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A study of outcomes based educational interventions and moral development of undergraduate college students

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A STUDY OF OUTCOMES BASED EDUCATIONAL INTERVENTIONS AND MORAL
DEVELOPMENT OF UNDERGRADUATE COLLEGE STUDENTS

A dissertation submitted to
the Graduate College of
Marshall University
in partial fulfilment of
the requirements for the degree of


Doctor of Education
in
Curriculum and Instruction
by
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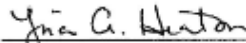
APPROVAL OF DISSERTATION

We, the faculty supervising the work of Jay Christopher Robert Wildt affirm that the dissertation, *A Study of Outcomes Based Educational Interventions and Moral Development of Undergraduate College Students*, meets the high academic standards for original scholarship and creative work established by the College of Education and Professional Development. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication



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DEDICATION

This dissertation is dedicated to my wife, JoAnne. Her devotion, encouragement, and sacrifice were integral to the success and quality of this work. Over the many years we have been together, her love and values have been the cornerstone of our life together. JoAnne, I love you most of all, and then some. I also dedicate this dissertation to my late mother Mae Ellen Wilson. She expected nothing but the very best from her children. Her work ethic and moral guidance will be part of me forever.

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ABSTRACT

Discussions regarding moral development and subsequent behavior are common in political and philosophical arenas. The consensus is that resolutions of moral dilemmas are best accomplished through careful deliberation and the use of principled moral reasoning. The purpose of this study was to examine changes in moral development in undergraduate college students who participated in an outcomes based education program. The study also investigated the influence of certain demographic and attribute variables on moral development within the same population.

This study examined extant data from 295 University of Charleston (UC) students who took the Defining Issues Test as freshmen and then again during their senior capstone. Paired samples t-tests produced statistically significant evidence of movement toward post-conventional methods and away from the use of lower level conventional modalities when resolving moral dilemmas. The result of paired sample t-tests and ANOVA comparing demographic and attribute variables to changes in DIT-2 sub-scores showed mixed results. Overall, students' capacity to resolve moral dilemmas using higher order thinking was demonstrably strengthened. However, there were insufficient data to suggest that any one group within the overall cohort encountered educational interventions that significantly affected that ability more so than the entire population.

A STUDY OF OUTCOMES BASED EDUCATIONAL INTERVENTIONS AND MORAL DEVELOPMENT OF UNDERGRADUATE COLLEGE STUDENTS

CHAPTER 1: INTRODUCTION

The study of morality and the use of frameworks for resolving moral dilemmas have been linked to education since Aristotle and his students explored ethics in the 4th century BCE.

Aristotle referred to the capacity for virtuous behavior as *moral beauty* (Diessner, Iyer, Smith, & Haidt, 2013). Xenophon, a pupil of Aristotle, considered the construction of a systematic ethical framework essential to the power base of elites (Johnstone, 1994).

Much later, as Darwin explored the Galapagos Islands, he wrote that values and the capacity to develop a sense of moral judgement could arise from increased intelligence (Joyce, 2014). Darwin further suggested that the capacity to decide a right action from wrong is similar to evolution in that it occurs unconsciously. Nietzsche, although in disagreement with Darwin over natural selection (Addis, 2012), seemed to agree when he supposed that behavior occurs intuitively and standards of behavior are wrought from individual and temporary experiences (Haase, 2008; Johnson, 2010). However, the actions of human beings continue to make it clear that choosing to do the right thing remains elusive, regardless of the origin of morality and the experiences affecting the values of human beings.

In the late 1960s, the Civil Rights movement was capturing the attention of the world. Millions watched as African Americans and Whites clashed over just and fair treatment. Dr. Martin Luther King demonstrated to the world that much work was needed for America to be the land of just laws. His effort to end racist laws and discrimination ultimately cost him his life. Today, racial bias continues despite the election of the first African American President of the United States. Other crises of morality continue. Environmental concerns, unfair business

practices, and cross-cultural conflict fuel discussions on the future of moral behavior in an ever smaller world.

Businesses world-wide are now recognizing the value of post-conventional thinking - the view that decision-making should be driven by overriding principles of rightness (Rottig, Koufteros, & Umphress, 2011; Burcea, 2015; Steele & Branson, 2014), and since the 1970s, ethicists have fought for the inclusion of ethics education as part of instruction at the collegiate level (Bebeau, 2002). Lawrence Kohlberg described post-conventional thinking as a “most developed way of thinking” (Rest, Narvaez, Bebeau, & Thoma, 2009, p. 172), and any laws or proscription of behavior should universally reference ethical behavior (Rest et al., 2009). Since then, as technology brought news from around the world into living rooms, it remains clear that ethics education is an essential for many disciplines (Hazels, 2015).

The concepts of justice and care were the focus of a number of significant works seeking to quantify individual moral development and factors that affect it (Jorgensen, 2006; Maddix, 2011). A consistent finding indicated growth in the ability to identify and resolve moral dilemmas can be wrought from life experiences, including formal learning (Kohlberg, 1979; Kohlberg, 1984; Kristjánsson, 2014). Another group of studies identified possible increases in capacity for moral reasoning specifically as a consequence of educational intervention on the topic (Bebeau & Thoma, 1999; Mayhew et al., 2012; Walker, 2002). However, the relationship between moral judgement, educational intervention, and certain attribute variables was a less common research topic.

Research suggests moral development is influenced by factors such as political ideology, academic ability, or socioeconomic status. In those studies, researchers used two methods for assessing moral development; the moral judgement interview (MJ) or the Defining Issues Test

(DIT) (Kohlberg, 1979; Power, 2012; Rest, Thoma, & Edwards, 1997). Both the MJI and the DIT are based on elements of Kohlberg's model of moral development (Rest et al., 2009). Kohlberg developed the Moral Judgement Interview as a way to test his hypotheses about stages of moral development (Rest et al., 2009). The MJI is a comprehensive one-on-one evaluation of the level of moral judgement performed through dialogue. Interviewees evaluate ethical dilemmas and discuss options and rationale for choices which provide evidence for stages of moral development (Rest et al., 1997).

The Defining Issues Test is another more common method of assessing moral development. The DIT borrows much of the information from Kohlberg's MJI, but the assessment is administered via a questionnaire, which provides some advantages such as convenience and ease of scoring (Rest, Cooper, Coder, Masanz, & Anderson, 1974). Over time, further refinements of the instruments resulted in the current form of the Defining Issues Test, commonly called the DIT-2. The DIT-2 is used throughout the world to assess moral development. Higher education institutions use the DIT-2 as a method to evaluate the effect of ethics education on accounting majors (Shawver & Sennetti, 2009), counseling interns (Cannon, 2008), law students, medical students, and other professional vocations (Bebeau, 2002).

Any school that purports to influence the ethical constructs of its students should expect to be held accountable for those claims. Outcomes of educational interventions, including those with a goal of moral development, should be measurable and assessed regularly. The DIT-2 can help accreditation bodies, faculty, and administrators evaluate curriculum designed to improve student reasoning and behavior (Mayhew, Pascarella, Trolan, & Selznick, 2015). The DIT-2 also allows for a number of statistical analyses, including reliability and response validity measures. The Center for the Study of Ethical Development (2015) states that the DIT and DIT-2

have been evaluated in terms of a number of criteria in over 400 published articles. Over 13,000 respondents' data have been analyzed by the Center (Bebeau & Thoma, 2003).

The DIT-2 determines the primary way that individuals recognize and resolve moral dilemmas (Thoma & Dong, 2014; Walker, 2002). James Rest's work using the DIT-2 allowed for significant progress in verifying the validity of the instrument and refining its use for measuring the effect of interventions, specifically professional education (Thoma, 2002). Much of his research explored the validity and reliability of the Defining Issues Test as the ideal instrument for assessing moral development.

This study sought to, using DIT-2 results, evaluate and explore changes in moral development that occurred in undergraduate students between the freshman and senior year at a private four-year university with an outcomes based curriculum. A primary goal was to determine if differences in entry and exit level DIT-2 sub-scores existed and if the differences were more pronounced in certain sub-populations.

Moral Development Curriculum at the University of Charleston

Approximately 16 years ago, the University of Charleston (UC), a small private institution in West Virginia, developed a curriculum that provided for specific experiences in six key areas called Liberal Learning Outcomes (LLO). They are Citizenship, Communication, Creativity, Critical Thinking, Inquiry, and Ethical Practice. For each LLO, faculty develop a number of experiences that are integrated into courses within each major. As a requirement for graduation, each student must present evidence of foundational, mid-level, and advanced competency related to each LLO, including ethical practice. Foundational-level outcomes are met through introductory experiences in freshman First Year Experience programs. Some outcomes such as Critical Thinking require at least two mid-level experiences. The Ethical

Practice LLO experiences occur in the first year (foundational level), the sophomore and junior year (mid-level), and the senior year (advanced level). Some majors have specific courses designed to emphasize ethical practice and moral development where other majors may provide opportunities for students to show competency within a course that meets the standard for an Ethical Practice Outcome designation.

As students advance toward graduation, LLO experiences increase in rigor and complexity. Ultimately, each student must present evidence of advanced-level outcome attainment. Assessment of students' key assignments or experiences is accomplished using a rubric specific to the outcome. Rubrics for each outcome are regularly reviewed by faculty, as are the key assignments. The ethical practice rubric describes five criteria for ethical decision-making along the y-axis and five levels of proficiency, ranging from insufficient to exemplary, along the x-axis. With regard to Ethical Practice, the expectation is that outcomes based learning will increasingly enable students to express the ability to identify and resolve moral dilemmas as part of key assignments. Rubric scores are captured and analyzed by the institution.

Regular reviews and approvals of all LLO experiences are the responsibility of Liberal Learning Roundtables. Roundtables consist primarily of faculty, administration, and staff stakeholders. The Ethical Practice LLO is an important facet of the UC experience. For each class offering a LLO, the key assignment is the primary method for demonstrating attainment of the outcome. A rubric is used to assess the competency of the learner. For experiences involving the Ethical Practice Outcome, students' skill at resolving issues of morality within an assignment or throughout a course is assessed. Skill in resolving moral dilemmas, essential to ethical practice, are assessed using the Defining Issues Test. Changes in moral development as a result of the undergraduate experience can be seen by analysis of DIT-2 results.

The DIT-2 is administered to students at UC in their freshman year and again when they are seniors. The scores are reviewed and shared with faculty. The results have not been used to explore the relationship between changes in moral reasoning, student demographic or attribute variables, or programmatic interventions related to ethical practice. Increased scrutiny of DIT-2 results may provide UC important information about educational interventions in academic disciplines and co-curricular activities that may affect the moral development of students. Additionally, if specific educational interventions regarding ethics occur within academic disciplines, DIT-2 results may provide some evidence of success. Identifying relationships between moral development and attribute variables of the student population could be very useful when considering approaches to ethics education holistically, in programs, and in certain student populations. On a broader scale, the analysis may have implications for any institution using the DIT-2 to assess curriculum, programs, and interventions designed to affect the capacity for improved moral judgement of students.

Problem Statement

Many higher education institutions measure moral development resulting from the collegiate experience, often using the Defining Issues Test (DIT-2). In most cases, the DIT-2 is administered at the end of the undergraduate period to obtain a snapshot of graduates' capacity to identify and resolve moral dilemmas. Other schools obtain DIT-2 results from freshmen and seniors to ascertain changes in moral development from the start to finish of the undergraduate college experience.

Colleges and universities, including Christian schools where the mission promotes character education, have a particular interest in the impact of curricula on student moral development. Educational interventions focusing on ethics and morality are common in religion-

based universities, but the impact of the use of ethics-focused curricula and commensurate assessments of student learning gains in non-religious-based universities are somewhat inconsistent. DIT-2 studies that document the relationship between demographics, attribute variables, and moral development gains resulting from educational interventions could also be useful to universities. Little attention has been paid to the effect of demographic variables (sex, high school grade point average, and ACT scores) as factors that may be related to changes in moral development.

Therefore, this study seeks to determine if there are differences in moral development, as measured by the DIT-2, between the freshman and senior year of college in students participating in outcomes based educational programs. Additionally, DIT-2 scores of students will be analyzed, accounting for a number of demographic/attribute variables. The differences among DIT-2 scores and demographic subdivisions such as high school GPA, sex, co-curricular involvement, final undergraduate GPA, and economic status markers will also be examined.

Research Questions

Specific research questions addressed in the study include:

1. What are the differences, if any, in the entry and exit levels of moral development of undergraduate college students who have participated in an outcome based ethics-focused curriculum?
2. What are the differences, if any, in the entry and exit levels of moral development in undergraduate college students who have participated in an outcome based ethics-focused curriculum, based on selected demographic and attribute variables such as, sex, athletic participation, high school grade point average, time to complete undergraduate degree, ACT score, final undergraduate grade point average, and socio-economic status.

Operational Definitions

For the purposes of this study, the following definitions were used:

Level of Personal Interest decision-making – Personal Interest (2/3) decision-making frameworks are identified as strongly influenced by avoidance of punishment, maintaining friendships, and obtaining the approval of others (Bebeau & Thoma, 2003). In the DIT-2, this result is referred to as the 2/3 or PI score. It is a ranking of zero to 97. For this study the 2/3 schema from the DIT-2 result represents “the proportion of items selected that [are influenced by personal interest]” (p. 18).

Level of Maintaining Norms decision-making – Maintaining Norms (4P) decision-making frameworks are identified as strongly influenced by social norms such as rule-following, maintaining existing legal systems, interpersonal roles, and organizational structures (Bebeau & Thoma, Guide for DIT-2, 2003). In the DIT-2, this result is referred to as the 4P or MN score. It is a ranking of zero to 90. For this study, the 4P schema represents “the proportion of items selected that [focus on maintaining norms]” (p. 19).

Level of Post-conventional decision-making – Post-conventional (P) decision-making frameworks are identified as grounded in an abstract set of universal ethical principles (Bebeau & Thoma, Guide for DIT-2, 2003). In the DIT-2, this result is referred to as the 5/6 or P score. It is a ranking of zero to 95. For this study, the Post-conventional schema represents “the proportion of items that [are influenced by universal ethical principles]” (p. 19).

Weighted Post-conventional score (N2) – The Weighted Post-conventional (N2) index is a mathematical adjustment of the post-conventional thinking (P) score to account for rejection of personal interest and irrelevant items from the DIT-2. The N2 result is particularly useful in

evaluating the effect of educational interventions. The weighted Post-conventional score also outperforms the P-score in terms of construct reliability.

The following demographic and attribute variables are collected from UC's Ellucian database.

Sex – a demographic variable (male or female).

Athletic participation – the act of attending an institute of higher education while also playing a school sponsored NCAA sanctioned sport.

High school grade point average (HSGPA) – the grade point average assigned to high school graduates as reported on their official high school transcript upon admission to college. The range is typically 1-4 although some students receive a greater than 4.0 GPA due to certain academic achievements.

ACT Score – American College Testing is a measure of college readiness and high school achievement through assessments of English, Mathematics, Reading, and Science Reasoning. The four main test scores, which range from 1 to 36, are averaged, resulting in the reported composite score.

Undergraduate grade point average (UGGPA) – a student's final grade point average determined upon graduation.

Time to degree – The length of time in years to obtain an undergraduate degree.

Academic discipline – groupings of students by educational majors into four general categories: Humanities, Business, Science, and Health Sciences.

Expected Family Contribution (EFC) – the amount of students' parents' contribution to college tuition, room, and board. An EFC below \$5000 meets Pell grant eligibility requirements.

Federal Loan Debt (FLD) – The amount owed in federal student loans upon graduation.

Educational major – the specific identified area of study such as Accounting, Nursing, Athletic Training, Chemistry, or Biology, collected from students’ academic record.

Significance of the Study

Recent events on college campuses and throughout the world have highlighted apparent lapses in moral judgement by both college students and corporate officers. It is possible, however, that the reason behind the increased reporting of these incidences may be improved communication technology. Any moral lapse is considered important information to be recounted immediately. Another reason for the apparent uptick in moral lapses may be that, in fact, morality is on the decline. Many people, including college students and well-educated adults, are more and more often making poor decisions. There are many examples.

The collapse of Enron was caused by the misrepresentation of the company’s financial health by its Chief Executive Officer and other high-ranking officials. The fraud and deception by individuals at Enron resulted in the loss of thousands of jobs and billions of dollars by employee pensioners and investors. On a smaller but equally disturbing scale, CNN reported that racist chants led by members of a University of Oklahoma fraternity, Sigma Alpha Epsilon (SAE), were actually taught to members of the fraternity at a national SAE leadership event (Ellis, 2015). The SAE chapter at the University of Oklahoma lost its charter and virtually every member of the fraternity was disgraced. These two examples are compelling reasons for instructional interventions focused on increasing moral development and improving the ability to recognize and appropriately solve moral dilemmas.

In the past 30 years, colleges and universities have highlighted efforts to deliver programs that include ethics instruction. At a minimum, curricula may include references to doing the right thing. Resolving dilemmas in a considered manner, and explorations of philosophical

underpinnings of ethical perspectives such as egoism, utilitarianism, and deontology are often ethics focused university offerings. Studies of bioethics also include principles such as beneficence, autonomy, and distributive justice (Bebeau, 2002; Vaughn, 2013). However, schools and programs have inconsistently assessed the results of these interventions on the moral development of students. Many curriculum planners felt that refining the morals of students was something beyond the capacity of instructors and moral development happened external to formal education (Park, Kjervik, Crandell, & Oermann, 2012). That perspective has changed in the last 30 years. Universities and professional schools are now emphasizing the need for and highlighting results of programs meant to facilitate moral development (Adkins, 2013; Bebeau, 2002; Hall, 2004).

The development of assessments such as the Moral Judgement Interview and the Defining Issues Test afford educators opportunities to measure the development of moral reasoning resulting from curricular intervention. Although assessment tools such as the DIT-2 are readily available, a number of factors limit their use. Studies using control groups, research on programmatic intervention, and pre and post collegiate experience measurements are constrained by cost or concerns about confidentiality (Bebeau, 2002). Nevertheless, refinements in the DIT-2 and an ever-increasing necessity for broad assessment of learning, including ethics education, are mollifying that concern.

It is increasingly possible to obtain DIT-2 results from institutions without sacrificing the importance of protecting the identity of participants. It is also possible to cross-reference an institution's DIT-2 results with databases that contain information regarding socio-economic status, high school GPA, co-curricular involvement, college major, and other variables without compromising Institutional Review Board (IRB) requirements to protect student identities.

Schools that have a specific ethics focused curriculum should be particularly interested in these evaluations. Interest in the DIT-2 has increased since the inclusion of Weighted Post-conventional (N2) rankings that are sensitive educational intervention enhancing critical thinking skills.

Some data collection and analysis leads nowhere (Teo, 2013). However, this study may have a direct impact on the use of the DIT-2 and outcome based curriculum development at UC. Consistent positive increases in student moral development will affirm the mission of the institution as one that focuses on preparing students to be reasoned, engaged, and competent world citizens. Little or no increase in scores may require the university to evaluate factors leading to a less desirable result.

John Gardner (2012) wrote of the significance of formative assessment *for* learning when he stated that "...overall standards and individual performance may be improved by actually emphasizing formative assessment techniques..." (p. 280). Since summative assessment is a hallmark of outcome-based education, the comparison of freshman and senior results of the DIT-2 should reflect programmatic and curricular efficacy related to ethics education and moral development.

