ethical reasoning process. The 8KQ were developed in consultation with such ethics experts as Brian Schrag, of Indiana University’s Poynter Center and the Association for Practical and Professional Ethics. Consultations focused on capturing the range of ethical considerations normally raised when ethics novices and experts alike deliberate such complex ethical cases as those presented in Philippa Foot’s (1967) Trolley Car Problem. Field testing by faculty from the across the university found the 8KQ capture the type and range of ethical concerns raised by students and content experts alike when they consider a variety of ethical challenges arising within specific disciplines.
The 8KQ are referenced by the acronym FOR-CLEAR, an acronym which concisely represents the following set of questions.

**Fairness:** What is the fairest, most just, equitable thing to do?

**Outcomes:** What action brings about the best short- and long-term outcomes?

**Rights:** What innate, legal, political, or social rights apply?

**Character:** What action best expresses who I/we aspire to be?

**Liberty:** What action best recognizes others’ liberty, autonomy, and choice?

**Empathy:** What action demonstrates that I/we care deeply?

**Authority:** What do legitimate authorities—law, experts, religion—require?

**Responsibilities:** What duties or obligations apply?

The single words used to abbreviate each question include a range of ethical considerations. In developing the 8KQ, the questions were broadened for historical and cross-cultural application. For example, the word ‘outcomes’ includes both utilitarian (e.g., the greatest good for the greatest number) and non-utilitarian causal models (e.g., notions of cause-and-effect involved in karma). While the 8KQ are neither exhaustive nor mutually exclusive, they are useful in that they concisely capture a wide range of moral considerations that deemphasize behaving from a position of narrow self-interest.

To use Wittgenstein’s (1953) language, each of the 8KQ shares a “family resemblance” to recognizable positions developed within so-called Western philosophy even as many of these positions have been developed within a wide range of philosophical/ethical/religious traditions. The authority question, for example, attempts to capture conventional ethical reasoning as practiced by many who take ethical guidance from some external authority. Notions of God, gods, or the law qualify as such considerations of authority. Various positions on what constitutes legitimate authority abound, and while the 8KQ approach does not attempt to settle disagreements between positions about legitimacy—positions explored in such classic works as Plato’s *Crito*, Sophocles’s *Antigone*, and Thoreau’s *On the Duty of Civil Disobedience*—the inclusion of the authority question highlights the fact that concerns about authority are important to consider.

Questions concerning responsibilities, rights, and liberty draw attention to interrelated considerations explored by Immanuel Kant, among others. Kant posited that natural duties (what humans owe to each other as rational human beings) and obligations (moral connections created by voluntary agreements or actions) were essential to ethical reasoning and were both captured by asking about responsibility. For example, a parent has a duty to a child because the child is a human being with the capacity to govern her/his own behavior (i.e., the liberty, autonomy, consent nexus) and is, as such, a rights holder worthy of respect.
John Stuart Mill argued that “proper ethics” leads to a better world as measured by utility, aggregated happiness, or preference satisfaction for everyone concerned. Mill’s idea is normally reduced to the phrase, “the greatest good for the greatest number.” This ethical concern is marked by the 8KQ highlighting short-term and long-term outcomes. General notions of cause-and-effect, as well as some conceptions of karma, can also fall under this consideration.

Questions concerning fairness and empathy have come to the surface more recently in developmental psychology debates in the 1970s and '80s. Lawrence Kohlberg (1984), for example, demonstrated empirically that mature ethical reasoners demonstrate an impartial and objective concern for justice and fairness. Carol Gilligan (1982), in contrast, empirically demonstrated that mature reasoners show empathy, a committed caring connection with others, a perspective further developed by Nel Noddings (1984).

Aristotle maintained that ethical reasoning is fundamentally concerned with the development of one’s own character and habituating virtues that actualize personal potential. Ethical reasoning thus leads to a virtuous person made virtuous through his/her own virtuous behaviors.

The 8KQ process asks students to consider all eight questions when considering a specific ethical conundrum. The expansive curiosity-based process avoids the narrow focus of programs that teach students to attend to only one or two ethical concerns, commonly those associated with questions of authority (contract) or outcomes (utility) or character (virtue). The 8KQ juxtapose perspectives and underscore the fact that each ethical question requires its own particular thought processes and framing. To understand the competing perspectives captured by the 8KQ is to understand how some people might privilege some ethical concerns over others, and serves to remind us that all ethical rationales, even ones we ourselves hold dear, are narrow in scope and are thus tied to a limited and limiting set of concerns.