Delimitations

This study was limited to those students who took the DIT-2 as freshman during their first year of college at UC in the fall of 2008, 2009, 2010, 2011, and 2012 and again during the senior capstone class, typically four years later. The second DIT-2 assessments were completed in the fall and spring of 2012, 2013, 2014, and 2015.

Organization of Study

Chapter 1 introduces the study and provides specific research questions. Chapter 2 is a review of related literature. Chapter 3 describes research methods including data collection and proposed analysis. Chapter 4 contains the research findings. Chapter 5 offers a brief summary of the study then provides conclusions, implications, and recommendations for further research.

CHAPTER 2: LITERATURE REVIEW

The history of efforts to educate students about moral development through classroom discourse has its roots in the works of Socrates, Plato, Aristotle, and Kant. Socrates asked his students to pursue the question of morality, or how they should live (Lickona, 1976; Vaughn, 2013). He felt that the essence of moral development came from "...guided experiences of life..." and "...the molding of psychological and behavioral patterns of seeing and doing through repeated practice..." (Kristjánsson, 2014, p. 336). Socrates struggled with the concept of morality and whether moral behavior could be taught to students (Lickona, 1976). Plato also wrestled with the idea. He questioned the utility of connecting ethics and moral philosophy to education (Carr, 2007). Klosko (2006) felt Plato's views on moral behavior were focused more on the actor and less on "the interests of other people" (p. 119), essentially ignoring the social relationship inherent in moral behavior. Kant and others focused more on the consequences of actions and how individuals might best evaluate choices for resolving moral dilemmas.

Immanuel Kant's views on moral behavior spoke to intent, mirroring faith-based ethical principles (Kohlberg, 1984). As a deontologist, and perhaps the original deontologist, Kant was adamant in his perspective on moral behavior. Kant wrote that regardless of the consequences, the choice in resolving a moral dilemma must be consistent. He wrote that good alone counts (Ziegler, 2016). This phrase has been interpreted as applicable to both good actions and the characteristic of goodness (Kerstein, 2004). Kant agreed with Aristotle in that the development of virtue is important. Unlike Aristotle, Kant felt it could happen in a numbers of ways, not just through educational intervention. Kant viewed moral behavior as enabled by a sense of responsibility, or duty. The good Kant spoke of is led by a reasoned universal moral code, without focusing on the consequences (Demetriou-Achilleos, 2012). The consequences of any

act are morally immaterial, according to Kant. He stated that the principle always to be satisfied is the “categorical imperative” (Munson, 2004, p. 752). Fulfilling the categorical imperative requires the actor to respond to similar circumstances in the same way. Kant refers to that reaction as a duty. Providing examples, Kant would say that: 1) it is never right to lie, regardless of the consequences, 2) we must treat people as ends and not as means to an end, and 3) an action is right when it fulfills the categorical imperative. Kant’s views on moral education are notable as well. He wrote that children could learn independent of intervention. “...the child must be free in all matters...”, and he suggests that a cognitive difference exists when comparing children to adults, and the “...ultimate objective of education is to advance not the welfare of the individual students but rather the moral perfection of the human species as a whole” (Louden, 1997, p. 86). He suggests, then, that moral development can happen independent of education, although he refers to children and does not appear to apply his ideas to young adults.

Socrates, Plato, and Kant all ultimately focused on the philosophy of doing the right thing, but seemed to eschew the reduction of moral education to a scientific pedagogical process (Carr, 2014). Moral development for them was more complex and could be influenced by factors other than education. Aristotle’s influence was, to a degree, in opposition to Socrates and Plato. His focus on the scientific process and scholarship remains essential to explorations of developmental psychology (Sife, 1990). He also saw moral development as a continuum, instead of the Piagetian view of a distinct stage-wise process (Silverstein & Trombetti, 2013). Nonetheless, his writings describing moral behavior as an autonomous individual journey, related more to personal choice than educational intervention. This view contrasts with some of his fellow philosophers (Fowers, 2012).

Even today, a rift of sorts exists among educational theorists regarding the basis for or the utility of moral education. A lack of consistent measurable relationships between educational intervention and moral development continues to confound theorists and researchers. Attempts to develop clear connections between the progression of morality and cognitive growth have consumed the lives of researchers (Silverstein & Trombetti, 2013), including Lawrence Kohlberg and James Rest. The answer to questions about moral development and effective character education remains both controversial and elusive 2,300 years after Aristotle's time.

Theoretical Models of Moral Development

A number of theoretical models or paradigms have emerged attempting to explain the development of morality in humans. Aristotle and John Locke wrote that moral development was an important part of a child's education. Aristotle focused on experiences and good habits. Locke espoused the importance of the instructor having Christian ideals, which would provide a model for appropriate behavior (Yolton, 1971).

Often the perception of and resolution to moral problems is determined by concepts of fairness and justice (Kohlberg, 1981; Rest, 1979; Piaget, 1932; Rest, Thoma, & Edwards, 1997). Charles Darwin wondered about the relationship between the evolution of man and moral behavior. He inferred that the development of morality was a biological adaptation (Joyce, 2014). Freud, along with B. F. Skinner, described moral development as both conscious and unconscious with rules governing the former and contingency-based behavior central to the latter (Overskied, 2007). Although subsets exist within the two, generally the models refer to moral development as mechanistic or organismic (Looft, 1973).

The mechanistic developmental model describes the process as a reaction to external stimuli (Passini & Villano, 2013). Educational intervention may fit within the mechanistic model. The other, addressed more by Piagetian theory, is the organismic model. Piaget suggested that development occurs because of changes from within and referred to the innate need for balance between the organism and its environment as equilibrium (Looft, 1973; Swenson, 1980).

Jean Piaget focused much of his work on the development of children. He wrote extensively on the construction of knowledge. His research spanned five decades and left lasting contributions to developmental psychology. Since his death in 1980, Piaget's work continues to inform psychologists about the constructivist view of development (Beilin, 1992; Lourenco & Machado, 1996). One of his most important works, *The Moral Judgement of the Child*, was a pioneering manuscript intended to "provide a cognitive-developmental account of moral reasoning and judgement" (Carr, 2007). As Piaget's work centered on children, he was keenly interested in the formation of their sense of justice and the assemblage of rules that guide behavior and interaction (Piaget, 1932). He ultimately wrote that children were capable of constructing unique, ordered internal processes used as frameworks for morality and ethical behavior.

Development, according to Piaget, appears to happen suddenly. A child's accumulation of experiences results in the apparent sudden ability to recognize and solve problems. To the onlooker, the capacity to do so appears to be an epiphany on the part of the child, when in fact the ability comes from experience (Hayes, 1978; Marx, 1970). Swenson (1980) summarized Piaget's views on moral development as a set of rules governing interpersonal behavior as consistently reciprocal. When a child moves from preoperational, concrete operational, and formal operational stages, the perspectives used for moral judgement change. Preoperational

resolutions to moral dilemmas are egocentric, assuming actions of others are similar to their own. Concrete operational behavior focuses on peer and group norms, called conventional moral judgement. Finally, formal operational thinking allows for “multidimensional moral judgements based on abstract principles [such as social justice] ... which may not conform to group norms” (p. 334). The Piagetian constructivist developmental theory inspired Lawrence Kohlberg’s work on moral development.

Kohlberg wrote and researched extensively on moral development as discussed in Piaget’s *Discussions on Child Development* (1960), and incorporated those ideas when he wrote of moral development and attributes of moral stages. He saw morality “as a general or global cognitive system that undergoes a series of transformations in development characterized by progressive differentiation and integration of social knowledge” (Passini & Villano, 2013, p. 235). He wrote extensively on the matter, including a series of thoughts on stages as applicable to moral development.

1. Stages imply distinct or qualitative differences in structures (modes of thinking) which still serve the basic function (e.g. intelligence) at various points in development. The different structures form an invariant sequence, or succession in individual development. While cultural factors may speed up, slow down, or stop development, they do not change its sequence.
2. Each of these different and sequential modes of thought forms a structured whole. A given stage- response on a task does not represent a specific response determined by knowledge and familiarity with that task or tasks similar to it; rather, it represents an underlying thought-organization. The implication is that various aspects of stage structures should appear as a consistent cluster of responses in development.
3. Stages are hierarchical integrations. As noted, stages form an order of increasingly differentiated and integrated structures to fulfill a common function. Accordingly, higher stages displace (or, rather, reintegrate) the structures found at lower stages (Kohlberg, 1973, pp. 181-182).

Kohlberg was not always convinced of Piaget's assertion that developmental process occurred in stages. In his early years, he investigated the development of moral judgement of children using Piaget's premise of development through an unconscious structural framework. Ultimately, however, he did not connect moral development to childhood experiences and play (Davis & Bergen, 2014). What he found was less instinctual behavior but evidence of constructivist processes. He wrote of this in his forward to Rest's (1979) book *Development in Judging Moral Issues*.

Kohlberg's (1973) change to focus on the concept of stage may have been partly due to the lack of research in this area. His increasing interest in the idea of stage-wise moral development as a result of social learning constructs consumed much of his life, although his early work received little notice (Rest, 1979). Despite holding a constructivist view on moral development, Kohlberg also espoused a universal construction of morality independent of external influence, which conflicts with the Piagetian view (Kavathatzopoulos, 1991; Weinstock, Assor, & Broide, 2009). This apparent change in perspective was the source of later criticism. His detractors saw him as overreacting to opposing viewpoints by modifying some of his suppositions. Others simply saw him as open-minded (Rest, Narvaez, Bebeau, & Thoma, 2009).

Another important facet of Kohlberg's work pertained to the goals of education. In line with his view of the constructivist nature of moral development, Kohlberg viewed education as a catalyst for stage-wise increases in the ability to resolve moral issues. He asserted that conventional educational processes must enable lifelong developmental capability (Higgins-D'Alessandro, 2015). He described development as integral to educational outcomes and felt that character education should be delivered in a way that does not require behavior. Instead, his view was that schools must develop and integrate pedagogy that references morality without insisting

upon it. In essence, he said, “all education was moral education” (Higgins-D'Alessandro, 2015, p. 28).

James Rest, another developmental theorist and researcher, was very interested in Kohlberg's ideas and spent much of his life developing instruments to test them more precisely (Rest, Cooper, Coder, Masanz, & Anderson, 1974; Rest, Thoma, & Edwards, 1997). Other influential theorists offered perspectives that were similar to Kohlberg's earlier views on the construction of morality and others did not (Rest, Narvaez, Bebeau, & Thoma, 2009). James Rest embraced Kohlberg's view generally, although he differed with him regarding the rigid stair-step model of moral development (Rest, Narvaez, Thoma, & Bebeau, 2000), and worked to refine both theoretical models of moral development and methods to assess it.

Nietzsche, influenced by Arthur Schopenhauer and the German Materialists, wrote that actions, and the construction of ideals that drive them, are wholly borne of insentient psychological methods unconscious to the actor (Leiter, 2015). Unlike Rest and Kohlberg, he viewed societal cooperation as a foolish endeavor (Rest, Thoma, & Edwards, 1997). He denied the possibility that there are internal processes that can modify motive for actions. In other words, he proposed, it is unlikely that human beings' response to events can be driven by anything other than the unconscious desire to inflict suffering. As a result, no person can be held responsible for his or her response to circumstances requiring the resolution to a moral dilemma.

Nietzsche believed goodness and evil were constructs meant to appease the weak (powerless) by offering salvation through the afterlife and punish the wicked (powerful) through the possibility of damnation. He posits that this behavior is not because the weak refuse to be evil, but only because they did not have the capacity to inflict pain on those more powerful. His

view is that our ethical perspectives are driven by self-interest, despite experiences or intervention.

Carol Gilligan offers a unique perspective on moral development and often was critical of Kohlberg's work. Moral development, in her view, is more aptly called "care development," a mechanism for dealing with the sexist character of today's society (Puka, 1990). Her views are said to reflect a rejection of the patriarchal majority of developmental models such as Kohlberg's cognitive-developmental theory. Gilligan proposed significant feminist-centered alternatives to the moral development perspectives as offered by Kohlberg and others (Sherblom, 2008). Gilligan noted that Kohlberg omitted women from his research, and considered doing so a major impediment to the development of a universally applicable theory. Her own studies allowed for the identification of a moral perspective that involved recognition of human interconnectedness, and empathy (Simola, 2015). Her theory was applicable to all sexes although it had clear feminist origins. She wrote that a "paradigm shift" was needed because previous views of development told "a false story about ourselves, falsely gendered and false in its representation about human nature" (Gilligan, 2014, p. 90). The differing and at times conflicting perspectives of Gilligan and Kohlberg began with her review and criticisms of an early work by Kohlberg (1969), describing Cognitive Moral Development (CMD). He described moral evolution in terms of six stages, such as avoiding punishment, seeking rewards, need for belonging, utilitarianism/social contractarianism, and finally a deontological position similar to the Kantian position of morality. Gilligan, however, rejected Kohlberg's taxonomy as focused on the male perspective and contrasted his justice-oriented perspective with her care-oriented views. She asserted that the moral development of men centered on individuality, which contrasted with the connectedness focused moral development of women (Donleavy, 2008). Despite her assertions,

there remains little empirical evidence that confirms her view of separate moral perspective for males and females and some authors have difficulty with the contrast (Kyte, 1996; Donleavy, 2008).

Kohlberg's Model of Moral Development

Lawrence Kohlberg's model of moral development seeks to measure an individual's construction of morality, especially beyond adolescence (Kohlberg & Kramer, 1969). He referred to the process as "a continual process of matching a moral view to one's experience of life in a social world" (p. 118). In essence Kohlberg sought to explain the process of developing the ability for doing the morally correct thing and the steps taken to do so; the cognitive development of moral judgement.

Kohlberg (1976) notes the utility of passing through stages of intellectual growth as described by Piaget, particularly formal operational thinking. Kohlberg suggests, as do others (Smith, 1986), that the capacity to test moral hypotheses and their implications is useful when moving through the stages of moral development. The capability for formal operational thinking begins to develop during the adolescent years. Cognitive development resulting from experiences, which support new learning, are inherently part of cognitive models (Cooper, 2007). However, movement beyond the lower stages of moral development can be hindered by weakness in constructivist abilities. Lack of interest and developmental readiness among other attributes may affect student receptivity to curriculum focusing on development (Cooper, 2007), including that intended to promote moral development. Kohlberg's (1969) cognitive-developmental theories require the following suppositions:

1. Basic development involves...transformations of cognitive structure which cannot be defined or explained by...associationistic learning (contiguity, repetition, reinforcement,

etc.), and which must be explained by parameters of organizational wholes or systems of internal relations.

2. Development of cognitive structure is the result of processes of interaction between the structure of the organism and the structure of the environment, rather than being a direct result of maturation or the direct result of learning....
3. Cognitive structures are always structures (schemata) of action. While cognitive activities move from the sensorimotor to the symbolic to verbal-propositional modes, the organization of these modes is an organization of actions upon objects.
4. The direction of development of cognitive structure is toward greater equilibrium in this organism-environment interaction... (p. 348).

Kohlberg is saying that, similar to Piagetian ideas, moral development is stimulated through attempts to make sense of the world and that development has a step-wise structure (Kohlberg, 1969; Rest, Narvaez, Bebeau, & Thoma, 2009). Moral judgement, then, requires the identification of the issue at hand, the construction of alternative resolution strategies, and the choice of an act to resolve the dilemma (Rest, Thoma, & Edwards, 1997). The approach to resolving conflict, according to Kohlberg's early work, occurs in six sequential stages, subsumed within three major levels (Kohlberg, 1969; Kohlberg, 1973; Lickona, 1976). The resolution process focuses on ethical principles, which may vary depending on the stage and perspective used by the agent. Stages 1 and 2 are under the Pre-conventional Level I. Kohlberg (1969) describes the basis of moral judgement as "...resid[ing] in external quasi-physical happenings, in bad acts, or in quasi-physical needs rather than in persons and standards" (p. 376). Stages 3 and 4 are under the Conventional Level II. Kohlberg (1969) describes the basis of moral judgement as "resid[ing] in performing good or right roles, in maintaining the conventional order and the expectations of others" (p. 376). Stages 5 and 6 are under the Post-Conventional Level III.

Kohlberg (1969) describes the basis of moral judgement as “resid[ing] in conformity by the self to shared and sharable standards, rights, and duties” (p. 376).

Kohlberg also groups the three major stages (pre-conventional, conventional, and post-conventional) of moral judgement with three associated social perspectives, or role taking. Role taking describes how an agent views and assimilates the judgements and feelings of others into personal attitudes and behavior (Kohlberg, 1976; Lickona, 1976). Although role taking is similar to moral stages, its relationship and function is somewhat different.

According to Kohlberg (1979), role taking begins with the assumption that all societies or cultures have similar foundations that organize and administer processes. Laws or strong traditions that inform societal behavior exist across nations and cultures. Despite variations in structure or symbolic source, a common structure driving behavioral expectations exists universally. This structure, then, provides a moral viewpoint that embodies learned behavior and attitudes. The act of role taking allows for modeling empathy, guilt, disapproval and other ideals as part of cognitive growth associated with moral development (Kohlberg, 1984). Fairness and choices of right or wrong are more complex ideas unrelated to social perspectives. Even though there are relationships between role taking (resulting from cognitive growth) and moral development, determination of the stage of moral development can be done through moral reasoning assessment such as the Defining Issues Test (Crowson, DeBacker, & Thoma, 2007). Kohlberg developed and used the Moral Judgement Interview almost exclusively to perform research about stages of moral development. His work bolstered the view that moral development occurred over time and that certain influences such as experience and education were associated with developmental gains (Rest, Narvaez, Bebeau, & Thoma, 2009).

Criticisms of the Kohlbergian View of Moral Development

Although Lawrence Kohlberg is given a great deal of credit for his work to identify stages of moral development and developing methods for studying the idea, his detractors cite a number of flaws with the process and products of his work. Kohlberg recognized these limitations and worked to examine his ideas. As a result, he modified some of his views based on the empirical evidence presented by Rest (1997), Gilligan (1982), and others. During Lawrence Kohlberg's lifetime, hundreds of studies were done each year as researchers used his stage models as the premise for study. During the 1970s, Kohlberg's ideas were widely recognized despite a relative lack of research. Since then, empirical studies continue to support his ideas on moral development. Nevertheless, concerns about sexism in his work and movement away from social justice ideals that he embraced, have lessened the appeal of his approaches (Rest, Thoma, & Edwards, 1997).

The result was both support for and criticisms of his theory on moral development. He frequently responded to his detractors by making modifications to his methodology (Rest, Narvaez, Bebeau, & Thoma, 2009). Power (2012) states that stage six is a philosophical position rather than a psychological stage and Kohlberg's later work indicated as much.

Kohlberg also modified the definitions of moral stages and the way assessments of development were scored (Kohlberg, 1984). He refined the parameters of his six-stage theory, reducing it from universal moral thought to the "rationale ontogenesis of justice thinking" (p. 176). The result of the changes was seen by some as creating far more complexity out of a simple premise (Rest, Narvaez, Bebeau, & Thoma, 2009).

Criticisms of Kohlberg's concept of moral development are often centered on his initial use of the MJI to produce conclusions. One speaks to the view that he ignores other processes

that are seen as ingrained in morality, specifically “moral motivation, moral sensitivity, and follow through behavior” and religious influences (Rest, Narvaez, Bebeau, & Thoma, 2009, p. 33), limiting the application of his theories. Verbal response-based assessment mechanisms such as the MJI are seen as relying too heavily on the capacity of the interviewee’s ability to convey complex ideas explaining priorities used in the resolution of dilemmas (Nisbett & Wilson, 1977). The suggestion then is that interview results are not as useful as recognition data such as from the DIT. Still other critics suggest that it is a mistake to underestimate the capability of children to respond to inquiry about difficult scenarios (Damon, 1988). A common criticism of Kohlberg’s model is the rigidity of the staircase-stage idea. Kohlberg (1984) wrote that higher moral stages dislodge lower constructs and individuals, upon recognizing the utility of upper level resolution processes, discard lower level constructs. Rest (1979) offers alternative views that suggest individuals move between stages as need requires. Some dilemmas can be resolved through, for example, Personal Interest references, despite the individual’s primarily reliance on Post-conventional reasoning. One consistent problem that has been identified by a number of critics is the absence of Post-conventional thinking in the results of his studies. In fact, Kohlberg removed Stage 6 from his scoring method for lack of empirical evidence of its existence. Many consider this omission a “fatal flaw” (Rest et al., 2009, p. 24). However, the discussions between moral philosophers aside, there remains strong evidence that moral development and measures to assess progress are important. Tools such as the MJI and, most recently, the DIT-2 are important steps toward a fuller understanding of how development occurs and why it does so.

Neo-Kohlbergian Approach to Moral Thinking

James Rest’s University of Chicago dissertation, according to Lawrence Kohlberg (1979) was “the first clear evidence of internal order supporting the [developmental] stage hierarchy

hypothesis” (pp. viii-ix). The result of Rest’s dissertation was a flurry of activity to determine whether education that focuses on moral issues and decision-making affected students’ progression toward higher levels of moral thinking in stages. Rest spent the majority of his life both validating and refining his theories while working to produce a reliable mechanism for assessing patterns of moral judgement.

Rest considered moral development an integration of social and cognitive processes, influenced by age, education, and experience. Rest described his assumptions in a number of publications (1974; 1975; 1997; 2005).

Beginning at a very young age, a child’s decision-making is biased toward self-interest. This phase of moral development is referred to as stage 2/3 or Personal Interest (PI). Individuals then move through group centered moral constructs focused on maintaining social and societal norms. These constructs are most apparent in the later years of high school and the early years of college. This stage is referred to as 4P or Maintaining Norms. Finally, the hallmark of the last stage is making decisions based on sharable ideals for establishing societal cooperation that are open to debate. Considerations are biased toward intuitively appealing ideals of rightness. This perspective is most prominent in the late twenties (college seniors) and continues through adulthood. Both Rest and Kohlberg referred to the final stages as Post-conventional reasoning (Thoma & Dong, 2014; Rest, Narvaez, Bebeau, & Thoma, 2009). Despite what critics of the Kohlbergian approach to assessing moral judgement say, Rest felt Kohlberg’s beliefs were generally correct. He describes four key elements of Kohlberg’s work that guided his own:

1. Emphasizing cognition, Kohlberg’s view was that the effort to make theoretical sense of experiences is an important part of moral development.

2. Justice, duty, rights, and social order, the basic components of morality, are self-made. This idea supports constructivists' views and minimizes the idea that individuals are simply mirroring cultural influences.
3. The general notion that people move from simple constructs to more complex ones, and that some are better equipped to do so, is an essential part of development.
4. Despite Kohlberg's lack of evidence suggesting the common use of Post-conventional thinking, he felt that the process of moving to higher order constructs from lower levels of thinking seemed logical.

The Neo-Kohlbergian approach is based on Kohlberg's research. There is an acceptance of certain elements as postulated by Kohlberg and deference to concerns voiced by other researchers. The first and most important aspect of the Neo-Kohlbergian approach is the acceptance of the shift from Conventional to Post-conventional thinking. Rest accepted that the Piagetian and Kohlbergian cognitive constructivist perspective on moral development had merit. However, there were, in his view, weaknesses in the six stage theory.

As a result, Rest and others (2009) adopted the use of the three schemas (Personal Interest, Maintaining Norms, and Post-conventional) to better describe moral development while remaining true to Kohlberg's views on developmental stages. The Personal Interest schema contains elements of Kohlberg's stages 2 and 3. The Maintaining Norms schema contains elements of Kohlberg's stage 4. Finally, the Post-conventional schema contains elements of stage 5 and 6. Rest's use of the term schema allows him to integrate descriptions about stages used by Kohlberg in a condensed more coherent manner (Rest, Narvaez, Bebeau, & Thoma, 2009).

The Neo-Kohlbergian, while respectful of Kohlberg's research and views, is not satisfied with the limitations imposed on moral development. The most important aspect of the Neo-Kohlbergian approach, according to Rest and others (2009), is the "structure-content distinction" (p. 44). Kohlberg (1969; 1976; 1979) consistently favored moral development as having a structural component related to cognitive processes. The Neo-Kohlbergian suggests there are additional influences, including contextual elements.

Differentiating structure from content has a broad range of implications, including: 1) the identification of underlying structure versus surface content, 2) providing constitutionally defensible methods for teaching morality in schools, and 3) allowing for cross-cultural comparisons of "values, customs, and practices" (Rest, Narvaez, Bebeau, & Thoma, 2009, p. 46). Kohlberg's work was influenced by his belief that content and structure were distinct. His scoring structure for the MJI was modified to accommodate this conviction, and he believed that the DIT was flawed because it intermingled the two (Kohlberg, 1984). Nonetheless, as he refined the scoring system for his assessments of moral development over the years (often based on criticism from other researchers), the distinction between content and structure showed evidence of movement toward the now Neo-Kohlbergian based DIT-2. Rest argued that the distinction is less an issue than that of assuring assessment mechanisms produce results that shed light on moral development (validity) and do so in a consistently reliable fashion. He suggested that, instead of forcing the strict stage-wise moral development model into assessment, it is more useful to find another place to determine if the distinction is applicable.

Rest and others (Bebeau & Thoma, 1999; Rest, Narvaez, Thoma, & Bebeau, 2000) identified other constraints in Kohlberg's stage-wise theory on moral development. They felt he should have included other psychological influences on general moral development and that his

rigidity regarding stages did not account for “intermediate-level components...needed for a full decision-making model” (Rest, Narvaez, Bebeau, & Thoma, 2009, p. 57). Other limitations included his focus on superficial or political aspects of morality to the exclusion of the influence of relationships. Finally, they felt that the dilemmas he used for his MJI were inadequate to encompass the entire sphere of morality.

Kohlberg’s work was seen as a great beginning. Yet, for the Neo-Kohlbergian, there was more to moral development and associated research that could add to his theories. The research findings supporting an expansion of Kohlberg’s early work was an accomplishment waiting to happen. For example, Kohlberg’s work contributed a great deal to theories about the psychology of moral development and the philosophy of normative ethics (Brook, 1987). However, his focus on the Rawlsian and Kantian-based utilitarian view of justice is seen as biased to the exclusion of other Post-conventional ideals (Harvard Educational Review, 2016; Aron, 1977). Neo-Kohlbergian views also use schemas and add complexity to Post-conventional thinking instead of adopting Kohlberg’s description of stages using the staircase representation. Finally, interview assessments, such as in the MJI, are dependent on the verbal abilities of the interviewee. The result may provide an inaccurate measure of Post-conventional thinking, which is the primary index of the Defining Issues Test (Rest, Narvaez, Bebeau, & Thoma, 2009). As a result, the Neo-Kohlbergian perspective on moral development begins with a set of assumptions about assessment mechanisms, especially the Defining Issues Test. The success of the instrument should allow for a number of validity criteria, including:

- Evidence of moral development in longitudinal studies

- The ability to identify those whose education give them a differentiating advantage in the DIT, such as doctoral candidates in philosophy or political science
- A sensitivity to educational interventions related to morality
- Relationship with moral comprehension
- Predictability to stances on political issues (Rest, Narvaez, Bebeau, & Thoma, 2009).

To address the issue of validity and reliability of DIT research, Rest and others (2009) compiled a series of independent studies that support the Neo-Kohlbergian approach. They found consistent, mutually reinforcing results that deflect the notion that DIT research is lacking, old, disorganized, and limited by the use of recognition data instead of verbal production data. A comparison of the Neo-Kohlberg schemas, Kohlberg’s stages, and the DIT-2 sub-score descriptions related to moral development are found in Table 1.

Table 1

Kohlberg and Neo-Kohlberg Perspectives

Neo-Kohlbergian Schema	Kohlberg’s Stages	DIT-2 Descriptor & Sub-score
Pre-conventional	Stage 1: Avoiding punishment Stage 2: “Getting what you want” by reciprocity	Personal Interest (2/3)
Conventional	Stage 3: Meeting the expectations of others Stage 4: Fulfilling duties and upholding laws	Maintaining Norms (4P)
Post-conventional	Stage 5: Sensing the democracy and relativity of rules Stage 6: Self-selecting universal principles	Post-conventional (P & N2)

Moral Schema as Cognitive Strategy

The six stages of moral development as described by Kohlberg are arranged in a step-wise fashion. According to Kohlberg's earlier models, moral development occurs in a set sequence, moving from lower order thinking to higher more complex stages as individuals acquire a predisposition for advanced perspectives (Kohlberg, 1976). One model first proposed by Ferrell and Gresham (1985) was specific to business and marketing, but had broad implications for moral development. They described a contingency-based model of decision-making, which used consequentialist and non-consequentialist frameworks in association with personal factors such as membership in social groups, family, formal education, and organizational factors such as superior influence. They also posited that group norms and exposure to ethical and unethical behaviors are factors as well. Ultimately, their view was that the resolution of moral dilemmas was contingent upon "first order interaction between the nature of the ethical situation, characteristics of the individual (cognitive factor), significant others, and opportunity" (p. 95).

Kohlberg (1984; 1969) recognized the effect of external factors and felt the true nature of moral development, especially the early stages, were in line with the Piagetian stage-wise constructivist view. External factors such as context are more likely integrated into convoluted circumstances requiring higher order thinking. It is not until the later stages of moral development that these circumstances may exist.

In his book *Development in Judging Moral Issues*, Rest (1979) introduced a number of concepts that began to redefine moral development. He started by considering weaknesses in models of moral development. Specifically he considered the future of research on the topic and

whether an expansion of current (1979) assumptions about moral development was needed. He began by considering alternatives to the Piagetian model of stage-wise moral development. He suggested that models based on the idea that an individual uses only one type of thinking (such as personal interest) may not take into account the possibility of overlap. It is reasonable, he wrote, that more than one perspective could be used at any one point to resolve a moral dilemma (Rest, 1979; Rest, Thoma, & Edwards, 1997). Using only the stage-wise development assumption, especially in research, ignores other possibilities, and at worse significantly flaws studies on moral development. He recognized that research is certainly made more complex by allowing for “various organizations of thinking” (Rest, 1979, p. 252), but that should not dissuade researchers from delving in to the hypothesis.

Rest then requires that the stage-wise model be abandoned as the basis for studies of moral development. It is logical, he says, that at times individuals consolidate stages. At some points in moral development, a single stage has meaning and utility. For example, a person may see that the best solution is one that results in a pleasurable experience (stage 2), and that is enough to decide. During transition from one stage to another some confusion might exist regarding the best possible resolution to dilemmas. For example, a person may struggle with a resolution that focuses on either the rule of law (stage 4), or what is truly right (stage 6). Dr. Martin Luther King is an example of someone who, when confronted with choices about protesting civil rights, undoubtedly wrestled with similar options. Rest, then, compelled researchers to develop hypotheses that test moral development while assuming stages may co-exist and are influenced by other factors such as context, task, and performance at all points in the development process.

Rest (1979) and Thoma and Dong (2014) asserted that Kohlberg's model is an incomplete picture of the reality of moral development. Since 1979, DIT research data confirm a developmental model instead of Kohlberg's rigid step-wise interpretation. Data from Defining Issues Test analysis support moral growth as an ongoing movement from simplistic to more complex views of "social/moral cooperation" (Thoma & Dong, 2014, p. 56) with evidence of backward movement and blurred stage lines. As a result, in the last part of the 20th century, developmental theorists adopted a schema-based interpretation of moral development. The cognitive operations model, which was key to Kohlberg's theory, evolved to embrace a "developmentally ordered set of schemas which define the network of knowledge that is organized around particular life events and exist to help individuals understand new information based on prior experiences" (p. 56). Later, Rest (1984, 1979) provided researchers with his four-stage model of moral development. He described schemas as a more accurate depiction of what the DIT was measuring. The key difference was associated with cognition.

The neo-Kohlbergian perspective of schemas refers to a term first used by Bartlett in 1932, referring to social cognition theory (as cited in Rest, Narvaez, Bebeau, & Thoma, 2009). Schemas are preconceptions or the application of prior experiences and knowledge to new circumstances. They tend to be general guidelines for responding to new situations through experience with previous similar stimuli. The result is the use of analogies to develop solutions that can often be innovative (Bingham & Kahl, 2013). Schemas, therefore, depict implied unconscious moral understanding (Myyrya, Juujarvi, & Pessa, 2010). Rest (2009) describes a schema as "a general knowledge structure, residing in long term memory...invoked...by current stimulus...that resemble[s] previous stimuli" (p. 136). Rest goes on to apply it to the encounters

with moral dilemmas. He considers schemas as unconscious reference material used to “simplify reality” and resolve difficulties (p. 136).

James Rest (2009) was quick to note that his use of the term schema was somewhat different from its use in cognitive research. Moral schema descriptions are more abstract. Another important distinction was that moral schemas deal with movement from the simple pre-conventional moral constructs to more complex postconventional perspectives, whereas cognitive research focuses on memory. Nonetheless, Rest borrowed language from Taylor and Crocker’s (as cited in Rest, Narvaez, Bebeau, & Thoma, 2009, pp. 139-141) major ideas on schemas and applies them to DIT research. Schemas:

1. Lend structure to experience
2. Determine what information will be encoded or retrieved from memory
3. Affect processing time, speed of information flow, and speed of problem solving
4. Enable the social perceiver to fill in data missing from an input stimulus configuration
5. Provide bases for solving problems
6. Provide a basis for evaluating experience, and
7. Provide a basis for anticipating the future, setting goals, making plans, and developing behavioral routines to deal with them.

Rest, Narvaez, Bebeau, and Thoma (2009) proposed, as a viable alternative to Kohlberg’s six-stage model, three schemas from factor analyzing DIT-2 items: the Personal Interest schema (combining Kohlberg’s stages 2 and 3), the Maintaining Norms schema (Kohlberg’s stage 4), and the Post-conventional schema, (stages 5 and 6) . Rest also employed an expansion of Kohlberg’s definition of post-conventional morality, avoiding any association with

prior theories and providing more general definitions (Myyrya, 2010; Rest, Narvaez, Bebeau, & Thoma, 2009; Rest, 2005).

Rest (2009), in support of his use of the term schema, described differences in his approach to moral development compared to Kohlberg. Rest did not use the term operations to describe cognitive structure. Inspired by Piaget, Kohlberg considered justice operations, specifically reciprocity and equality, an essential cognitive element in moral development (Kohlberg, 1984). Rest also rejected the rigid step-wise process of moral development ascribed to Kohlberg and felt that cultural differences would not allow for universal application of moral schemas. Finally, he had concerns that prior processes for scoring of assessments were modified to eliminate responses indicating the presence of multi-stage perspectives. Rest (1979) noted this issue in previous works. To separate himself from Kohlberg and others that embraced these assumptions, Rest adopted the term *schema*. However, he was quick to say that some conventions related to assessment of moral development remained intact. Two key ideas remained part of the change to schematic representation of moral development: moral judgement structures are constructed individually and they follow a developmental sequence. Rest's view that the DIT was an excellent tool to assess moral development continued despite his adoption of schemas over stages.

The Defining Issues Test

In 1979, James Rest offered a number of refinements to the ideas of Kohlberg and affirmed many of his original theories on moral development. His book, *Development in Judging Moral Issues*, contained discussions of studies affirming the validity of the Defining Issues Test, the relationship between developmental stages and “age-education” (p. 247), and suggestions for refinements in assessing moral development (Rest, 1979). Rest's theories were integrated into

the “Neo-Kohlbergian” approach to moral development, including the schema-based sub-scores from the DIT-2 (Rest, Narvaez, Bebeau, & Thoma, 2009).

Seven criteria, supported by many studies, established evidence of DIT-2 validity and reliability. The criteria are unique to and strongly support Rest’s Neo-Kohlbergian approach. They are: differentiation of educational groups (including age and socio-economic status), intra-individual upward movement in moral development over time, relationships to interventions, association of moral comprehension with post-conventional thinking, corroboration with behavior, connection with political views, and the strength of internal reliability of the instrument (Power, 2012; Rest, Narvaez, Bebeau, & Thoma, 2009).

The Defining Issues Test is made up of six moral dilemmas. They are referred to as stories in the instrument. Once the story is read, the participant is asked to assume the role of the protagonist and consider how best to resolve the dilemma. Then, the participant reviews 12 questions that may be germane to the problem. The questions and their wording introduce a variety of interpretations of the moral dilemma. Some of the questions are actually irrelevant. The participant is asked to rate and rank 12 items based on their importance in interpreting the story.

The moral judgement scores from the DIT-2 are clustered around three moral schemas as described by Rest (1997). The key scores from the DIT-2 are the Personal Interest (2/3) score (arguments appealing to Personal Interest), the Maintaining Norms (4P) score (maintaining social norms and laws), and the Post-conventional (P) score (appealing to moral ideas and/or framework used to resolve complex moral dilemmas). The Weighted Post-conventional (N2) score is a new, improved indicator. Two other rankings are reported. The P score is calculated from ranking data and is associated with Kohlberg’s stages 5 and 6. The N2 score emerged after

an examination of results from a large study by Bebeau and Thoma (1994) where the instrument was used in a pre-test post-test fashion to evaluate moral development in professional students. The observation of effects from educational intervention, specifically acquisition of new thinking and systematic rejection of irrelevant personal interest items, was groundbreaking from an educational perspective.

Outcome Based Educational Intervention

Colleges and Universities have a continuing responsibility to provide evidence that the education provided is worth the investment. Economic value and clear evidence of student learning are but two elements that can differentiate an institution from its competitors (Mayhew, Pascarella, Trolan, & Selznick, 2015).

Findings from studies of the Lind's Moral Judgement Test, which is similar to the MJT, and the DIT-2 show that moral development can be ascribed to Higher Education, rather than simply as a result of age and experience (Lind, 2000). As a result, many institutions of higher education have taken on the task of developing curricula focusing on ethical development (Bebeau, 2002). Identification of competencies and proficiency assessment are integral to outcomes based curricular models (Kim, 2012). The efforts and attempts to assess the moral development outcomes, however, yield inconsistent data (King & Mayhew, 2002). One difficulty of outcomes based intervention is the development of formative assessment mechanisms. These instruments strengthen instructional practice by reducing the competitive nature of summative assessment and allowing for positive improvements in learning processes and self-assessment (Black & Wiliam, 2012). A common and effective solution is the use of consistent, regular feedback through assessment, often including the use of rubrics, sometimes called criterion referenced assessments (CRA), which measure performance criteria against levels of quality or

competency (Alderson & Martin, 2007; Christie, et al., 2015; Rogers, 2002; Shaftel & Shaftel, 2007). Criterion referenced assessment (CRA), allowing for evaluations of progress through formative and summative assessment, are seen as imperatives.