Measuring Ethical Reasoning Skill Competence through Student Learning Outcomes

ERiA has identified the following student learning outcomes (SLO):

SLO 1: Students will recall all 8KQ.

SLO 2: When given a specific decision and rationale for an ethical decision, students will correctly identify the key question most consistent with the decision and rationale.

SLO 3: Given a specific scenario, students will identify appropriate considerations for each of the 8KQ.

SLO 4: For a specific ethical situation or dilemma, students will evaluate courses of action by applying (weighing and, if necessary, balancing) the considerations raised by the 8KQ.
SLO 5: Students will apply SLO 4 to their own personal, professional, and civic ethical cases.

SLO 6: Students will report that they view ethical reasoning skills as important.

SLO 7: Students will report increased confidence in their ability to use the ethical reasoning process.

Learning outcomes 1–5 capture the ability of students to know, understand, and apply 8KQ ethical reasoning skills. SLO 1–5 are scaffolded, with each successive SLO building upon knowledge/skills noted in previous SLO. SLO 2–5 are applied to personal, professional, and civic issues and are considered via individual and group scenarios. SLO 6–7 reflect expected attitudinal growth associated with the development of enhanced ethical reasoning skills.

Interventions

ERiA initiated several interventions during Summer and Fall 2013 (see Table 1, next page). All first-year students received the One Book in the mail after paying deposits to attend the university. The One Book specified steps new students must take in order to matriculate. In Summer 2013 a two-page feature in the One Book introduced incoming students to ERiA, its purpose, its importance, how it would be infused into their college educational experiences, and how it will be further introduced in the It's Complicated activities delivered during orientation week before classes began in the fall.

In Fall 2013 the entire freshman class of approximately 4,300 students, were divided into groups of approximately 35 students each to participate in It's Complicated. In the 75-minute It's Complicated session, students discussed and analyzed an ethical reasoning case study requiring them to decide how to deploy limited aid to victims of a hurricane and how to respond to changing risk assessments. In each It's Complicated session the Hurricane Sharon case was presented in video format (https://www.youtube.com/watch?v=OOTOL9itEP0&t=56s), and discussions were led by trained facilitators. The exercise emphasized the importance of ethical reasoning and covered each of the 8KQ as they applied to the Hurricane Sharon case. The One Book and It's Complicated exercises were designed to be students' first introduction to ethical reasoning.

Training for faculty and student affairs professionals who led It's Complicated activities were provided by two mandatory modules/workshops. The Core Module focused on the 8KQ and the ERiA framework. In these Core Modules, participants were taught the origins and nuances of the inquiry-based process and practiced applying the 8KQ in an interactive small-group format. The It's Complicated Facilitator Module prepared facilitators specifically for the It's Complicated intervention. Facilitators-in-training reviewed the 8KQ, participated in a practice It's Complicated session, and debriefed in small-group discussions. Facilitators also received tips on how to facilitate discussions, probe student
responses, and apply the 8KQ beyond the *It’s Complicated* material. Two additional optional modules were provided for faculty who wanted to integrate ethical reasoning into courses (Curriculum Development Module), and student affairs professionals who wanted to integrate ethical reasoning into co-curricular programming (Co-curricular Module).

**Evaluation Design and Instruments**

A comprehensive assessment plan measured students’ ethical reasoning gains as a result of ERiA programming. Table 2 (next page) indicates the alignment between assessment instruments and student learning outcomes (SLO), along with the pilot year for each assessment instrument. This alignment highlights that the four locally developed ERiA assessments provide full coverage of the SLO. The five cognitive SLO are covered by the Ethical Reasoning Recall Test (ERRT), the Ethical Reasoning Identification Test (ERIT), and the Ethical Reasoning and Writing Essay (ER-WR), all of which are described below. The Survey of Ethical Reasoning (SER) measures the two “non-cognitive,” or attitudinal, SLO, and is also described below.

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**Table 1: Ethical Reasoning in Action Interventions**

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Interventions</th>
<th>One Book</th>
<th>It’s Complicated</th>
<th>Residence Life Activities</th>
<th>Courses in General Ed</th>
<th>Courses in Majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Memorization</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2 Identification simple</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3 Identification complex</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>4 Application generic</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>5 Application personal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>6 Importance</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7 Confidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Students reached over 4 yrs

- 99% of freshmen
- 99% of freshmen
- ~50% of freshmen & sophomores
- ~76% of under graduates
- ~20% of under graduates

Intervention initiation

- Summer 2013
- Fall 2013
- Fall 2013
- Fall 2013
- Fall 2013
**Ethical Reasoning Recall Test (ERRT)** is a short, constructed-response direct measure, that asks students to recall the main word associated with each of the 8KQ, and to provide a brief explanation of each KQ. Both the recall and explanation subscales are scored by two or more raters on a three-point scale (0 = incorrect, .5 = partially correct, and 1 = correct). Both subscales range from 0 to 8. Students can receive up to 16 total points on the ERRT, eight for correctly recalling the words associated with the KQ, and another eight for correctly explaining each KQ.

**Ethical Reasoning Identification Test (ERIT)** addresses SLO 2 & 3, and consists of fifty multiple-choice items with eight response options each. The eight response options correspond to each of the 8KQ. Students choose which 8KQ best matches the rationale given to explain a decision. For example, the statement: *An employee decides not to follow a dress code at work because she considers what she wears to be a matter of personal choice only* best matches the liberty key question.

**Ethical Reasoning-Writing Essay (ER-WR)** is a performance assessment addressing SLO 5. The ER-WR essay prompt is

*This test is an ethical reasoning assessment. Often in life, we encounter situations that are complicated. For example, if you saw a hungry child steal fruit from a grocery store, you would likely think of many reasons to report the person and many reasons not to do so. The faculty and staff at [the university] are interested in the ethical reasoning thought process in which students engage when confronted with such situations. For this assessment, please explain a complicated situation with which you are very familiar, the ethical thought process you used to address the situation, and the decision that was made. You will have 60 minutes to compose this essay. Your document should be no fewer than 250 words.*

The ER-WR essays scoring rubric has five dimensions: 1) identification of an ethical case in its context, 2) mentioning 8KQ relevant to the case, 3) describing which of the 8KQ are relevant and why, 4) analyzing the ethical case with the referenced 8KQ, and 5) weighing relevant key questions and situational factors and coming to a decision or solution. Each of these five dimensions is scored on a five-point scale (0 = insufficient, 1 = marginal, 2 = good, 3 = excellent, and 4 = extraordinary). The ER-WR rubric was designed by a team of university ethical reasoning experts and assessment specialists. The prompt was piloted to a random sample of 108 first-year students in Fall 2013 and the ethical reasoning experts identified distinct performance levels on the essay task using a range-finding procedure. The experts read and rated multiple papers and selected anchor papers that were representative of a given level of performance. After the essay ratings were cross-validated, a draft of the rubric was developed with behavioral anchors assigned to each performance level. Minor adjustments were made to the rubric before it was reviewed and approved by an assessment subcommittee (Naumenko: 2013). ER-WR rater training involved a three-hour
Table 2: Data Collection, Instrumentation, and Corresponding Student Learning Objectives

<table>
<thead>
<tr>
<th>Corresponding SLO</th>
<th>Instrument</th>
<th>Pilot Year (Semester)</th>
<th>Baseline Data</th>
<th>Target Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLO 1: Memorization of the 8KQ.</td>
<td>Ethical Reasoning Recall Test (ERRT)</td>
<td>2013 (Fall)</td>
<td>No</td>
<td>150</td>
</tr>
<tr>
<td>SLO 2 &amp; 3: Identifying the relationship of specific KQs to ethical decisions/rationale scenarios.</td>
<td>Ethical Reasoning Identification Test (ERIT)</td>
<td>2012 (Fall)</td>
<td>Yes</td>
<td>500</td>
</tr>
<tr>
<td>SLO 4 &amp; 5: Applying KQs to one's own personal, professional and civic life.</td>
<td>Ethical Reasoning and Writing Essay (ER-WR)</td>
<td>2012 (Fall)</td>
<td>Yes</td>
<td>150</td>
</tr>
<tr>
<td>SLO 6 &amp; 7: attitudes toward ethical reasoning, as well as SLO 1–5: applying KQs to one's personal life.</td>
<td>Survey of Ethical Reasoning (SER)</td>
<td>2013 (Fall)</td>
<td>No</td>
<td>500</td>
</tr>
</tbody>
</table>

Workshop on using the behaviorally anchored rubric, preceded by participation in the ERiA Core Module described above. Rater training was led by ERiA and assessment experts. During the three-hour training session, essay raters read, rated, and discussed essays that represented a range of student performance levels. One significant goal of the rater training was to norm raters’ rating behavior.