A number of studies indicate the benefit of educational or psychological interventions on moral development. Yeager, Walton, and Cohen (2013) proposed that carefully constructed, thoughtfully developed interventions can "...improve students' relationships, experiences, and performance at a critical stage..." (p. 64). One type of intervention that was directly associated with moral development is social role-playing. Conditions for moral development exist through the assumption of others' perspectives, or role-playing (Comunian & Gielen, 2006; Kohlberg, 1984).

The Effect of Demographic Affiliation on Moral Development

Currently, there remains some debate about the influence of attribute variables such as sex, socio-economic status, age, and culture, on DIT-2 results. Some of these data, including sex and political alignment, are collected as part of the demographic information section on the DIT-2 scoring sheet. King and Mayhew (2002) described the variety of ways the DIT-2 is used to assess moral development in undergraduate college students. Their review of over 500 works led them to believe that attribute variables, including ethnicity, may affect moral development in college. However, there is a need for additional studies on moral development and ethnicity (Gongre, 1981). Studies that focused on religious schools were able to identify variances in moral tendencies based on the religious ideology predominant in the school. Liberal religious beliefs were associated with higher Post-conventional scores and conservative religions, which emphasize "unquestioning obedience to external authority," were biased toward the conventional stages 2 and 4 (Markoulis & Valanides, 1997, p. 310).

Another study investigated short version DIT-2 scores of 90 Muslim male students at Kuwait University. The short version contains three dilemmas instead of five. Nather's (2013) examination of the results found a predominant reliance on Stage 4 Conventional methods (Maintaining Norms) for resolving moral issues. There was little evidence of Post-conventional moral reasoning. Her conclusion was that, for these men, education was less influential than religious beliefs. The requirement of adherence to the principles of the Muslim faith appeared to reduce the influence of education and use of Post-conventional reasoning to resolve moral dilemmas. Nather's study highlights the moral intractability that may exist because of cultural influence. However, claims that the DIT-2 reflects cultural, political, or even general/verbal abilities have been refuted through a number of studies (Thoma, Narvaez, Rest, & Derryberry, 1999). Still, Nather's work compels consideration of muted moral development that is a result of strict adherence to political or religious dogma. Concerns about the proliferation of parochial schools may be warranted if further evidence suggests graduates from these institutions lack the capacity for principled moral reasoning. Conversely, evidence suggests that liberal arts colleges tend to be the best environment for producing significant gains in moral development (King & Mayhew, 2002). In addition, there has been some inconsistency regarding the results of scores when accounting sex.

Generally, higher P scores are attributed to females (Abdolmohammadi, Gabhart, & Reeves, 1997; White, Jr., 1999). Another extensive meta-analysis of studies focused on sex differences in moral development. Walker (1986) described substantial evidence that "males and females are more alike than different in moral reasoning development" (p. 525). Interestingly, Brabeck (1989) used Walker's study to refute other similar assertions.

Work by Gilligan (1982) suggested that Kohlberg's theory (and subsequent use of the DIT-2) is insensitive to females. She said that women's perspectives on moral issues are significantly different from males, rendering scores related to lower stages inadequate. These variances may be wrought from the "greater orientation toward relationships and interdependence" (p. 22) and are often in contrast to young boys who seem to shun or at least hide these constructs out of a need for assimilation with male friends (Gilligan, 2014). Sex differences are also noted in levels of civic engagement in high school. Females tend to value community service more than males, which may result in an ethics of care focus whereas males prefer political work, associated with the justice orientation (Malin, Tirri, & Liauw, 2015). Aside from sex as an influence on moral development, socio-economic status can be a factor as well.

Piaget's work included the exploration of the relationship between moral development and socio-economic status (SES). Those studies were done on young children. He found that poorer children were often less selfish and usually as generous as rich children (Ugurel-Semin, 1952). Other studies indicated that parental behavior related to children in low SES communities was related to neighborhood quality. Parents who viewed their surroundings as stressful placed a greater emphasis on self-efficacy, warmth, and behavioral control (Pinderhughes & Hurley, 2008). However, whether the weight placed on instilling a sense of independent thought resulted in measurable growth in moral development remains, to a great degree, unanswered. Nonetheless, the identification of variances in moral development within subsets of college populations is intriguing to researchers. A few studies of moral development as part of involvement in co-curricular activity such as social clubs and athletics exist. Pascarella and Terenzini (1991) described studies examining the contextual influence of co-curricular involvement, educational intervention, and sex on moral development. The greatest impact on

principled moral reasoning was the result of educational intervention. They also noted that studies of other contextual influences on moral development are limited.

Other research has investigated moral development as a part of athletic involvement. One study by Camire and Trudel (2010) indicated that athletes did not seem to understand the concept of moral development specifically but expressed the importance of values such as respect and honesty as something learned through sports. Nonetheless, formal instruction (and commensurate assessment) meant to promote moral development is largely ignored within the context of sports and few instructional models exist (Destani, Hannon, Podlog, & Brusseau, 2014). Beyond athletics, moral development and moral education were researched within the context of the K through 12 experiences on a limited basis.

High school pedagogical strategies often stress integration of character, citizenship and moral development within the context of disciplines such as science and physical education (Han & Jeong, 2014; Ng-A-Fook, Radford, Yazdanian, & Norris, 2013), while also relying on family to facilitate a child's moral development. The result of family involvement has been described more as modeling and intergenerational copying than development (Barni, Ranieri, & Scabini, 2011). As mentioned earlier, some studies have described play as facilitating moral development in younger children, however evidence suggests the influence of games declines in older children and may vary based on gender (Davis & Bergen, 2014).

CHAPTER 3: RESEARCH METHODS

This study investigated changes in levels of moral development, measured by the DIT-2, which may result from an ethics-focused outcome based undergraduate curriculum. Additionally, demographic and attribute variables such as sex, socioeconomic status, and co-curricular involvement were investigated for variances beyond those occurring within the overall sample. This objective was achieved by analyzing data from students who took the DIT-2 as freshmen and again as seniors. This chapter describes the methods, the selection of subjects, instrumentation, collection of data, and statistical analyses.

Research Design

This investigation of moral development was a case study focused on collection and analysis of pre-existing quantitative data. The use of extant data reduced investigation costs and minimized timelines related to the analysis of data. Case studies are increasingly used by social scientists as the preferred process to break down individual experiences, leading to the identification of broad theoretical explanations of human behavior (Kennedy & Luzar, 1999). Some view case studies as a poor approach to develop new knowledge (Adams & White, 1994). However, the use of case studies can be an important step toward generalization of behavior, especially when they are a part of larger meta-analyses (Jensen & Rodgers, 2001).

A pre-test-post-test design model for administering the DIT-2 at the University of Charleston (UC) allowed for extraction of extant data about moral development. At the University of Charleston, the pre-test DIT-2 is administered at the onset of the first semester. The post-test DIT-2 is taken during the students' last year. The post-test assessment occurs in either the fall or the spring semester as part of students' capstone course.

Population and Sample

The population for this study consisted of 504 students who took the DIT-2 as freshman and again as seniors at the University of Charleston from August 2008 through May 2015 (n=295). This study focused on a sample of four matched pair cohorts beginning in 2008, which were linked to demographic and attribute variables found in the UC Ellucian database. The matched pair cohort groups began with 2008 freshmen who were seniors in 2012, 2009 freshmen who were seniors in 2013, 2010 freshman who were seniors in 2014, and 2011 freshmen who were seniors in 2015. The freshman and senior DIT-2 scores with matched pairs of results (2008-2012, 2009-2013, 2010-2014, and 2011-2015) and identified Ellucian data were evaluated.

Data Collection

Upon receipt of the de-identified DIT-2 results, the difference in entry-level and exit-level mean Personal Interest Schema (Stage 2/3) sub-scores, Maintaining Norms (Stage 4) sub-scores, Post-conventional Schema (P) sub-scores, and Weighted Post-conventional (N2) sub-scores, were calculated. Standard deviations, sub-scores for each cohort and attribute variable subcategories were determined. The difference between the mean freshman result and senior result allowed for estimation of changes in levels of moral development. The Weighted Post-conventional (N2) sub-score differences were used as the primary measure for moral development because of its higher construct validity and sensitivity to educational intervention (Bebeau & Thoma, Guide for DIT-2, 2003).

Data used for this study were collected from DIT-2 tests administered from August 2008 through May 2015 and extant student academic profiles for students entering UC in 2008 through 2011. The demographic and attribute variable data were contained within the UC Ellucian student information database. Individual students' educational programs were also

identified through a review of the UC Ellucian database and added to the matched pairs list of DIT-results. The data source for research question one was the entry and exit level DIT-2 results from the 2008-2011 cohorts. The data sources for research question 2 were the DIT-2 results from the 2008-2011 cohorts and the demographic and attribute variable data from the UC Ellucian student information database.

Individual student data from the DIT-2 results and the Ellucian database were de-identified and no key code was provided to the principle investigator or the co-principle investigator. Both the DIT-2 results and the corresponding academic profiles from Ellucian were combined to form one database for analysis with the Statistical Package for the Social Sciences 19.0 (SPSS).

Instrumentation

The DIT-2 questionnaire responses provided data used to determine the Personal Interest Schema (2/3) sub-score means, Maintaining Norms (4P) sub-score means, Post-conventional Schema (P) sub-score means, and Weighted Post-conventional (N2) sub-score means, along with standard deviations. The data were separated by cohort based on the first year at UC. The DIT-2 is administered during the freshmen and transfer students' university orientation courses, then those remaining same students take it as part of the senior capstone course during their last year of study. There were 38 matched pairs in the 2008-2012 cohort sample, 96 matched pairs in 2009-2013, 87 matched pairs in 2010-2014, 64 matched pairs in 2011-2015, and 10 in the 2012-2016 cohort as not all scores for the 2012-2016 group were available at the time of this study.

The instrument used to collect student attribute and demographic variables was the UC Ellucian database system. Cross matching capabilities allowed the university to connect DIT-2

data with demographic and attribute variables for enrolled UC students taking the DIT-2 at the beginning and end of their collegiate experience.

Data Analysis

Data allowed for a number of statistical processes including T-tests and analysis of variance (ANOVA) for triangulation of findings. To answer research question number one, paired samples T-tests were used to determine if statistically significant differences in mean DIT-2 sub-scores existed for the entire sample and for each yearly cohort. In addition, an ANOVA was used to analyze differences in mean sub-scores changes across cohorts. The ANOVA was used to see if any yearly cohort had DIT-2 sub-score changes that were statistically different from any other.

To answer research question two, the differences between and among independent variables (student demographics and attributes) and dependent variables (changes in entry and exit-level DIT-2 sub-scores) were analyzed with independent samples t-test and ANOVA. Statistical analyses was accomplished using Statistical Package for the Social Sciences (SPSS) software.

Limitations

The DIT-2 is self-administered and certain safeguards are in place to avoid unreliable results. However, a small fraction of student results may be fabricated or unreliable due to undetectable bogus responses. DIT-2 scoring done by the Center for the Study of Ethical Development includes an analysis which allows for exclusion of more obvious bogus results. In some instances, where students took the test as freshman and seniors, it may not be possible to connect the two scores to one individual. Those results were not included in the study. The study

may also be limited by the possibility that some changes in curriculum or programs have occurred during the period where results were obtained.

CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

The primary purpose of this study was to investigate moral development, as measured by the DIT-2, which occurred within four student cohorts completing an undergraduate degree at the University of Charleston. The study sought to investigate the institution's belief that outcomes based ethics education positively influences their graduates' capacity for resolving moral dilemmas using post-conventional thinking. This chapter presents data collected for the study and provides statistical analyses. The chapter is divided into five sections: 1) population and sample; 2) data sources; 3) cohort and individual characteristics; 4) major findings for each of the two research questions posed in this study; and 5) a summary of the chapter.

Population and Sample

The population for this study included 504 students who entered UC as freshman in 2008, 2009, 2010, and 2011, and completed an undergraduate degree by the end of the spring semester of 2015. Of this population, the study examined the results from students who took the DIT-2 during their first year and again during their last year, typically during the senior capstone course. DIT-2 results from students who took the initial assessment as freshmen during the 2008-2011 years were matched with their exit level assessment. The exit level scores are from the fall and spring semesters of 2012, fall and spring semesters of 2013, fall, spring and summer semesters of 2014, and fall and spring semesters of 2015. From the total population of 504 students, entry and exit DIT-2 scores were available for 295 students. The sample used in the data analysis represents 58.5% of students who began their undergraduate degree between 2008 and 2011 and successfully graduated by the end of the 2016 academic year.

Data Sources

Two data sources were used for this study. All data obtained from the University of Charleston DIT-2 reports were matched with student information from the University of Charleston Ellucian database. The first data source was the pre and post undergraduate education DIT-2 scores for students entering UC during the 2008-2011 academic years. The Center for the Study of Ethical Development provides materials for administering the DIT-2. Once students complete the DIT-2, forms are returned to the Center and scanned. Detailed results are then returned to UC.

The second data source was the Ellucian database. The Ellucian database houses all student demographic information for use by UC. Data collected include sex, residency status, high school GPA, undergraduate GPA, ACT and SAT scores, athletic participation, degree program, admission status, expected family contribution, and many other details of utility to the institution. Some of the Ellucian data are self-reported by students or parents on a voluntary basis. The University of Charleston Office of Institutional Research and Assessment matched scores from individual DIT-2 scores to the Ellucian data. Once the data were combined, all student specific details were de-identified with no key code provided to the principal investigator or co-principal investigator.

Population Characteristics

The sample (n=295) contained 62.7% (n=185) females and 37.3% (n=110) males. One hundred sixty-seven (56.6%) of the students listed West Virginia as their home state. One hundred fourteen (38.6%) were from outside of West Virginia and 14 (4.7%) were from outside the United States. Countries of origin for students from outside the United States were Canada (n = 6), United Kingdom (n = 3) and one each from Australia, Nepal, Nigeria, Vietnam and

Zambia. The largest group of students from outside West Virginia came from Ohio ($n=44$; 14.9%). One hundred twenty-four (42%) of sampled students participated in collegiate athletics while at UC and 171 (58%) did not.

Thirty-eight (12.9%) students took the initial DIT-2 as freshmen in the fall 2008 semester and 96 (32.5%) took the DIT-2 as freshmen in the fall 2009 semester. Eighty-seven (29.5%) took the DIT-2 as freshmen in the fall 2010 semester and 64 (21.7%) took the DIT-2 as freshmen in the fall 2011 semester. Ten (3.4%) matched pair scores from freshmen taking the DIT-2 in the fall 2012 semester were available at the time of this study.

Students from the sample obtained degrees from 13 different degree programs. For the purposes of analysis, the principal investigator and co-principal investigator sorted students into four academic disciplines based on their degree program: Humanities, Business, Science, and Health Sciences. Thirteen students (4.4%) obtained a general studies degree and were not categorized. Each of the four categories contained two or more degree programs. The Humanities group contained 89 students (30.1%) who obtained degrees in Art, Interior Design, Communication, Education, Political Science, and History. The Science group contained 80 students (27.1%) who obtained degrees in Biology or Chemistry. The Business group contained 63 students (21.4%) who obtained degrees in Business or Sports Administration. The Health Sciences group contained 50 students (17%) who obtained degrees in Athletic Training, Nursing (Bachelor's degree), Psychology and Radiologic Science.

The expected family contribution (EFC) was reported for 270 students. The mean EFC was \$16,424 ($SD=22,327.2$). The federal loan debt (FLD) upon graduation was reported for 295 students. The mean was \$14,323 ($SD=11,441.6$). The sample demographic and attribute data are summarized in Table 2.

Table 2

Sample Demographics and Attributes

Characteristic	n	%
Sex		
Female	185	62.7
Male	110	37.3
State of Residence		
West Virginia	167	56.6
Other	114	38.6
Foreign	14	4.7
Athletic Participation		
No	171	58
Yes	124	42
Semester and Year of Initial DIT-2 Assessment		
Fall 2008	38	12.9
Fall 2009	96	32.5
Fall 2010	87	29.5
Fall 2011	64	21.7
Fall 2012	10	3.4
Academic Discipline		
Humanities	89	30.1
Science	80	27.1
Business	63	21.4
Health Sciences	50	17
General Studies	13	4.4

n=295

Student Performance Characteristics

Two hundred seventy-eight students reported their high school grade point averages (HSGPA). The mean HSGPA for the study sample was 3.68 ($SD = .56$). For the purposes of analysis, students' HSGPA were divided into quartiles. There were 69 students (24.8%) whose HSGPA was between 2.18 and 3.26, 70 students (25.2%) whose HSGPA was between 3.27 and 3.76, 72 students (25.9%) whose HSGPA was between 3.77 and 4.07, and 67 (24.1%) students whose HSGPA was between 4.08 and 4.94.

Two hundred eighty-five students in the study sample reported ACT scores. Incoming ACT scores ranged from 15 to 35. The mean ACT score was 23.4 ($SD = 3.71$). Eighty-five students in the sample study reported SAT scores.

Seventy-seven students (26.1%) graduated with an undergraduate degree in 3.5 years or less. One hundred eighty-eight students (63.7%) met undergraduate degree requirements in four years. Thirty students (10.2%) graduated in 4.5 to 6 years.

Two hundred eighty-six final undergraduate grade point averages (UGGPA) were reported for the sample population. The mean UGGPA was 3.47 ($SD = .38$). For the purposes of analysis, students' UGGPA were divided into quartiles. There were 73 students (25.5%) with a UGGPA between 2.37 and 3.21, 72 students (25.2%) with a UGGPA between 3.22 and 3.25, 70 students (24.5%) with a UGGPA between 3.56 and 3.78, and 71 students (24.8%) whose UGGPA was between 4.08 and 4.94. The sample student performance characteristics data are summarized in Table 3.

Table 3

Sample Student Performance Characteristics

Characteristic	n	%
HSGPA		
2.18-3.26	69	24.8
3.27-3.76	70	25.2
3.77-4.07	72	25.9
4.08-4.94	67	24.1
Years to Degree		
Three and one-half or less	77	26.1
Four	188	63.7
Four +	30	10.2
UGGPA		
2.37-3.21	73	25.5
3.22-3.55	72	25.2
3.56-3.78	70	24.5
3.79-4.00	71	24.8

n=295

Major Findings

The major findings for each research question are discussed in the following sections.

The analysis of overall sub-score differences and specific sub-score differences among cohorts are used to answer research question one. Research question two is answered through the analysis of sub-scores differences based on demographic and attribute variables.

Overall Differences in Moral Development. Paired sample t-tests were performed on the sub-score means of DIT-2 results obtained during the freshman and senior years for the sample. The mean entry and exit level sub-scores represent changes in moral development within the sample. The sub-scores consisted of Personal Interest (2/3) scores, Maintaining Norms (4P) scores, Post-conventional (P) scores and Weighted Post-conventional (N2) scores. Additionally, an analysis of variance (ANOVA) test was performed to determine if differences existed in the entry and exit level sub-scores across the five yearly cohorts that took entry level DIT-2 in the fall 2008, 2009, 2010, 2011 and 2012 semesters then again at exit. The mean differences from the freshman to senior DIT-2 sub-scores for each yearly cohort are found in Table 3. Results are discussed in the following section and supporting data are provided in Tables 4-8.

A paired sample t-test was used to analyze changes in mean sub-scores for the entire sample. There was a statistically significant difference in the mean freshman Personal Interest (2/3) sub-scores ($M = 29.64$, $SD = 12.23$) when compared to the mean senior Personal Interest sub-scores ($M = 25.42$, $SD = 12.43$), $t(294) = 4.91$, $p < .05$. The mean difference in Personal Interest sub-scores was 4.21 with a 95% confidence interval ranging from 2.53 to 5.91. The eta-squared statistic (.08) indicates a moderate to large effect size.

There was a statistically significant difference in the mean freshman Maintaining Norms (4P) sub-scores ($M = 36.16$, $SD = 12.13$) when compared to the mean senior Maintaining Norms sub-scores ($M = 33.40$, $SD = 13.85$), $t(294) = 3.12$, $p < .05$. The mean difference in Maintaining Norms sub-scores was 2.73 with a 95% confidence interval ranging from 1.02 to 4.52. The eta-squared statistic (.03) indicates a small effect size.

There was a statistically significant difference in the mean freshman Post-conventional (P) sub-scores ($M = 29.56$, $SD = 12.96$) when compared to the mean senior Post-conventional

sub-scores ($M = 36.34$, $SD = 14.67$), $t(294) = -7.95$, $p < .05$. The mean difference in Post-conventional sub-scores was 6.78 with a 95% confidence interval ranging from -8.46 to -5.10.

The eta-squared statistic (.18) indicates a large effect size.

There was a statistically significant difference in the mean freshman Weighted Post-conventional (N2) sub-scores ($M = 27.97$, $SD = 13.98$) when compared to the mean senior Weighted Post-conventional sub-scores ($M = 36.43$, $SD = 14.83$), $t(294) = -9.74$, $p < .05$. The mean difference in Weighted Post-conventional sub-scores was 8.46 with a 95% confidence interval ranging from -10.17 to -6.75. The eta-squared statistic (.24) indicates a large effect size.

Data analysis for the total sample is summarized in Table 4.

Table 4

DIT -2 Sub-Scores for Total Sample

Sub-scores	Freshman Scores		Senior Scores		M Diff	t-value	P
	M	SD	M	SD			
2/3	29.64	12.23	25.42	12.43	-4.22	4.91	.00
4P	36.16	12.13	33.40	13.85	-2.73	3.12	.00
P	29.56	12.96	36.34	14.67	6.78	-7.95	.00
N2	27.97	13.98	36.43	14.83	8.46	-9.74	.00

n=295

Sub-Score Differences by Cohort

Further analysis of the mean sub-score changes for each yearly cohort was performed to identify the presence of statistically significant differences. The Personal Interest (2/3), Maintaining Norms (4P), Post-conventional (P), and Weighted Post-conventional (N2) sub-scores for each yearly cohort were examined.

Personal Interest (2/3) Sub-score Analysis by Cohort. A paired samples t-test was conducted to evaluate changes in the Personal Interest (2/3) sub-score for each cohort. In the 2008 cohort ($n = 38$), there was a statistically significant difference in the mean freshman 2/3 sub-scores ($M = 30.32$, $SD = 12.64$) when compared to the mean senior 2/3 sub-scores ($M = 25.21$, $SD = 10.18$), $t(37) = 2.10$, $p < .05$. The mean difference in 2/3 sub-scores was 5.11 with a 95% confidence interval ranging from 0.19 to 10.03. The eta-squared statistic (.10) indicates a moderate effect size.

In the 2009 cohort ($n = 96$), there was a statistically significant difference in the mean freshman Personal Interest sub-scores ($M = 29.47$, $SD = 11.64$) when compared to the mean senior Personal Interest sub-scores ($M = 22.98$, $SD = 12.12$), $t(95) = 4.72$, $p < .05$. The mean difference in Personal Interest sub-scores was 6.49 with a 95% confidence interval ranging from 3.76 to 9.23. The eta-squared statistic (.19) indicates a large effect size.

In the 2010 cohort ($n = 87$), there was a statistically significant difference in the mean freshman Personal Interest sub-scores ($M = 28.46$, $SD = 12.73$) when compared to the mean senior Personal Interest sub-scores ($M = 25.27$, $SD = 11.82$), $t(86) = 2.36$, $p < .05$. The mean difference in Personal Interest sub-scores was 3.19 with a 95% confidence interval ranging from 0.50 to 5.87. The eta-squared statistic (.06) indicates a moderate effect size.

In the 2011 cohort ($n = 64$), there was no statistically significant difference in the mean freshman Personal Interest sub-scores ($M = 30.55$, $SD = 12.09$) when compared to the mean senior Personal Interest sub-scores ($M = 28.97$, $SD = 14.02$), $t(63) = .72$, $p = .48$. In the 2012 cohort ($n = 10$), there was no statistically significant difference in the mean freshman Personal Interest sub-scores ($M = 33.00$, $SD = 13.93$) when compared to the mean senior Personal Interest

sub-scores ($M = 28.20$, $SD = 14.19$), $t(9) = .72$, $p = .49$. Data analysis for Personal Interest sub-score differences by cohort are summarized in Table 5.

Table 5

Personal Interest (2/3) Sub-score Difference Analysis by Cohort

DIT-2 Cohort	n	Freshman Score		Senior Score		M Diff	t-value	P
		M	SD	M	SD			
2008	38	30.32	12.64	25.21	10.18	-5.11	2.10	.04
2009	96	29.47	11.64	22.98	12.12	-6.49	4.72	.00
2010	87	28.46	12.73	25.27	11.82	-3.12	2.36	.02
2011	64	30.55	12.09	28.97	14.02	-1.59	.72	.48
2012	10	33.00	13.93	28.20	14.19	-4.80	.72	.49

n = 295

Maintaining Norms (4P) Sub-score Analysis by Cohort. A paired samples T-test was conducted to evaluate changes in the Maintaining Norms (4P) sub-score for each cohort. In the 2011 cohort ($n = 64$), there was a statistically significant difference in the mean freshman Maintaining Norms sub-scores ($M = 38.13$, $SD = 12.97$) when compared to the mean senior Maintaining Norms sub-scores ($M = 32.06$, $SD = 12.04$), $t(63) = 3.51$, $p < .05$. The mean difference in Maintaining Norms sub-scores was 6.06 with a 95% confidence interval ranging from 2.62 to 9.51. The eta-squared statistic (.16) indicates a large effect size.

In the 2008 cohort ($n = 38$), there was no statistically significant difference in the mean freshman Maintaining Norms sub-scores ($M = 35.47$, $SD = 10.82$) when compared to the mean senior Maintaining Norms sub-scores ($M = 36.37$, $SD = 16.20$), $t(37) = -.37$, $p = .72$. In the 2009 cohort ($n = 96$), there was no statistically significant difference in the mean freshman Maintaining Norms sub-scores ($M = 35.36$, $SD = 11.93$) when compared to the mean senior Maintaining Norms sub-scores ($M = 34.40$, $SD = 14.06$), $t(95) = 0.62$, $p = .53$. In the 2010

cohort (n=87), there was no statistically significant difference in the mean freshman Maintaining Norms sub-scores (M = 35.50, SD = 12.15) when compared to the mean senior Maintaining Norms sub-scores (M = 32.21, SD = 13.74), $t(86) = 1.93$, $p = .06$. In the 2012 cohort (n = 10), there was no statistically significant difference in the mean freshman Maintaining Norms sub-scores (M = 39.80, SD = 13.31) when compared to the mean senior Maintaining Norms sub-scores (M = 31.40, SD = 14.24), $t(9) = 1.51$, $p = .17$. Data analysis is summarized in Table 6.

Table 6

Maintaining Norms (4P) Sub-score Analysis by Cohort

DIT-2 Cohort	n	Freshman Score		Senior Score		M Diff	t-value	P
		M	SD	M	SD			
2008	38	35.47	10.82	36.37	16.20	.89	-.37	.72
2009	96	35.36	11.93	34.40	14.06	-.96	.62	.53
2010	87	35.50	12.15	32.21	13.74	-3.28	1.93	.06
2011	64	38.13	12.97	32.06	12.04	-6.06	3.51	.00
2012	10	39.80	13.31	31.40	14.24	-8.40	1.51	.17

n = 295

Post-conventional (P) Sub-score Analysis by Cohort. A paired samples T-test was conducted to evaluate changes in the Postconventional (P) sub-score for each cohort. In the 2009 cohort (n = 96), there was a statistically significant difference in the mean freshman Postconventional sub-scores (M = 30.74, SD = 11.79) when compared to the mean senior Postconventional sub-scores (M = 38.25, SD = 15.18), $t(95) = -5.09$, $p < .05$. The mean difference in Postconventional sub-scores was 7.51 with a 95% confidence interval ranging from -10.43 to -4.58. The eta-squared statistic (.21) indicates a large effect size.

In the 2010 cohort (n = 87), there was a statistically significant difference in the mean freshman Postconventional sub-scores (M = 31.10, SD = 14.09) when compared to the mean

senior Postconventional sub-scores ($M = 37.60$, $SD = 14.37$), $t(86) = -4.41$, $p < .05$. The mean difference in Postconventional sub-scores was 6.60 with a 95% confidence interval ranging from -9.56 to -3.62. The eta-squared statistic (.18) indicates a large effect size.

In the 2011 cohort ($n = 64$), there was a statistically significant difference in the mean freshman Postconventional sub-scores ($M = 26.91$, $SD = 12.20$) when compared to the mean senior Postconventional sub-scores ($M = 34.13$, $SD = 14.31$), $t(63) = -3.68$, $p < .05$. The mean difference in Postconventional sub-scores was 7.22 with a 95% confidence interval ranging from -11.14 to -3.30. The eta-squared statistic (.18) indicates a large effect size.

In the 2012 cohort ($n = 10$), there was a statistically significant difference in the mean freshman Postconventional sub-scores ($M = 21.40$, $SD = 15.00$) when compared to the mean senior Postconventional sub-scores ($M = 33.40$, $SD = 13.23$), $t(9) = -2.81$, $p < .05$ (two-tailed). The mean difference in Post-conventional sub-scores was 12.00 with a 95% confidence interval ranging from -21.66 to -2.34. The eta-squared statistic (.46) indicates a large effect size.

In the 2008 cohort ($n = 38$), there was no statistically significant difference in the mean freshman Postconventional sub-scores ($M = 29.84$, $SD = 13.00$) when compared to the mean senior Postconventional sub-scores ($M = 33.11$, $SD = 14.58$), $t(37) = -1.33$, $p = .19$. Despite the lack of statistical significance, the Post-conventional scores for the 2008 cohort increased as well. Data analyses are summarized in Table 7.

Table 7

Post-conventional (P) Sub-score Analysis by Cohort

DIT-2 Cohort	n	Freshman Score		Senior Score		M Diff	t-value	P
		M	SD	M	SD			
2008	38	29.84	13.00	33.11	14.58	3.27	-1.33	.19
2009	96	30.74	11.79	38.25	15.18	7.50	-5.09	.00
2010	87	31.01	14.09	37.60	14.37	6.59	-4.41	.00
2011	64	26.91	12.20	34.13	14.31	7.22	-3.68	.00
2012	10	21.40	15.00	33.40	13.23	12.00	-2.81	.02

n = 295

Weighted Post-conventional (N2) Sub-score Analysis by Cohort. A paired samples T-test was conducted to evaluate changes in the Weighted Post-conventional (N2) sub-score for each cohort. In the 2009 cohort (n=96), there was a statistically significant difference in the mean freshman Weighted Post-conventional sub-scores (M = 29.00, SD = 13.28) when compared to the mean senior Weighted Post-conventional sub-scores (M = 38.62, SD = 15.84), $t(95) = -6.49$, $p < .05$. The mean difference in Weighted Post-conventional sub-scores was 9.62 with a 95% confidence interval ranging from -12.57 to -6.68. The eta-squared statistic (.30) indicates a large effect size.

In the 2010 cohort (n=87), there was a statistically significant difference in the mean freshman Weighted Post-conventional sub-scores (M = 29.63, SD = 14.80) when compared to the mean senior Weighted Post-conventional sub-scores (M = 37.77, SD = 13.67), $t(86) = -5.70$, $p < .05$. The mean difference in Weighted Post-conventional sub-scores was 8.13 with a 95% confidence interval ranging from -10.97 to -5.30. The eta-squared statistic (.27) indicates a large effect size.

In the 2011 cohort (n=64), there was a statistically significant difference in the mean freshman Weighted Post-conventional sub-scores ($M = 24.08$, $SD = 12.78$) when compared to the mean senior Weighted Post-conventional sub-scores ($M = 33.16$, $SD = 14.47$), $t(63) = -4.14$, $p < .05$. The mean difference in Weighted Post-conventional sub-scores was 9.08 with a 95% confidence interval ranging from -13.46 to -4.69. The eta-squared statistic (.21) indicates a large effect size.

In the 2012 cohort (n=10), there was a statistically significant difference in the mean freshman Weighted Post-conventional sub-scores ($M = 21.06$, $SD = 15.54$) when compared to the mean senior Weighted Post-conventional sub-scores ($M = 36.01$, $SD = 14.11$), $t(9) = -3.79$, $p < .05$. The mean difference in N2 sub-scores was 14.95 with a 95% confidence interval ranging from -23.87 to -6.04. The eta-squared statistic (.61) indicates a large effect size.

In the 2008 cohort (n=38), there was no statistically significant difference in the mean freshman Weighted Post-conventional sub-scores ($M = 29.93$, $SD = 14.23$) when compared to the mean senior Weighted Post-conventional sub-scores ($M = 33.46$, $SD = 14.87$), $t(37) = -1.50$, $p = .14$. Data analyses are summarized in Table 8.

Table 8

Weighted Post-conventional (N2) Sub-score Analysis by Cohort

DIT-2 Cohort	n	Freshman Score		Senior Score		M Diff	t-value	P
		M	SD	M	SD			
2008	38	29.93	14.23	33.46	14.87	3.53	-1.50	.14
2009	96	29.00	13.28	38.62	15.84	9.62	-6.49	.00
2010	87	29.63	14.80	37.77	13.67	8.13	-5.70	.00
2011	64	24.08	12.78	33.16	14.47	9.08	-4.14	.00
2012	10	21.06	15.54	36.01	14.11	14.95	-3.79	.00

n = 295

Sub-Score Differences Among Cohorts. A one-way between cohorts ANOVA was conducted, comparing the DIT-2 sub-scores by students' cohort group. The sample was divided into cohorts based on the students' first DIT-2 assessment, done in the first year at UC. The cohort groups were 2008 (n=38), 2009 (n=96), 2010 (n=87), 2011 (n=64), and 2012 (n=10).

There were no statistically significant differences in the mean entry and exit level Personal Interest (2/3) sub-scores across all cohorts [$F(4, 290) = 1.23, p = .30$]. There was no statistically significant difference in the mean entry and exit level Maintaining norms (4P) sub-scores across all cohorts [$F(4, 290) = 2.03, p = .09$]. There was no statistically significant difference in the mean entry and exit level Post-conventional (P) sub-scores across all cohorts [$F(4, 290) = .94, p = .44$]. There was no statistically significant difference in the mean entry and exit level Weighted Post-conventional (N2) sub-scores across all cohorts [$F(4, 290) = 1.71, p = .15$]. Data analysis is summarized in Table 9.

Table 9

Sub-score Difference Analysis among Cohorts

Sub-score	2008		2009		2010		2011		2012		F	P
	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-5.11	14.97	-6.49	13.49	-3.19	12.58	-1.59	17.75	-4.80	21.11	1.23	.30
4P	.89	15.09	-.96	15.08	-3.28	15.83	-6.06	13.80	-8.40	17.63	2.03	.09
P	3.27	15.22	7.51	14.46	6.59	13.93	7.22	15.68	12.00	13.50	.94	.44
N2	3.53	14.53	9.62	14.54	8.13	13.30	9.08	17.54	14.95	12.46	1.71	.14

n = 295

Moral Development and Demographic and Attribute Variables

To determine if demographic variables were associated with changes in DIT-2 sub-scores, independent –samples T-tests and ANOVAs were performed. The goal was to analyze the difference, if any, which may exist when comparing mean Personal Interest (2/3), Maintaining Norms (4P), Post-conventional (P), and Weighted Post-conventional (N2) sub-scores between or among independent variables. The independent variables were sex, athletic participation, high school grade point average (HSGPA), ACT score, students’ final undergraduate grade point average (UGGPA), the time taken to complete the undergraduate degree (TTD), Academic Discipline, expected family contribution to college tuition (EFC), and federal loan debt (FLD). Results are discussed in the following sections and supporting data are provided in Tables 10 – 20.

Sex. An independent samples T-test was conducted comparing the DIT-2 sub-scores for males and females. There was no statistically significant difference in the mean Personal Interest sub-score decreases between the freshman and senior DIT-2 results for males ($M = -4.12$, $SD = 13.51$) or females ($M = -4.27$, $SD = 15.50$; $t(293) = .09$, $p = .93$). There was no statistically significant difference in the mean Maintaining Norms sub-score decreases between the freshman and senior DIT-2 results for males ($M = -4.50$, $SD = 16.78$) or females ($M = -1.74$, $SD = 14.19$; $t(293) = -1.50$, $p = .13$). There was no statistically significant difference in the mean Post-conventional sub-score increases between the freshman and senior DIT-2 results for males ($M = 7.73$, $SD = 14.73$) or females ($M = -6.22$, $SD = 14.61$; $t(293) = .88$, $p = .39$). There was no statistically significant difference in the mean Weighted Post-conventional sub-score increases between the freshman and senior DIT-2 results for males ($M = 9.85$, $SD = 13.96$) or females ($M = -7.64$, $SD = 15.43$; $t(293) = 1.23$, $p = .22$). Data analysis is summarized in Table 10.

Table 10

Mean Sub-score Difference by Sex

Sub-score	Male		Female		t-value	P
	M Diff	SD	M Diff	SD		
2/3	-4.12	13.51	-4.27	15.50	.085	.93
4P	-4.50	16.78	-1.74	14.19	-1.51	.13
P	7.73	14.73	6.22	14.61	.86	.39
N2	9.85	13.96	7.64	15.43	1.23	.22

n = 295, n = female (185), male (110)

Athletic Participation. An independent samples T-test was conducted comparing the DIT-2 sub-scores for students participating as athletes compared to those who did not during their undergraduate experience. There was no statistically significant difference in mean Personal Interest sub-score decreases between the freshman and senior DIT-2 results for non-athletes ($M = -4.31, SD = 13.31$) and athletes ($M = -4.09, SD = 16.62; t(293) = -.12, p = .90$). There was no statistically significant difference in the mean Maintaining Norms sub-score decreases between the freshman and senior DIT-2 results for non-athletes ($M = -3.99, SD = 14.97$) and athletes ($M = -1.07, SD = 15.50; t(293) = -0.12, p = .10$). There was no statistically significant difference in the mean Post-conventional sub-score increases between the freshman and senior DIT-2 results for non-athletes ($M = 7.90, SD = 14.69$) and athletes ($M = 5.23, SD = 14.50; t(293) = 1.54, p = .12$). There was no statistically significant difference in mean N2 sub-score increases between the freshman and senior DIT-2 results for non-athletes ($M = 9.78, SD = 14.38$) and athletes ($M = 6.64, SD = 15.50; t(293) = 1.78, p = .08$). Data analyses are summarized in Table 11.