Survey of Ethical Reasoning (SER) measures students’ attitudes toward ethical reasoning, aligning with SLO 6 & 7. The first section of the SER asks students to rank order (1 = most important, to 10 = least important) the following 10 life/career skills: artistic, budgeting, critical thinking, ethical reasoning, interpersonal, oral communication, organization, programming, time-management, and writing. The second section contains five statements about the importance of ethical reasoning, five statements about students’ confidence in using ERiA ethical reasoning process, and six attitude-related statements that correspond to SLO 1–5. For each statement, students indicate how much they agree with each statement using a five-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, and 5 = strongly agree). The third section asks about the frequency of five different ethical reasoning behaviors (1 = never, 2 = every few months, 3 = monthly, 4 = weekly, and 5 = daily).

How often do you think about ethical issues?
How often do you apply ethical reasoning to make a decision?
How often do you think about ethics when grappling with complex situations?
How often do you engage in ethical reasoning when giving advice to others?
How often do you discuss real-life ethical dilemmas with others?

The fourth and final section lists each of the eight KQs and students indicate how important each KQ is to them in their ethical reasoning process using a five-point Likert scale (1 = not at all important, 2 = slightly important, 3 = somewhat important, 4 = important, and 5 = very important).

Data Collection

Table 2 indicates the presence or absence of baseline data for each of the instruments. Baseline data were gathered for two of the instruments, the ERIT and the ER-WR, in the 2012–13 academic year. These baseline data provide a comparison point for SLO of the cohort of students prior to implementation of the ERiA ethical reasoning educational curriculum and students experiencing the ERiA’s intentional ethical reasoning programming. The comparison allows for evidence of improved ethical reasoning skills, over and above any maturational processes that may take place during the course of students’ normal college experience (Fulcher et al. 2014; Smith et al. 2015). These baseline students are referred to as the non-intervention group hereafter. The ERRT and SER assessment instruments do not have true baseline data for comparison. However, data have been collected on these measures in the first year of ERiA programming, before the significant ERiA programming was implemented across the university.

The final column in Table 2 presents the target sample size for each cohort of students to be given assessments during a university-wide testing protocol. For example, when assessing SLO 2 and 3 using the ERIT, approximately 500 students were randomly sampled from incoming freshman. This represents 10–15% of the incoming classes. Expanding upon university assessment protocol, students’ ethical reasoning skills were/are assessed twice during their time at the university. A representative sample of incoming freshman is assessed on the university’s regular fall assessment day, which occurs during freshman orientation before fall classes begin. Students are then re-assessed, using the same ethical reasoning instrument, in their sophomore year during the spring assessment date in February. For example, an incoming freshman beginning classes in the 2015–2016 academic year would be assessed in August of 2015 and re-assessed as a sophomore in February of 2017 on the same instrument. The development, features, and basic psychometric properties of each assessment instrument are detailed below.

Instrument Validity

Validity evidence for instruments follow Benson’s (1998) three-stage model: substantive, structural, and external. Although validity is often viewed as a unified concept (American Educational Research Association 2014), sources of evidence based upon these three varieties of validity are collected. The substantive component for all instruments was accomplished by gathering input from faculty
and assessment specialists across disciplines to operationalize the ERiA’s ethical reasoning conceptualization and related SLO.

The structural component investigates inter-item and inter-rater consistency, dimensionality of the assessment, and other psychometric properties. All of the instruments have been shown to have adequate reliability or inter-rater reliability, using Cronbach’s alpha or generalizability-theory when human raters were involved, as ERRT and ER-WR require. The hypothesized factor structures have also been confirmed using a factor analytic approach. For example, the internal factor structure of the ERIT was examined in 2013 using confirmatory factor analysis, exploratory factor analysis, and item response theory (Hanson and Zeng 1995). Results suggest the ERIT is unidimensional, meaning instrument results can be expressed in a single numerical value for each student. Summary results for estimates of structural and external validity are noted in Table 3 (next page).

External validation seeks to provide evidence for construct validity, in both a convergent and divergent framework. A description of the external validation process is provided below.

**Ethical Reasoning Recall Test (ERRT).** Preliminary convergent validity evidence for the ERRT was established by correlating the KQ Recall and KQ Explanations subscales. Students who were able to recall more of the 8KQ words were also more likely to be able to fully and accurately describe or define the 8KQ. The correlation between the total number of correctly recalled KQ and explanations ranged from .72 (Fall 2013) to .87 (Spring 2015).

**Ethical Reasoning Identification Test (ERIT).** ERIT was created to measure SLO 2 & 3, both of which could be influenced by students’ overall verbal proficiency rather than their ethical reasoning skills alone. To address this validity question, students’ SAT-Critical Reading (SAT-CR) scores were compared with their ERIT scores. Assuming a unidimensional factor structure for the ERIT, it was expected that ERIT scores and SAT-CR would be only moderately correlated if the ERIT is indeed measuring something more than verbal proficiency. Fall 2013 data from 763 incoming first-year students showed ERIT scores were indeed only moderately correlated with SAT-CR scores ($r(763)=0.449, p<.001$).

**Ethical Reasoning-Writing Essay (ER-WR).** Ethical reasoning is conceptualized as an applied form of critical thinking, which is typically assessed using the Critical Thinking Assessment Test (CAT) developed at the Center for Assessment & Improvement of Learning at Tennessee Technological University. The CAT is a short-answer-based instrument containing fifteen questions (https://www.tntech.edu/cat/). While empirical studies regarding the relationship between ethical reasoning and critical thinking have been scarce, we hypothesized they share a positive, bivariate relationship.
Our analysis found evidence that such a positive relationship exists though not at a statistically significant level ($r(23) = .331$). The Scale of Intellectual Development (SID; Erwin 1983) was used as a measure of stage of intellectual development and correlated with the ER-WR scores. The SID’s dualism subscales measures the lowest stage of cognitive development which is associated with strict dichotomous thinking of right and wrong. Students who scored high on the dualism subscale would likely base their decisions on authority figures without questioning and would be less likely to think critically in regards to ethical reasoning. Tentative evidence supported these hypotheses and studies involving more academically-advanced students are underway.

**Survey of Ethical Reasoning (SER).** As students’ positive attitudes toward ethical reasoning and their confidence in applying ethical reasoning increases, we anticipate their performance on the ERIT test would also improve. Thus, importance and confidence subscale scores should be positively related to ERIT scores. For first-year students, importance subscale scores were positively related to ERIT scores ($r(768) = .154$, $p < .001$), as were confidence subscale scores ($r(771) = .100$, $p = .005$). However, both correlations represented only a small effect ($r < .3$; Cohen 1992). For
second-year students, importance subscale scores were positively related to ERIT scores ($r(684) = .124, p = .001$), but confidence subscale scores were not ($r(684) = .054, p = .159$). While both correlations represented only small effects, all correlations were in the expected direction, thus providing initial validity evidence for the SER importance and confidence subscales.

Results

Findings below refer to three groups labeled as non-intervention, direct intervention, and diffuse intervention. Refer to Table 2 for information about data collection.

- **Non-intervention** refers to Fall 2012 incoming first-year students receiving no ERiA interventions. This group provided assessment data in August 2012.

- **Direct Intervention** refers to Fall 2013 incoming first-year students receiving One Book and It’s Complicated interventions before the beginning of Fall 2013 classes. This group provided assessment data in August 2013, just after students participated in the It’s Complicated program.

- **Diffuse intervention** refers to Spring 2014 second-year students, none of whom received One Book and It’s Complicated interventions. A limited number of students in this group may have been exposed to ERiA interventions via residence life activities, or activities in General Education or major courses. This group also may have gained some knowledge of ERiA through general communication channels on campus. This group provided assessment data in February 2014.

Table 4 (next page) contains an overview of the effectiveness of ERiA programming.

**SLO 1: Memorization of the 8KQ**

Students in the direct intervention cohort, on average, were able to recall almost 6 of the 8KQ words. For this group, the easiest KQ word to recall was fairness and the most difficult was liberty. On average, the diffuse intervention group correctly recalled none of the 8KQ. The difference between the diffuse intervention and direct intervention groups was statistically significant ($t(1236) = 4.541, p < .0001$).

Students in the direct intervention cohort, on average, were able to explain four of the 8KQ, with students in the diffuse intervention group being able to explain none of the KQ, on average. The difference between the diffuse intervention and direct intervention groups was statistically significant ($t(1236) = 55.08, p < .0001$).