Table 11

Mean Sub-score Difference by Athletic Participation

Sub-score	Non-Athlete		Athlete		t-value	P
	M Diff	SD	M Diff	SD		
2/3	-4.31	13.31	-4.09	16.62	-0.12	.90
4P	-3.99	14.97	-1.07	15.50	-1.63	.10
P	7.90	14.69	5.23	14.50	1.54	.12
N2	9.78	14.38	6.64	15.50	1.78	.08

n = 295, n = non-athlete (171), athlete (124)

For the purposes of detailed analysis, examinations of sub-score changes based on HSGPA, ACT scores, and UGGPA were conducted in two ways. First HSGPA and UGGPA were separated into quartiles and analyzed using a one-way between groups analysis of variance

(ANOVA). ACT score analysis was conducted the same way. The separation into quartiles was done to assure sufficient sample size within each group. Additionally, a one-way between groups ANOVA was conducted using HSGPA and UGGPA with groups divided by traditional grade point average scales. Some students in the sample did not report HSGPA and were excluded from the analysis. The results are described in the following sections with summary tables following each narrative.

HSGPA by Quartile. A one-way between groups analysis of variance was conducted to explore the impact of HSGPA, divided into quartiles, on mean DIT-2 sub-scores. The HSGPA range for Group 1 (n = 69) was 2.18-3.26. The HSGPA range for group 2 (n = 70) was 3.27-3.76. The HSGPA range for Group 3 (n = 72) was 3.77-4.07. The HSGPA range for Group 4 (n=67) was 4.08-4.94.

There was a statistically significant difference in the mean Post-conventional sub-scores based on HSGPA at the $p < .05$ level for the four groups [$F(3, 274) = 4.18, p = .01$]. Post hoc comparisons using the Tukey HSD test indicated that the mean Post-conventional sub-score difference for Group 1 (M = 5.48, SD = 13.97) was not significantly different from Group 2 (M = 5.95, SD = 14.36), or Group 3 (M = 4.67, SD = 15.13). However the mean Post-conventional sub-score of Group 4 (M = 12.29, SD = 12.83) was significantly different from the other three groups. The effect size, using eta-squared, was .04

There was no statistically significant difference in the mean Personal Interest sub-scores based on HSGPA at the $p < .05$ level for the four groups [$F(3, 274) = 0.87, p = .46$]. There was no statistically significant difference in the mean Maintaining Norms sub-scores based on HSGPA at the $p < .05$ level for the four groups [$F(3, 274) = 1.99, p = .12$]. There was no statistically significant effect of HSGPA on the mean Weighted Post-conventional sub-score

increases at the $p < .05$ level for the four groups [$F(3, 274) = 2.49, p = .07$]. Data analyses are summarized in Table 12.

Table 12

Mean Sub-score Difference by HSGPA Quartiles

Sub-score	Group 1		Group 2		Group 3		Group 4		F	P
	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-2.39	14.98	-3.15	13.97	-5.00	15.64	-5.91	12.81	.867	.46
4P	-2.07	16.07	-3.50	13.24	-0.22	16.79	-6.35	14.56	1.99	.12
P	5.48	13.97	5.95	14.36	4.67	15.13	12.29	12.83	4.18	.01
N2	7.01	15.13	8.37	12.92	6.26	17.41	12.41	11.73	2.44	.07

Note: $n = 295$, Group 1: 2.18-3.26 ($n = 69$), Group 2: 3.27-3.76 ($n = 70$), Group 3: 3.77-4.07 ($n = 72$), Group 4: 4.08-4.94 ($n = 67$)

Traditional HSGPA. A one-way between subjects ANOVA was used to examine the impact of students' traditional HSGPA scale on mean DIT-2 sub-scores. In this case, the sample was divided into three groups according to typical delineations of the HSGPA scale. The grade point average (GPA) for Group 1 ($n=38$) was 2.00-2.99. The GPA for group 2 ($n=149$) was 3.00-3.99. The GPA for Group 3 ($n=91$) was 4.00-4.99.

There was a statistically significant difference in the mean Post-conventional sub-scores based on traditional HSGPA at the $p < .05$ level for the three groups [$F(2, 275) = 4.19, p = .02$]. Post hoc comparisons using the Tukey HSD test indicated that the mean Post-conventional sub-score increase for Group 1 ($M = 8.47, SD = 11.95$) was not statistically significantly different from Group 2 ($M = 4.78, SD = 15.00$) nor Group 3 ($M = 10.10, SD = 13.70$). However, the Post-conventional sub-score increase of Group 3 was significantly different from Group 2, although

they were not statistically significantly different from Group 1. The effect size, using eta-squared, was .02.

There was no statistically significant difference in the mean Personal Interest sub-scores based on traditional HSGPA at the $p < .05$ level for the three groups [$F(2, 275) = 0.49, p = .61$].

There was no statistically significant difference in the mean Maintaining Norms sub-scores based on traditional HSGPA at the $p < .05$ level for the three groups [$F(2, 275) = 2.24, p = .11$].

There was no statistically significant difference in the mean Weighted Post-conventional sub-scores based on traditional HSGPA at the $p < .05$ level for the three groups [$F(2, 275) = 2.88, p = .06$].

Data analyses are summarized in Table 13.

Table 13

Mean Sub-score Difference by Standard HSGPA

Sub-score	Group 1		Group 2		Group 3		F	P
	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-2.32	15.17	-3.99	14.48	-5.05	14.03	.49	.61
4P	-4.26	16.39	-1.21	14.53	-5.36	15.92	2.24	.11
P	8.47	11.95	4.78	15.00	10.10	13.70	4.19	.02
N2	10.07	14.53	6.53	15.40	10.95	12.95	2.88	.06

Note: $n = 295$, Group 1: 2.0-2.99 ($n = 38$), Group 2: 3.0-3.99 ($n = 149$), Group 3: 4.0-5.0 ($n = 91$)

Time to Degree. A one-way between subjects ANOVA examining the length of time to complete the undergraduate degree and DIT-2 sub-scores was conducted. In this case, the sample was divided into three groups according the length of the undergraduate experience. The time to degree (TTD) in years for Group 1 ($n = 77$) was three and one-half years. The TTD in years for Group 2 ($n = 188$) was four years. The TTD in years for Group 3 ($n = 30$) was four and one-half years.

There was a statistically significant difference in the mean Weighted Post-conventional (N2) sub-scores based on TTD at the $p < .05$ level for the three groups [$F(2, 292) = 3.61, p = .03$]. Post hoc comparisons using the Tukey HSD test indicated that the mean Weighted Post-conventional sub-score increase for Group 1 ($M = 11.48, SD = 14.93$) was significantly different from Group 2 ($M = 6.72, SD = 14.33$), but was not significantly different from Group 3 ($M = 11.64, SD = 17.09$). Effect size, calculated using eta-squared, was .02.

There was no statistically significant difference in the mean Personal Interest sub-scores based on TTD at the $p < .05$ level for the three groups [$F(2, 292) = .22, p = .80$]. There was no statistically significant difference in the mean Maintaining Norms sub-scores based on TTD at the $p < .05$ level for the three groups [$F(2, 292) = 2.36, p = .10$]. There was no statistically significant difference in the mean Post-conventional sub-scores based on TTD at the $p < .05$ level for the three groups [$F(2, 292) = 1.81, p = .17$]. Data analyses are summarized in Table 14.

Table 14

Mean Sub-score Difference by Time to Degree (years)

Sub-score	Group 1		Group 2		Group 3		F	P
	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-5.11	15.31	-3.81	14.68	-4.50	14.77	.22	.80
4P	-5.87	15.18	-1.42	14.81	-3.23	17.23	2.36	.10
P	8.93	15.91	5.56	14.10	8.93	14.24	1.81	.17
N2	11.48	14.93	6.72	14.33	11.64	17.09	3.61	.03

Note: n = 295, Group 1: 3.5 (n = 77), Group 2: 4 (n = 188), Group 3: 4.5 (n = 30)

ACT Scores. A one-way between subjects ANOVA was conducted to explore the impact of ACT results on DIT-2 sub-scores. For purposes of analysis, the sample was divided into quartiles based on the highest reported ACT score by each student in the sample. The ACT score range for Group 1 (n=85) was 15-21. The ACT score range for group 2 (n=60) was 22-23. The ACT score range for Group 3 (n=63) was 24-25. The ACT score range for Group 4 (n=77) was 26-35.

There was no statistically significant difference in the mean Personal Interest sub-scores based on ACT scores at the $p < .05$ level for the four groups [$F(3, 281) = 1.18, p = .32$]. There was no statistically significant difference in the mean Maintaining Norms sub-scores based on ACT scores at the $p < .05$ level for the four groups [$F(3, 281) = 1.64, p = .92$]. There was no statistically significant difference in the mean Post-conventional sub-scores based on ACT scores at the $p < .05$ level for the four groups [$F(3, 281) = .21, p = .89$]. There was no statistically significant difference in the mean Weighted Post-conventional sub-scores based on ACT scores at the $p < .05$ level for the four groups [$F(3, 281) = .93, p = .25$]. Data analyses are summarized in Table 15.

Table 15

Mean Sub-score Difference by ACT Score

Sub-score	Group 1		Group 2		Group 3		Group 4		F	P
	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-2.39	15.85	-6.37	16.26	-3.30	12.68	-5.56	13.13	.15	.32
4P	-2.67	15.03	-2.86	16.36	-3.84	14.66	-2.02	15.47	1.18	.92
P	6.24	13.65	7.85	16.85	7.58	14.90	6.41	14.13	.16	.89
N2	8.43	15.37	9.05	18.20	8.97	13.80	7.57	12.58	.21	.93

Note: n = 295, Group 1: 15-21 (n = 85), Group 2: 22-23 (n = 60), Group 3: 24-25 (n = 63), Group 4: 26-35 (n = 77)

The protocol for analysis of HSGPA was also used for examination of the effect of undergraduate grade point average reported upon graduation (UGGPA) on DIT-2 sub-scores. UGGPA data were separated into quartiles and analyzed using a one-way between subjects ANOVA. Additionally, a one-way between subjects ANOVA was conducted using UGGPA groups that were divided by traditional grade point averages. The results are described in the following sections with summary tables following each narrative.

UGGPA by Quartile. A one-way between subjects ANOVA was conducted to explore the impact of UGGPA on DIT-2 sub-scores. For purposes of analysis, the sample was divided into quartiles. The UGGPA Group 1 (n = 73) was 2.37-3.21. The UGGPA for group 2 (n = 72) was 3.22-3.55. The UGGPA for Group 3 (n = 70) was 3.56-3.78. The UGGPA for Group 4 (n = 71) was 3.79-4.0.

There was no statistically significant difference in the mean Personal Interest sub-scores based on quartiled UGGPA at the $p < .05$ level for the four groups [$F(3, 282) = .42, p = .74$]. There was no statistically significant difference in the mean Maintaining Norms sub-scores based on quartiled UGGPA at the $p < .05$ level for the four groups [$F(3, 282) = 1.10, p = .35$]. There

was no statistically significant difference in the mean Post-conventional sub-scores based on quartiled UGGPA at the $p < .05$ level for the four groups [$F(3, 282) = .83, p = .48$]. There was no statistically significant difference in the mean Weighted Post-conventional sub-scores based on quartiled UGGPA at the $p < .05$ level for the four groups [$F(3, 282) = .83, p = .48$]. Data analyses are summarized in Table 16.

Table 16

Mean Sub-score Difference by UGGPA Quartiles

Sub-score	Group 1		Group 2		Group 3		Group 4		F	P
	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-5.59	11.57	-4.94	15.79	-3.02	15.67	-5.09	14.94	.42	.74
4P	-1.35	14.20	-0.59	15.07	-2.88	16.41	-4.82	14.53	1.10	.35
P	6.87	13.75	5.55	13.48	6.08	17.30	9.13	13.64	.83	.48
N2	8.97	14.43	7.31	15.08	7.69	15.80	10.87	14.09	.83	.48

Note: $n = 295$, Group 1: 2.37-3.21 ($n = 73$), Group 2: 3.22-3.55 ($n = 72$), Group 3: 3.56-3.78 ($n = 70$), Group 4: 3.79-4.0 ($n = 71$)

Traditional UGGPA. A one-way between subjects ANOVA examining the impact of traditional UGGPA in DIT-2 sub-scores was also conducted. In this case, the sample was divided into four groups according to typical delineations of the grade point average scale. The UGGPA for Group 1 ($n = 3$) was 2.00-2.49. The UGGPA for Group 2 ($n = 34$) was 2.50-2.99. The UGGPA for Group 3 ($n = 95$) was 3.00-3.49. The UGGPA for Group 4 ($n=160$) was 3.50-4.00.

There was no statistically significant difference in the mean Personal Interest sub-scores based on traditional UGGPA at the $p < .05$ level for the four groups [$F(3, 288) = 1.07, p = .25$]. There was no statistically significant difference in the mean Maintaining Norms sub-scores based on traditional UGGPA at the $p < .05$ level for the four groups [$F(3, 282) = 1.35, p = .36$]. There was no statistically significant difference in the mean Post-conventional sub-scores based on

traditional UGGPA at the $p < .05$ level for the four groups [$F(3, 282) = 1.36, p = .26$]. There was no statistically significant difference in the mean Weighted Post-conventional sub-scores based on traditional UGGPA at the $p < .05$ level for the four groups [$F(3, 282) = 1.37, p = .25$]. Data analyses are summarized in Table 17.

Table 17

Mean Sub-score Difference by Traditional UGGPA

Sub-score	Group 1		Group 2		Group 3		Group 4		F	P
	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	8.66	25.32	-3.58	13.09	-5.54	14.01	-3.80	15.39	1.37	.25
4P	4.67	25.00	-5.32	15.13	-0.67	14.51	-3.71	15.57	1.07	.36
P	-8.67	13.32	8.56	14.16	6.19	13.51	7.17	15.42	1.35	.26
N2	-6.20	13.60	11.06	15.25	7.86	14.51	8.70	15.08	1.36	.25

Note: $n = 295$, Group 1: 2.0-2.49 ($n = 3$), Group 2: 2.50-2.99 ($n = 34$), Group 3: 3.00-3.49 ($n = 95$), Group 4: 3.50-4.0 ($n = 160$)

Academic Discipline. Exploring the relationships between educational intervention and moral development requires analyses of the impact of academic discipline on DIT-2 sub-scores. Although UC embedded ethics education throughout its curriculum, some programs in Science and Health Science, have a specific course focusing on ethics.

For the purposes of analysis, the sample was divided into four academic disciplines (AD), Humanities, Science, Business, and Health Science. Humanities, Group 1 ($n = 89$) included Art, Interior Design, Communication, Education, Political Science and History graduates. Science, Group 2 ($n = 80$) included Biology and Chemistry graduates. Business, Group 3 ($n=63$) included Business and Sports Administration graduates. Health Science, Group 4 ($n=50$) included Athletic Training, Bachelors in Nursing, Psychology and Radiologic Technology graduates. A one-way between subjects ANOVA was conducted, exploring the impact of participating in an AD in

DIT-2 sub-scores. The results are described in the following sections with a summary table following the narrative.

There was no statistically significant difference in the mean Personal Interest sub-scores based on AD at the $p < .05$ level for the four groups [$F(3, 278) = 1.60, p = .19$]. There was no statistically significant difference in the mean Maintaining Norms sub-scores based on AD at the $p < .05$ level for the four groups [$F(3, 278) = .16, p = .92$]. There was no statistically significant difference in the mean Post-conventional sub-scores based on AD at the $p < .05$ level for the four groups [$F(3, 278) = 1.14, p = .33$]. There was no statistically significant difference in the mean Weighted Post-conventional sub-scores based on AD at the $p < .05$ level for the four groups [$F(3, 278) = .69, p = .56$]. Data analyses are summarized in Table 18.

Table 18

Mean Sub-score Difference by Academic Discipline

Sub-score	Group 1		Group 2		Group 3		Group 4		F	P
	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-2.95	15.65	-7.25	12.91	-2.60	16.40	-4.36	13.41	1.60	.19
4P	-2.38	13.41	-2.87	16.82	-3.22	16.53	-1.36	13.30	.16	.92
P	5.06	13.97	9.02	14.78	5.94	15.56	6.32	12.90	1.14	.33
N2	6.94	15.22	10.00	12.78	8.04	15.84	7.43	13.91	.69	.56

Note: $n = 295$, Group 1: Humanities ($n = 89$), Group 2: Science ($n = 80$), Group 3: Business ($n = 63$), Group 4: Health Science ($n = 50$)

Expected Family Contribution. For purposes of analysis, the relationship, if any existed, between the amount of money families are expected to contribute to the undergraduate degree and moral development was examined. Ellucian uses the term Expected Family Contribution (EFC). Exploring the relationship between EFC and moral development allows for analyses of the effect of income on DIT-2 sub-scores. A reported EFC of \$5,000 or less indicates

Pell grant eligibility. A total of 270 EFC reports were submitted using the Free Application for Federal Student Aid (FAFSA) process. For the purposes of analysis, the sample was divided into quartiles. Group 1 reported an EFC of 0-2,015 dollars (n = 67). Group 2 reported an EFC of 2,034-8,240 dollars (n = 68). Group 3 reported an EFC of 8,407-19,070 dollars (n = 68). Group 4 reported an EFC of 19,091-99,999 dollars (n = 67). A one-way between subjects ANOVA was conducted, examining the relationship between EFC and DIT-2 sub-scores. The results are described in the following sections with a summary table following the narrative.

There was no statistically significant difference in the mean Personal Interest sub-scores based on EFC at the $p < .05$ level for the four groups [$F(3, 266) = .21, p = .89$]. There was no statistically significant difference in the mean Maintaining Norms sub-scores based on EFC at the $p < .05$ level for the four groups [$F(3, 266) = .59, p = .62$]. There was no statistically significant difference in the mean Post-conventional sub-scores based on EFC at the $p < .05$ level for the four groups [$F(3, 266) = .13, p = .99$]. There was no statistically significant difference in the mean Weighted Post-conventional sub-scores based on EFC at the $p < .05$ level for the four groups [$F(3, 266) = .29, p = .83$]. Data analyses are summarized in Table 19.

Table 19

Mean Sub-score Difference by EFC

Sub-score	Group 1		Group 2		Group 3		Group 4		F	P
	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-4.11	12.76	-3.82	15.97	-3.06	14.98	-5.04	14.89	.21	.89
4P	-2.23	16.01	-2.94	15.40	-5.08	14.82	-1.79	15.89	.59	.62
P	7.10	14.85	7.12	14.84	6.85	13.70	6.69	15.16	.13	.99
N2	8.18	16.00	7.46	16.33	9.75	12.13	8.15	14.48	.29	.83

Note: n = 295, Group 1: 0-2015 (n = 67), Group 2: 2034-8240 (n = 68), Group 3: 8407-19070 (n = 68), Group 4: 19,091-99,999 (n = 67)

Federal Loan Debt. Finally, the relationship between the amount of federal student loan debt upon graduation and moral development was examined. Ellucian uses the term Federal Loan Debt (FLD) to describe any outstanding federal student loans present upon graduation. Exploring the relationship between FLD and moral development allows for further analyses of the effect of income on DIT-2 sub-scores. Two hundred ninety-five FLD reports were produced by the Ellucian database. For the purposes of analysis, the sample was divided into quartiles. Group 1 was identified as having a FLD of 0 dollars (n = 81). Group 2 was identified as having a FLD of 915-17,000 dollars (n = 65). Group 3 was identified as having a FLD of 17,500-20,818 dollars (n = 76). Group 4 was identified as having a FLD of 21,000-48,750 dollars (n = 73). A one-way between subjects ANOVA was conducted, examining the impact of students' FLD on DIT-2 sub-scores. The results are described in the following sections with a summary table following the narrative.