**SLO 2 & 3: Identifying the relationship of KQs to ethical decisions and rationale**

Students in the direct intervention group scored approximately 69% correct on the ERIT, while students in the non-intervention group scored approximately 67% correct, as shown in Table 5 (previous page). This relatively small difference
Table 4: Programming Effectiveness

<table>
<thead>
<tr>
<th>SLO</th>
<th>Instrument</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLO 1: Memorization of the 8KQ</td>
<td>ERRT</td>
<td>Performance of the direct intervention group surpassed the performance of diffuse intervention group.</td>
</tr>
<tr>
<td>SLO 2 &amp; 3: Identification of relevant 8KQ</td>
<td>ERIT</td>
<td>Students in the direct intervention group scored higher than the non-intervention group.</td>
</tr>
<tr>
<td>SLO 4 &amp; 5: Applying KQs to personal, professional and civic life.</td>
<td>ER-WR</td>
<td>The percent of students meeting the standard set for the ER-WR has grown steadily over time.</td>
</tr>
<tr>
<td>SLO 6 &amp; 7: Attitudes toward ethical reasoning</td>
<td>SER</td>
<td>Students in the direct intervention group rated ethical reasoning skills relatively high in importance compared to other skills whereas the diffuse intervention group rated ethical reasoning skills as only moderately important. The direct intervention group has higher importance and confidence scores than the diffuse intervention group.</td>
</tr>
</tbody>
</table>

Table 5: Descriptive Statistics for Correctly Identifying Which Rationale Correspond to Each KQ

<table>
<thead>
<tr>
<th>Key Question</th>
<th>Mean % Correct (SD) Non-intervention Group N = 765</th>
<th>Mean % Correct (SD) Direct Intervention Group N = 820</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness</td>
<td>78.61 (21.52)</td>
<td>78.33 (18.49)</td>
</tr>
<tr>
<td>Outcomes</td>
<td>69.32 (21.58)</td>
<td>74.27 (20.35)</td>
</tr>
<tr>
<td>Rights</td>
<td>48.91 (21.77)</td>
<td>51.24 (21.03)</td>
</tr>
<tr>
<td>Character</td>
<td>82.20 (21.31)</td>
<td>84.07 (16.58)</td>
</tr>
<tr>
<td>Liberty</td>
<td>57.60 (29.45)</td>
<td>55.47 (29.32)</td>
</tr>
<tr>
<td>Empathy</td>
<td>71.50 (21.38)</td>
<td>77.76 (17.14)</td>
</tr>
<tr>
<td>Authority</td>
<td>68.98 (24.91)</td>
<td>71.71 (22.52)</td>
</tr>
<tr>
<td>Responsibilities</td>
<td>63.57 (23.62)</td>
<td>64.02 (22.44)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>67.13 (16.16)</td>
<td>69.13 (12.95)</td>
</tr>
</tbody>
</table>
between the non-intervention and direct intervention groups was statistically significant ($t(1583) = 2.73, p = .0065$) indicating that students’ ability to correctly identify the KQ most applicable to a given scenario increased significantly as a result of intentional ethical reasoning programming. This difference is likely attributable to the One Book and It’s Complicated intervention.

SLO 4 & 5: Applying KQs to one’s own personal, professional and civic life

One hundred thirty-six essays collected from the direct intervention group scored an average of 1.13 out of 4 on the ER-WR assessment. This measure indicates students’ essays, on average, were marginal. As noted in Table 6 (see below), students were able to score most highly, on average, on identifying an ethical situation, while the most difficult rubric element was analyzing applicable KQs. As expected, students in the direct intervention group scored higher (Mean = 1.11, $SD = 0.70, N = 136$) than student in the diffuse intervention group (Mean = 0.88, $SD = 0.59, N = 44$).

Figure 1 illustrates the percent of students who met the standard of “good” for the ER-WR. For students experiencing an ERiA direct intervention (i.e., It’s Complicated), a noticeably larger percent meet this standard when compared to the percent of students who met the standard without experiencing any ERiA interventions.

SLO 6 & 7: Knowing, applying, and expressing positive attitudes toward ethical reasoning

On average, students in the direct intervention group rated ethical reasoning as relatively important compared to other skills, and similar to how they ranked critical thinking, interpersonal, and oral communication skills. Artistic and writing skills were ranked least important.

Table 6: Direct Intervention Cohort, Average Scores by ER-WR Rubric Element

<table>
<thead>
<tr>
<th>Rubric Element</th>
<th>Mean (SD) Direct Intervention Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify an ethical situation</td>
<td>1.94 (1.16)</td>
</tr>
<tr>
<td>Mention applicable key question(s)</td>
<td>1.13 (0.94)</td>
</tr>
<tr>
<td>Apply key questions(s) to the situation</td>
<td>0.82 (0.78)</td>
</tr>
<tr>
<td>Analyze applicable key question(s)</td>
<td>0.86 (0.82)</td>
</tr>
<tr>
<td>Weigh relevant key questions and explain decision</td>
<td>0.90 (0.83)</td>
</tr>
<tr>
<td><strong>OVERALL AVERAGE</strong></td>
<td><strong>1.13 (0.79)</strong></td>
</tr>
</tbody>
</table>

Note: 0=insufficient, 1=marginal, 2=good, 3=excellent, 4=extraordinary
Students in the diffuse intervention group rated ethical reasoning skills as only moderately important compared to other skills, similar to how they ranked organization skills. Like the students in the direct intervention group, students in the diffuse intervention group rated artistic skills as least important. Interestingly, students in the diffuse intervention group rated ethical reasoning as the sixth most important skill before being exposed to any ERiA interventions. Rank orderings for both groups are presented in Table 7 (next page).

Importance and confidence subscales of the SER are comprised of five items each. Scores on the SER for students in the direct intervention group and students in the diffuse intervention group are presented in Table 8 (next page). The mean difference in the importance subscale between the diffuse intervention and direct intervention groups was statistically significant ($t(1806) = 6.75, p < .0001$). The mean difference in the confidence subscale between the diffuse intervention and direct intervention groups was not statistically significant ($t(1801) = 1.93, p = .0533$). This indicates that as a result of participating in ERiA programming, students placed significantly higher importance on ethical reasoning skills, but did not change in their levels of confidence.

**Discussion of Findings**

Data reported above suggest *One Book* and *It’s Complicated* educational interventions had a positive effect on SLO 1–3. These two direct interventions improved students’ abilities to recall and define key questions, and to identify the relationship of specific key questions to ethical reasoning scenarios. This positive effect could in part be due to the short time between intervention and assessment.
activities, and accordingly, we might expect gains to diminish over time unless ERiA educational interventions are sustained.

One Book and It’s Complicated interventions had a limited, but positive, effect on SLO 4–5, which concerned having students apply the ERiA process to their personal, professional, and civic lives, which we operationalized through written narrative reflections. While we did not expect strong performances in the essays after only two relatively modest direct interventions, we did expect the essays to improve for the direct intervention group as the cohort experiences more

Table 7: Descriptive Statistics for Rank Order of Ten Life/Career Skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Median (Mode) Diffuse Intervention Group</th>
<th>Median (Mode) Direct Intervention Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 701</td>
<td>N = 959</td>
</tr>
<tr>
<td>Artistic</td>
<td>10 (10) least important</td>
<td>10 (10) least important</td>
</tr>
<tr>
<td>Budgeting</td>
<td>7 (8)</td>
<td>6 (7)</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>3 (1)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>Ethical Reasoning</td>
<td>5 (6)</td>
<td>4 (2)</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>3 (1)</td>
<td>4 (2)</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>4 (2)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>Organization</td>
<td>5 (6)</td>
<td>6 (6)</td>
</tr>
<tr>
<td>Programming</td>
<td>9 (9)</td>
<td>9 (9)</td>
</tr>
<tr>
<td>Time Management</td>
<td>4 (5)</td>
<td>4 (4)</td>
</tr>
<tr>
<td>Writing</td>
<td>7 (8)</td>
<td>8 (8)</td>
</tr>
</tbody>
</table>

Table 8: Subscale-level Descriptive Statistics for the Survey of Ethical Reasoning (SER)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Min</th>
<th>Max</th>
<th>Mean (SD) [α] Diffuse Intervention Group</th>
<th>Mean (SD) [α] Direct Intervention Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance</td>
<td>1.00</td>
<td>5.0</td>
<td>4.29 (0.70) [.89]</td>
<td>4.49 (0.56) [.84]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N = 773</td>
<td>N = 1035</td>
</tr>
<tr>
<td>Confidence</td>
<td>1.40</td>
<td>5.0</td>
<td>4.11 (0.68) [.88]</td>
<td>4.05 (0.63) [.84]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N = 770</td>
<td>N = 1033</td>
</tr>
</tbody>
</table>
ERiA interventions over time. Evidence does indicate that more recent cohorts, having been exposed to an increasing amount of educational programming on ethical reasoning, are making more noticeable progress towards reaching the goal of “good” on the essay narratives. We expect the same additive improvement over time in SLO 4–5 will be seen in future incoming cohorts experiencing One Book and It's Complicated interventions.