There was no statistically significant difference in the mean Personal Interest sub-scores based on FLD at the $p < .05$ level for the four groups [$F(3, 291) = .83, p = .48$]. There was no statistically significant difference in the mean Maintaining Norms sub-scores based on FLD at the $p < .05$ level for the four groups [$F(3, 291) = .14, p = .94$]. There was no statistically significant difference in the mean Post-conventional sub-scores based on FLD at the $p < .05$ level for the four groups [$F(3, 291) = .05, p = .99$]. There was no statistically significant difference in the mean Weighted Post-conventional sub-scores based on FLD at the $p < .05$ level for the four groups [$F(3, 291) = 1.04, p = .37$]. Data analyses are summarized in Table 20.

Table 20

Mean Sub-score Difference by Federal Loan Debt (U. S. Dollars)

Sub-score	Group 1		Group 2		Group 3		Group 4		F	P
	M Diff	SD	M Diff	SD	M Diff	SD	M Diff	SD		
2/3	-4.85	16.53	-4.73	13.53	-1.96	15.06	-5.41	13.42	.83	.48
4P	-2.80	15.23	-2.52	16.93	-3.63	15.30	-2.05	13.78	.14	.94
P	6.80	14.81	6.30	15.11	6.73	15.34	7.25	13.56	.05	.99
N2	8.22	14.66	8.41	15.50	6.51	15.92	10.80	13.50	1.04	.37

Note: n = 295, Group 1: 0 (n = 81), Group 2: 915-17,000 (n = 65), Group 3: 17,500-20,818 (n = 76), Group 4: 21,000-48,750 (n = 73)

Chapter Summary

Five student cohorts' DIT-2 results, taken in the first and last year of their undergraduate experience were assessed to determine if their outcomes based education, resulted in moral development. The total sample mean sub-scores clearly indicate movement away from lower level schema (Personal Interest and Maintaining Norms) in favor of Post-conventional methods to resolve moral dilemmas. In one case, the 2008 cohort showed decreases in Personal Interest (2/3) sub-scores and increases in Post-conventional (P) and Weighted Post-conventional (N2) sub-scores similar to the other cohorts but the differences were not statistically significant.

The three largest cohorts (2009, 2010, and 2011), representing 84% (n=247) of the sample showed statistically significant increases in mean Post-conventional and Weighted Post-conventional sub-scores. The eta-squared calculations for those sub-score changes revealed large effect sizes.

For purposes of further analysis, independent samples T-tests and one way between groups ANOVA were performed to determine if demographic and other attribute variables influenced changes in DIT-2 sub-score changes. The independent variables were sex, athletic

participation, HSGPA, ACT score, UGGPA, AD, EFC, TTD, and FLD. Of the 11 independent variables, two (HSGPA, and TTD) had a statistically significant impact on mean DIT-2 sub-score differences. When results based on quartiled HSGPA were analyzed, students with the highest grade point averages (4.08-4.94) demonstrated statistically significant increases in mean Post-conventional sub-scores compared to all other groups. When results based on traditional HSGPA (divided into three groups) were analyzed, students with the highest grade point averages (4.0-5.0) and the lowest (2.0-2.99) had statistically significant increases in mean Post-conventional sub-scores compared to the middle HSGPA group (3.0-3.99). The analysis of sub-score differences based on TTD revealed statistically significant differences in Weighted Post-conventional sub-scores for students graduating in 3.5 years and for students graduating in 4.5 years compared to students graduating in 4 years. The effect sizes for the impact of HSGPA and TTD on sub-scores were consistently small.

Chapter 5: CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This chapter provides the purpose of the study and summarizes the methods and findings. The chapter ends by presenting the study conclusions, a discussion of implications, and recommendations for further study.

Purpose of the Study

The purpose of this study was to determine if significant changes in moral development occurred in students participating in an outcomes based undergraduate education. This study also focused on the influences outcomes based education and individual variables had on the movement away from simplistic methods to resolve moral dilemmas such as personal interest and maintaining norms, and toward post-conventional processes. Furthermore, the study investigated the possibility that certain demographic or attribute variables influenced moral development.

RQ1. What are the differences, if any, in the entry and exit levels of moral development of undergraduate college students who have participated in an outcome based ethics-focused curriculum?

RQ2. What are the differences, if any, in the entry and exit levels of moral development in undergraduate college students who have participated in an outcome based ethics-focused curriculum, based on selected demographic and attribute variables such as, sex, athletic participation, high school grade point average, time to complete undergraduate degree, ACT score, final undergraduate grade point average, and socio-economic status?

Methods

This case study employed descriptive research to determine if there were significant differences in the entry and exit level DIT-2 sub-scores measuring moral development of students at the University of Charleston. Changes in DIT-2 sub-scores for Personal Interest, Maintaining Norms, Post-conventional Thinking, and Weighted Post-conventional Thinking were used to determine if statistically significant differences in sub-scores existed when entry-level (freshman) and exit-level (senior) sub-scores were compared. Additionally, DIT-2 sub-scores changes based on demographic and attribute variables such as sex, socio-economic status, HSGPA, TTD, ACT scores, academic discipline, and final were analyzed.

The population for the study was 509 students who entered UC in 2008, 2009, 2010, 2011, and 2012 and graduated between 2012 and 2016. Sources were DIT-2 scores at entry and exit for 295 students in the sample and the University of Charleston Ellucian database that houses the student demographic and attribute data. Paired samples t-tests and analysis of variance (ANOVA) were performed to determine if statistically significant changes occurred in DIT-2 sub-scores, and if membership in certain demographic or attribute groups made a statistically significant impact on sub-scores. De-identified data were provided by the University of Charleston Office of Institutional Research. No key code was provided to the researcher.

Summary of Findings

The sample consisted of 295 students for whom entry and exit-level DIT-2 results and commensurate Ellucian descriptive data were available. The sample used for the study was 57.9% of the total population. Examination of the paired samples t-test for the entire sample for each DIT-2 sub-score resulted in statistically significant decreases in Personal Interest and Maintaining Norms sub-scores and statistically significant increases in Post-conventional and

Weighted Post-conventional sub-scores at the $p < .05$ level. The eta-squared calculation revealed small to moderate effect sizes for the decreases in Personal Interest and Maintaining Norm decreases and large effect sizes for increases in Post-conventional and Weighted Post-conventional sub-scores.

Paired sample T-tests were performed for mean sub-scores for each yearly cohort. The mean decreases in Personal Interest sub-scores were statistically significant for the 2008, 2009, and 2010 cohorts. The mean decrease in Maintaining Norms sub-scores was statistically significant for the 2011 cohorts.

The mean increases in the Post-conventional and Weighted post-conventional mean sub-scores for the 2009, 2010, 2011, and 2012 were statistically significant. The eta-square calculated effect size was large for these increases, ranging from .18 to .61. Similar differences were also evident in the 2008 cohort although the mean increases were not statistically significant. A one way between subjects ANOVA comparing mean DIT-2 sub-score differences among all cohorts revealed no statistically significant differences.

Independent samples t-tests and one-way between subjects ANOVA resulted in significant findings for three independent variables' relationship to DIT-2 sub-score changes. However, DIT-2 sub-scores were not influenced by membership in most demographic and attribute variable groups.

Using a one-way between subjects ANOVA, a statistically significant relationship at the $p < .05$ level was identified when examining the mean Post-conventional sub-score differences associated with Quartiled and Traditional HSGPA. The mean increases for the Post-conventional sub-scores in Group 3 (3.77 - 4.07) and Group 4 (4.08 - 4.94) of the Quartiled HSGPA were most pronounced. The differences in mean Post-conventional Group 3 were statistically

significant at the $p < .05$) level. The eta-squared calculated effect size was moderate at .04. The mean differences for the mean Weighted Post-conventional sub-scores for Group 4 approached significance ($p = .07$).

Using a one way between subjects ANOVA and traditional HSGPA demarcations, the Mean Post-conventional sub-score increases were statistically significant at the $p < .05$ level. Group 3 (4.0 – 5.0) mean differences were statistically significant when compared to Group 2 (3.00-3.99) and Group 1 (2.00-2.99). The eta-squared calculated effect size was small at .02. The mean Weighted Post-conventional sub-score differences among the three groups approached significance ($p = .06$). The means differences were higher for Groups 1 and 3.

Using a one-way between subjects ANOVA, a statistically significant relationship at the $p < .05$ level was identified when examining the mean Weighted Post-conventional sub-score differences associated with Time to Degree. The mean increases for the Weighted Post-conventional sub-scores in Group 2 (4 years) were significantly less than Groups 1 (3.5 years) and 3 (4.5 years). The eta-squared calculated effect size was small at .02.

Conclusions

Data gathered as part of this study were sufficient to support the following conclusions.

RQ1: Entry and Exit levels of moral development for the total sample

The increase in Post-conventional and Weighted Post-conventional sub-scores and commensurate decreases in Personal Interest and Maintaining Norms sub-scores for all cohorts indicate that at the end of the undergraduate experience students were more likely to rely on sophisticated moral reasoning while rejecting, irrelevant, or simplistic choices to resolve moral dilemmas. The large effect sizes for the changes in the mean sub-scores provide further evidence of the strength of the differences.

RQ2: Influence of demographic and attribute variables on sub-score differences

Students with higher HSGPA are more likely to resolve moral dilemmas using sophisticated Post-conventional thought processes than students with lower HSGPA. Students who took 3.5 years and 4.5 years to complete their undergraduate degree showed greater differences in moral development than those graduating in the typical period of four years. There were no statistically significant differences in changes of moral reasoning based on sex, ACT scores, final UGGPA, Academic Discipline, Expected Family Contribution, and Federal Loan Debt.

Discussions and Implications

This study clearly supports the supposition that growth in the capacity for moral reasoning occurs in undergraduate students over the course of their educational experience. Individuals seeking higher education are often interested in learning, personal intellectual growth, and seek stimulating social environments. Moreover, they are motivated by societal and community issues (Rest, 1994). The significant relationship that exists between formal learning and moral development supports the proposition that education is a precursor to higher levels of moral reasoning, particularly in the resolution of dilemmas. Since the introduction of the DIT-2, studies have affirmed the view that formal post-secondary education is associated with movement from conventional to post-conventional reasoning (Pascarella & Terenzini, 1991; Bebeau & Thoma, 1994; Mayhew, Pascarella, Trolan, & Selznick, 2015).

The entry and exit level DIT-2 results from this study show a reduction in the use of Personal Interest and Maintaining Norms schemas and increases in Post-conventional schemas as a frame of reference when rating and ranking elements associated with moral dilemmas.

Increases in Post-conventional (P) sub-scores and, in particular, Weighted Post-conventional (N2) sub-scores reinforce the preference for using sophisticated reasoning to resolve moral dilemmas. The results mirror expectations of education related moral development as described by Kohlberg (1973, 1976, 1979, 1981), Rest (2005, 2009), and Schaepli, Rest, and Thoma (1985).

Some of the largest effect sizes present in the study were associated with increases in Post-conventional and Weighted Post-conventional sub-score increases. The effect sizes for the Weighted Post-conventional sub-score changes (as high as .61), suggest that the increases are likely the result of educational intervention. The consistent and pervasive use of assessment tied to outcomes suggest that students benefit broadly from the practice (Gardner, 2012), and specifically become more capable of principled moral reasoning because of the regular exposure to experiences tied to ethical practice.

The use of outcomes based education practices and its assessment focus are tied to principled moral reasoning. The increases in Post-conventional (P) and weighted Post-conventional (N2) sub-scores found in this study mirror results from several larger scale analyses. Rogers (2002) examined a number of assessment mechanisms used at Alverno College, a school known for its extensive use of assessment. Rogers found the DIT-2 to be superior with regard to administration, normative parallels, and capacity to identify moral development changes over time. Rogers describes one study of Alverno's DIT-2 scores where effects sizes from entrance to near graduation were as high as .79 with other sub-scores effect sizes as high .57. He demonstrated relationships between curricula intended to affect moral development and movement toward post-conventional reasoning.

Rogers (2002) used statistical modeling software called Linear Structural Relations (LISREL) to explore relationships between the DIT-2 and aspect of Alverno's curriculum. LISREL suggested strong links between DIT-2 results and Alverno's ability-based curriculum, which is similar to UC's outcomes based model. Alverno employs educational interventions regarding ethics intended to enhance students' capacity for "using moral reasoning" and "using moral sensitivity" (p. 326) and uses the DIT-2 to assess the efficacy of those interventions. At UC and Alverno, student learning is often assessed using rubrics. The large DIT-2 sub-scores effect sizes that exist at both Alverno and within this study appear to validate both the efficacy of intentional interventions focusing on morality and the utility of formative and summative assessment.

Schaepli, Rest, and Thoma (1985) performed a meta-analysis of studies that evaluated educational interventions using the DIT. Broad ranges of students were involved in the studies. Some participants were in junior high school. Other participants included graduate students and adults. About half of the educational interventions reviewed were seen as effectively contributing to the moral development of students. The common theme of those interventions was the length and content of the intervention. If the instructional program lasted more than two weeks and included respectful debate of controversial moral dilemmas, the results were more likely to effect the students' moral development positively. Some of the largest effects sizes were interventions that discussed moral dilemmas and were focused on personal development. Traditional academic courses in the humanities and social studies and short-term training produced smaller effect sizes. Specifically, as supported by this study, the collegiate experience stimulates movement away from Conventional toward Post-conventional moral reasoning.

The influence of DIT-2 sub-scores based on other attribute variables was performed. The results of the study suggest that membership in certain demographic groups or having certain attributes as described in previous discussions has an impact on moral development. Attributes such as sex, athletic participation, HSGPA and TTD influenced one or more mean sub-score changes in a statistically significant way, but were not separated from others within the group sample in a way that demonstrated attribute related changes in moral development.

When examining the influence of sex on DIT-2 sub-scores, no statistically significant differences were identified. Other research showed similar results. When comparing sub-score differences between men and women, Rest (1979) did not find statistically significant correlations between sex and Post-conventional scores. Dunleavy (2008) affirmed Rest's conclusions that men and women might have differing social encounters, but development and moral reasoning is similar.

There is evidence from this study suggesting that students with the highest HSGPA showed greater gains in post-conventional and weighted post-conventional results. The post-conventional (P) and weighted post-conventional (N2) sub-scores differences for that group either approached or were statistically significant. For example, students from the upper level of HSGPA in the quartiled groupings had significantly different post-conventional sub-scores when compared the mid and low-range group.

The quartiled results suggest students with high HSGPA demonstrate greater capacity moral development than students that perform at lower levels. However, the traditional groupings of HSGPA do not completely support that conclusion. Those data suggest that the moral development of both lower level and upper level students is greater. The lack of consistency found in the analysis coupled with low effect sizes weakens the conclusions further.

It is incongruous with logic to infer that students who perform the poorest academically and students who perform the best academically would show the greatest movement toward post-conventional reasoning after the undergraduate experience. However, it is possible that the low HSGPA students began college with diminished capacity for Post-conventional thinking, and higher performing students were more capable of actively responding to educational intervention. If the collegiate experience entails both groups working and socializing together, it is likely that one group influences the other. There is evidence suggesting that peers who may be predisposed to Post-conventional behavior by virtue of advanced academic standing may affect students whose moral acumen develops at a slower pace. Pascarella and Terenzini (1991) suggest peer influence could be responsible for higher P scores in individuals who were normally expected to score lower, but attended church affiliated liberal arts colleges. If the inference is that moral growth is likely to occur as a result of peer influence, increases in Post-conventional reasoning may be accelerated within a group with a bias toward lower levels of moral reasoning.

Rest (1975) concluded, after a study of 88 individuals that college bound individuals, those with adequate HSGPA allowing for admission, showed greater gains in moral development than non-college students. The findings mirror those in this study that demonstrated significant gains for the sample overall and greater gains for high performing students. This study also suggests the time to degree (TTD) may influence moral development.

Mean Weighted Post-conventional sub-score differences were statistically significant when accounting for the time taken to complete an undergraduate degree (TTD). The difference was evident when comparing students that graduated in either 3.5 years or 4.5 years to students graduating in 4 years. However, it is difficult to draw conclusions for those data. The mean increases in the N2 sub-scores were virtually the same for students graduating in 3.5 years when

compared to students graduating in 4.5 years and were significantly different from students graduating in 4 years. Although the effect size was small, this finding may be related to academic standing or the length of exposure to educational interventions.

The study, along with Rogers (2002), Davis and Bergen (2014), found that students who were well prepared for college show some of the greatest gains in Post-conventional reasoning skills. Many high achieving students arrive to college with college course credit. As a result, these students often graduate early. These same students (high achievers) consistently demonstrated an increased capacity to improve moral reasoning skills (Mayhew, Seifert, Pascarella, Nelson Laird, & Blaich, 2012; Pascarella & Terenzini, 1991). It is possible to infer, therefore, that students taking a shorter time to graduate were the same students that entered college with the highest HSGPA. Therefore, it appears that the findings suggesting students with the higher HSGPA and students taking the shortest time to graduate are consistently pointing to similar groups of students. Conversely, those students taking the longest time to graduate may have greater gains in moral development for another reason altogether.

Rest (1975) and others suggest that the length of exposure to educational intervention may influence the degree to which moral development occurs. It is possible, then, to associate extended exposure to college, especially one with an ethics-focused curriculum, with greater gains in moral development. This connection is a difficult one to make, especially if students in this cluster struggled to graduate within the typical four year period. The make-up of this population may consist of students requiring remediation and/or repeated exposure to faculty, counselors, advisors, and other intervention specialists. If the student ultimately persisted to graduation, it is possible that the extended experience affected moral reasoning in a positive manner.

Finally, the study indicated that ACT scores, final undergraduate GPA, academic discipline, economic status (as defined by the expected family contribution to college expenses), and federal loan debt at the end of the undergraduate experience did not influence changes in mean DIT-2 sub-scores.

Although ACT scores are generally indicative of future academic success in college, and HSGPA appears to influence differences in DIT-2 scores, this study cannot support the supposition that higher ACT scores are associated with significant gains in moral development. Even accounting for data suggesting students with higher HSGPA report statistically significant gains in moral development, the same cannot be said for students doing well on the ACT test. There is limited work on this relationship. One, a secondary analysis of James Rest's (1979) study by Pascarella and Terenzini (1991) was able to identify a significant partial correlation between higher ACT and SAT scores and Post-conventional score increases.

This study was also unable to identify any influences between UGGPA or academic discipline and differences in DIT-2 sub-scores. Research in this area suggests that higher DIT-2 Post-conventional scores are associated with collegiate involvement in political, intellectual and academic experiences in college, but identification of specific causal relationships are lacking (Pascarella & Terenzini, 1991).