Data regarding the effect of One Book and It's Complicated interventions on attitudes toward ethical reasoning (SLOs 6–7) are both positive and complex. Increasing students’ evaluation of ethical reasoning as important certainly appears to be a positive outcome of initial interventions, an improvement we hope will be sustained as students experience more ERiA interventions over time.

Students’ confidence in their own ethical reasoning is more complicated. Because students in the direct intervention group expressed less confidence in their own ethical reasoning abilities after receiving One Book and It's Complicated interventions, findings raise questions about the expected result of interventions. Should students become more or less confident in their ability to reason after being introduced ERiA? Could students’ self-assessment as being less confident indicate an increase in “thinking slow” (System 2, as described above), and thus reflect more deliberate ethical reasoning? Contrary to assuming ERiA interventions will simply increase students’ confidence, one could argue that students should rightly have a diminished sense of confidence in their ability to reason after learning that ethical reasoning is much more complex than they had once imagined, and that that confidence will improve only after sustained and positive exposure to ethical reasoning exercises and applications. Answers to these questions of confidence are expected to become clearer as the ERiA moves forward and finds out more from students about the experiential effects of interventions.

Outcome data suggest students may improve on ethical reasoning SLO 1–5 as a result of additional interventions beyond One Book and It's Complicated. For instance, Ames et al. (2016) piloted an 8-week, interactive module-based ERiA educational program delivered in an online format. They found initial gains in SLO 1–5 with gains sustained in SLO 1–3 over a year later.

Future challenges for assessment include estimating each students’ exposure to ERiA interventions in order to model what could be considered a dose response to an accumulation of intervention activities. Knowing which interventions provide the most improvement in ethical reasoning can help the university know where to invest resources in order to help students improve the ethical reasoning skills and attitudes operationalized in the program and assessments.

Investigating the impact of ethical reasoning on implicit bias and associations suggests itself as an interesting and possibly fruitful line of future research. Recall the work by Damasio, Kahneman, Benaji and Greenwald, and Haidt mentioned above that use various dual process models to better account for moral judgments and decision making. ERiA uses ethical scenarios, the 8KQ, and a social setting for deliberation and urgent decision-making so as to get
ethical reasoning and moral intuitions to work together more effectively (Haidt’s phrase). This raises the question of whether, over time, continued practice of ERiA can shift moral intuitions such that the newly developed judgments begin to feel right. Given the thesis that implicit bias is the product of previous experience and practices, what will be the long-term result of habituating 8KQ ethical reasoning practice and experience? With continued practice and experience over time, except possibly in instances of non-adaptation due to trauma (Damasio), we would expect to observe that biases will be shifted and brought into alignment with the judgments of ethical reasoning. This possible re-alignment, however, remains to be studied.

Another important future task will be to estimate the impact of ethical reasoning skills on behaviors outside the classroom setting. While the assessment instruments presented in this study indicate progress in existing learning outcomes (SLO 1–5), they do not tell us much about actual behavior outside the classroom. The evidence shows, however, that meaningful changes in attitudes and skills with respect to ethical reasoning can be brought about through the 8KQ educational program. Those changes in attitudes and skills include increasing awareness of life’s ethical dimensions, enhancing reflection by using a broad range of ethical considerations, and exposing blind spots and bias before making complex ethical decisions. It therefore seems reasonable to expect that developing ethical reasoning skill through the 8KQ strategy may perhaps also lead to improved behaviors, broadly speaking. While anecdotes from students who claim to use the 8KQ in their everyday life are indeed promising, we have yet to identify appropriate assessments for real-world application of the 8KQ outside the classroom setting.

Conclusion

Equipping students to make better informed ethical decisions in personal, professional, and civic domains presents a tremendous opportunity and significant challenge to higher education. Ethical Reasoning in Action confronts the challenge by specifying a strategy of question-asking using the 8 Key Questions, and putting that strategy into place throughout the university’s academic and student affairs structures. Designed with meaningful assessment in mind, Ethical Reasoning in Action offers a growing body of evidence that students’ ethical reasoning competencies can be and are being improved. Our hope is that students will use their improved competence beyond the university classroom and in ways that expand upon the specifically-defined student learning outcomes used in the study.

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Declaration of Interest
The authors have no financial interest or benefit as a result of the direct applications of the research.

References


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