Consistent with Kohlberg (1973; 1969) and Rest's (1975; 1979; 2000) findings, this study supports the view that college and associated social, cultural, and intellectual experiences may be the primary impetus for moral development. Additional reinforcing mechanisms may also exist, including educational interventions focusing on ethical practice (Rogers, 2002; Pascarella & Terenzini, 1991). Students who seek out opportunities for intellectual growth and are energized by pursuit of rigorous coursework may see the greatest benefit from experiences

focusing on principled moral reasoning. Moreover, just as college influences a student's ability to think critically and creatively, it is very likely that the cumulative effect from four years of education has a positive effect on ethical practice.

Recommendations for Further Research

Although a number of studies exist that provide snapshots of undergraduate cohorts' assessment of moral development, there are far less longitudinal studies that evaluate changes over time. Even fewer concentrate on undergraduate populations using the N2 sub-score to identify changes in moral development that occur as a direct result of educational intervention, consequently, recommendations for future research include:

1. Identify cohorts that had educational intervention that lasted more than two weeks and included discussion of complex moral dilemmas and compare DIT-2 sub-score changes to a cohort that did not.
2. Explore the DIT-2 results of students entering college with below and above average high school academic performance to determine, on a larger scale, if mean changes in P and N2 scores are associated with high achieving students.
3. Examine relationships between TTD and high school performance measures to determine if a relationship exists between the two and DIT-2 scores.
4. Obtain additional matched pairs DIT-2 scores from the University to increase samples sizes of students from individual programs to determine programmatic influences on moral development.

REFERENCES

- Abdolmohammadi, M. J., Gabhart, D. L., & Reeves, M. F. (1997). Ethical cognition of business students individually and in groups. *Journal of Business Ethics, 16*(16), 1717-1725.
- Adams, G. B., & White, J. D. (1994). Dissertation research in public administration and cognate fields: An assessment of methods and quality. *Public Administration Review, 54*(6), 565-576.
- Addis, L. (2012). *Nietzsche's Ontology [PDF version]*. Frankfurt, Germany: Ontos Verlag.
- Alderson, A., & Martin, M. (2007). Outcomes based education: Where has it come from and where is it going? *Issues in Educational Research, 17*(2), 161-182.
- Aron, I. E. (1977). Moral philosophy and moral education: A critique of Kohlberg's theory. *The School Review, 85*(2), 197-212.
- Barni, D., Ranieri, S., & Scabini, R. (2011). Value Transmission in the family: Do adolescents accept the values their parents want to transmit? *Journal of Moral Education, 40*(1), 105-121.
- Bebeau, M. J. (2002). The Defining Issues Test and the four component model: Contributions to professional education. *Journal of Moral Education, 31*(3), 271-295.
- Bebeau, M. J., & Thoma, S. J. (1994). The impact of dental ethics curriculum on moral reasoning. *Journal of Dental Education, 58*(9), 684-692.
- Bebeau, M. J., & Thoma, S. J. (1999). "Intermediate" concepts and the connection to moral education. *Educational Psychology Review, 11*(4), 343-360.
- Bebeau, M. J., & Thoma, S. J. (2003). *Guide for DIT-2*. Minneapolis, MN: Center for the Study of Ethical Development.
- Beilin, H. (1992). Piaget's enduring contribution to developmental psychology. *Developmental Psychology, 28*(2), 191-204. doi:10.1037/0012-1649.28.2.191
- Bingham, C. B., & Kahl, S. J. (2013). The process of schema emergence: Assimilation, deconstruction, unitization and the plurality of analogies. *Academy of Management Journal, 56*(1), 14-34. doi:10.5465/amj.2010.0723
- Black, P., & Wiliam, D. (2012). Assessment for Learning in the Classroom. In J. N. Gardner, *Assesment and Learning [e-book]* (pp. 11-15). London, England: SAGE . Retrieved July 1, 2015
- Brabeck, M. M. (1989). Race and gender as psychological variables: Social and ethical issues: Comment on Scarr. *American Psychologist, 44*(5), 847. doi:10.1037/0003-066X.44.5.847.a

- Brook, R. (1987). Justice and the golden rule: A commentary on some recent work of Lawrence Kohlberg. *Ethics*, 97(2), 363-373.
- Burcea, N. (2015). Ethics, management, and human rights. *Internal Auditing and Risk Management*, 10(2), 63-67.
- Camire, M., & Trudel, P. (2010). High school athletes' perspectives on character development through sport participation. *Physical Education & Sport Pedagogy*, 15(2), 193-207.
- Cannon, E. P. (2008). Promoting moral reasoning and multicultural competence during internship. *Journal of Moral Education*, 37(4), 503-518.
- Carr, D. (2007). Moralized psychology or psychologized morality? Ethics and psychology in resent theorizing about moral and character education. *Educational Theory*, 57(4), 389-402.
- Carr, D. (2014). Metaphysics and methods in moral inquiry and education: Some old philosophical wine for new theoretical bottles. *Journal of Moral Education*, 43(4), 500-515.
- Center for the Study of Ethical Development. (n.d.). *DIT and DIT-2*. Retrieved March 16, 2015, from The University of Alabama Center for the Study of Ethical Development: <http://ethicaldevelopment.ua.edu/about-the-dit.html>
- Christie, M. F., Grainger, P., Dahlgren, R., Call, K., Heck, D., & Simon, S. (2015). Improving the quality of assessment grading tools in Master of Education courses: A comparative case study in the scholarship of teaching and learning. *Journal of the Scholarship of Teaching and Learning*, 15(5), 22-35. doi:10.14434/josotl.v15i5.13783
- Comunian, A. L., & Gielen, U. P. (2006). Promotion of moral judgement maturity through stimulation of social role-taking and social reflection: An Italian intervention study. *Journal of Moral Development*, 35(1), 51-69. doi:10.1080/03057240500495302
- Cooper, R. (2007). An investigation into constructivism within an outcomes based curriculum. *Issues in Educational Research*, 17(1), 15-39.
- Crowson, H. M., DeBacker, T. K., & Thoma, S. J. (2007). Are DIT scores empirically distinct measures of political identification and intellectual ability? A test using post-9/11 data. *British Journal of Developmental Psychology*, 25, 197-211. doi:10.1348/0261S1006X103627
- Damon, W. (1988). *The moral child: Nurturing children's natural moral growth*. New York, NY: Free Press.
- Davis, D. R., & Bergen, D. (2014). Relationships among play behaviors reported by college students and their responses to moral issues: A pilot study. *Journal Of Research In Childhood Education*, 28(4), 484-498.

- Davis, D., & Bergen, D. (2014). Relationships among play behaviours reported by college students and their responses to moral issues: A pilot study. *Journal of Research in Childhood Education*, 28(4), 484-498.
- Demetriou-Achilleos, C. (2012). Exploring student moral development through the perspectives of Aristotle, Xenophon, Piaget, and Kohlberg (Order No. 3553044). Retrieved September 15, 2016, from <http://0-search.proquest.com.library.acaweb.org/pqdtglobal/docview/1314417649/abstract/6A8ADB43AE3546B1PQ/1?accountid=137164s>
- Destani, F., Hannon, J., Podlog, L., & Brusseau, T. (2014). Promoting character development through teaching wrestling in physical education. *Journal Of Physical Education, Recreation & Dance*, 85(5), 23-29.
- Diessner, R., Iyer, R., Smith, M. M., & Haidt, J. (2013). Who engages in moral beauty? *Journal of Moral Education*, 42(2), 139-163.
- Donleavy, G. D. (2008). No man's land: Explorong the space between Gilligan and Kohlberg. *Journal of Business Ethics*(80), 807-822. doi:10.1007/s10551-007-9470-9
- Ellis, R. (2015, March 27). *Racist SAE chant was taught at national leadership event, fraternity says*. Retrieved October 18, 2016, from CNN: U.S. Edition: <http://www.cnn.com/2015/03/27/us/oklahoma-sae-fraternity-racist-chant/>
- Ferrell, O. C., & Gresham, L. G. (1985). A contingency framework for understanding ethical decision making in marketing. *Journal of Marketing*, 49(3), 87-96.
- Fowers, B. J. (2012). Placing virtue and the human good in psychology. *Journal Of Theoretical And Philosophical Psychology*, 32(1), 1-9. doi:10.1037/a0025819
- Gardner, J. (2012). Assessing for learning: A compelling conceptualization. In J. Gardner, *Assessment and learning [e-book]* (pp. 279-286). London, England: SAGE. Retrieved July 1, 2015
- Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge, MA: Harvard University Press.
- Gilligan, C. (2014). Moral injury and the ethic of care: Reframing the conversation about differences. *Journal of Social Philosophy*, 45(1), 89-106.
- Gongre, W. M. (1981). *A study of moral judgement, using the Defining Issues Test, for three ethnic groups at Bacone College*. Doctoral dissertation, Oklahoma State University, OK.
- Haase, U. (2008). *Starting with Nietzsche [EBSCO e-book]*. London, England: Continuum. Retrieved April 12, 2015, from <http://0-web.a.ebscohost.com.library.acaweb.org/ehost/ebookviewer/ebook/bmx1YmtfXzM0NDM4MF9fQU41?sid=cddb5edc-80f8-4de7-b701-01f01b1a0a25@sessionmgr4007&vid=3&format=EB&rid=1>

- Hall, K. D. (2004). Student development and ownership of ethical and professional standards. *Science and Engineering Ethics*, 10(2), 383-387.
- Han, H., & Jeong, C. (2014). Improving epistemological beliefs and moral judgment through an STS-based science ethics education program. *Science And Engineering Ethics*, 20(1), 197-220. doi:10.1007/s11948-013-9429-4
- Harvard Educational Review. (2016). *Moral development: A compendium*. (E. Puka, Ed.) Retrieved September 14, 2016, from Harvard Educational Review: http://hepg.org/her-home/issues/harvard-educational-review-volume-66-issue-1/herbooknote/moral-development_264
- Hayes, J. R. (1978). *Cognitive psychology*. Homewood, IL: The Dorsey Press.
- Hazels, T. (2015). Ethics and morality: What should be taught in business law. *Academy of Educational Leadership Journal*, 19(2), 77-89.
- Higgins-D'Alessandro, A. (2015). Lawrence Kohlberg's Legacy: Radicalizing the Educational Mainstream. In B. Zizek, D. Garz & E. Nowak (Eds.), *Kohlberg Revisited* (pp. 27-50). Rotterdam, The Netherlands: Sense Publishers.
- Jensen, J. L., & Rodgers, R. (2001). Cumulating the intellectual gold of case studies. *Public Administration Review*, 61(2), 235-246.
- Johnson, D. R. (2010). *Nietzsche's Anti-Darwinism [EBSCO e-book]*. New York, NY: Cambridge University Press. Retrieved from <http://0-web.a.ebscohost.com.library.acaweb.org/ehost/ebookviewer/ebook/bmx1YmtfXzMzNzYyMF9fQU41?sid=6620077a-dd7f-42bb-9a1c-f31d002989fb@sessionmgr4007&vid=2&format=EB&rid=1>
- Johnstone, S. (1994). Virtuous toil, vicious work: Xenophon on Aristocratic style. *Classical Philology*, 89(3), 219-240.
- Jorgensen, G. (2006, June). Kohlberg and Gilligan: Duet or duel? *Journal of Moral Education*, 35(2), 179-196. doi:10.1080/03057240600681710
- Joyce, R. (2014, November 27). The origins of moral judgement. *Behaviour*, 151, 267-278.
- Kavathatzopoulos, I. (1991). Kohlberg and Piaget: Differences and similarities. *Journal of Moral Development*, 20(1), 47-55.
- Kennedy, P. L., & Luzar, E. J. (1999). Toward methodological inclusivism: The case for case studies. *Review of Agricultural Economics*, 21(2), 579-591.
- Kerstein, S. J. (2004). *Kant's search for the supreme principle of morality*. Cambridge, MA: Cambridge University Press.

- Kim, H. S. (2012). Outcomes-based curriculum development and student evaluation in nursing education. *Journal of Korean Academy of Nursing*, 42(7), 917-927.
doi:10.4040/jkan.2012.42.7.917
- King, P. M., & Mayhew, M. J. (2002). Moral judgement development in higher education: Insights from the Defining Issues Test. *Journal of Moral Development*, 31(3), 247-270.
- Klosko, G. (2006). *The Development of Plato's political theory*. Oxford, NY: Oxford University Press.
- Kohlberg, L. (1969). Stage and sequence: The cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), *Handbook of Socialization Theory and Research* (pp. 347-480). Chicago, IL: Rand McNally.
- Kohlberg, L. (1973). Continuities in childhood and adult moral development. In P. B. Baltes & K. W. Schaie (Eds.), *Life-Span Developmental Psychology* (pp. 179-204). New York, NY: Academic Press.
- Kohlberg, L. (1976). Moral stages and moralization: The cognitive-developmental approach. In T. Lickona (Ed.), *Moral Development and Behavior*. New York, NY: Holt, Rinehart, and Winston.
- Kohlberg, L. (1979). In J. R. Rest, *Development in Judging Moral Issues* (pp. viii-ix). Minneapolis, MN: University of Minnesota Press.
- Kohlberg, L. (1979). Foreword. In J. R. Rest, *Development in Judging Moral Issues* (pp. vii-xvi). Minneapolis, MN: University of Minnesota Press.
- Kohlberg, L. (1981). *The Philosophy of Moral Development: Moral stages and the idea of justice. (Essays on Moral Development vol. 1)*. San Francisco, CA: Harper & Row.
- Kohlberg, L. (1984). *The Psychology of Moral Development: The Nature and validity of moral stages. (Essays on Moral Development vol. 2)*. San Francisco, CA: Harper & Row.
- Kohlberg, L., & Kramer, R. (1969). Continuities and discontinuities in childhood and adult moral development. *Human Development*, 12, 93-120.
- Kristjánsson, K. (2014). On the old saw that dialogue is a Socratic but not an Aristotelian method of moral education. *Educational Theory*, 64(4), 333-348.
- Kyte, R. (1996). Moral reasoning as perception: A reading of Carol Gilligan. *Hypatia*, 11(3), 97-113.
- Leiter, B. (2015). Nietzsche (1844-1900). In M. N. Forster, & K. Gjesdal (Eds.), *The Oxford Handbook of German Philosophers in the Nineteenth Century* (pp. 187-206). Oxford University Press.

- Lickona, T. (1976). *Moral Development and Behavior*. New York, NY: Holt, Rinehart, and Winston.
- Lind, G. (2000). *The importance of role-taking opportunities for self-sustaining moral development*. Retrieved September 9, 2016, from Pennsylvania State University: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.540.267&rep=rep1&type=pdf>
- Looft, W. R. (1973). Socialization and personality throughout the life span: An examination of contemporary psychological approaches. In P. B. Baltes & K. W. Schaie (Eds.), *Life-span Developmental Psychology: Personality and Socialization* (pp. 25-52). New York, NY: Academic Press.
- Louden, R. B. (1997). The education of humanity: A Kantian primer. *Journal of Education*, 179(1), 77-98.
- Lourenco, O., & Machado, A. (1996). In defense of Piaget's theory: A reply to 10 common criticisms. *Psychological Review*, 103(1), 143-164. doi:10.1037/0033-295X.103.1.143
- Maddix, M. A. (2011). Unite the pair so long disjoined: Justice and empathy in moral development theory. *Christian Educational Journal*, 8(1), 46-63.
- Malin, H., Tirri, K., & Liauw, I. (2015). Adolescent moral motivations for civic engagement: Clues to the political gender gap? *Journal of Moral Education*, 44(1), 34-50.
- Markoulis, D., & Valanides, N. (1997). Antecedent variables for sociomoral reasoning development: Evidence from two cultural settings. *International Journal of Psychology*, 32(5), 301-313.
- Marx, M. H. (1970). *Learning: Theories*. New York: McMillan.
- Mayhew, M. J., Pascarella, E. T., Trolan, T., & Selznick, B. (2015). Measurement matters: Taking the DIT-2 multiple times and college students' moral reasoning development. *Research in Higher Education*, 56, 378-396. doi:10.1007/s11162-014-9348-5
- Mayhew, M. J., Seifert, T. A., Pascarella, E. T., Nelson Laird, T. F., & Blauch, C. F. (2012). Going deep into mechanisms for moral reasoning growth: How deep learning approaches affect moral reasoning development for first-year students. *Research in Higher Education*, 53, 26-46. doi:10.1007/s11162-011-9226-3
- Munson, R. (2004). *Intervention and reflection: Basic issues in medical ethics* (7th ed.). Belmont, CA: Wadsworth/Thompson Learning.
- Myyrya, K., Juujarvi, S., & Pessa, K. (2010). Empathy, perspective taking and personal values as predictors of moral schemas. *Journal of Moral Education*, 39(2), 213-233.
- Nather, F. (2013). Exploring the impact of formal education on the moral reasoning abilities of college students. *College Student Journal*, 47(3), 470-477.

- Ng-A-Fook, N., Radford, L., Yazdanian, S., & Norris, T. (2013). Empowering marginalized youth: Curriculum, media studies, and character development. *Canadian Journal of Action Research, 14*(1), 38-50.
- Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental process. *Psychological Review, 84*(3), 231-259.
- Overskied, G. (2007). Looking for Skinner and finding Freud. *American Psychologist, 62*(6), 590-595. doi:10.1037/0003-066X.62.6590
- Park, M., Kjervik, D., Crandell, J., & Oermann, M. H. (2012). The relationship of ethics education to moral sensitivity and moral reasoning skills of nursing students. *Nursing Ethics, 19*(4), 568-580.
- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students*. San Francisco: Jossey-Bass Publishers.
- Passini, S., & Villano, P. (2013). Judging moral issues in a multicultural society: Moral reasoning and social dominance orientation. *Swiss Journal of Psychology, 72*(4), 235-239. doi:10.1024/1421-0185/a000116
- Piaget, J. (1932). *The Moral Development of a Child*. (M. Gabain, Trans.) Glencoe, IL: Free Press.
- Piaget, J. (1960). The general problem of psychobiological development of the child. In J. M. Tanner & B. Inhelder (Eds.), *Discussion on Child Development*. New York, NY: International University Press.
- Pinderhughes, E. E., & Hurley, S. (2008). Disentangled ethic and contextual influences among parents raising children in high-risk communities. *Applied Developmental Science, 12*(4), 211-219. doi:10.1080/10888690802388151
- Power, F. C. (2012). Moral Development. In V. S. Ramachandran (Ed.), *Encyclopedia of Human Behavior* (2nd ed., Vol. 2, pp. 637-634). New York, NY, London: Academic Press.
- Puka, B. (1990). The liberation of caring: A different voice for Gilligan's "Different Voice". *Hypatia, 5*(1), 58-82.
- Rest, J. R. (1975). Longitudinal study of the Defining Issues Test of moral development: A strategy fo analyzing developmental change. *Developmental Psychology, 11*(6), 738-748.
- Rest, J. R. (1979). *Development in Judging Moral Issues*. Minneapolis, MN: University of Minnesota Press.
- Rest, J. R. (1994). Background: Theory and research. In J. Rest & D. Narvaez (Eds.), *Moral development and the professions: Psychology and applied ethics* (pp. 1-26). Hillsdale, NJ: Lawrence Erlbaum.

- Rest, J. R., Cooper, D., Coder, R., Masanz, J., & Anderson, D. (1974). Judging the important issues in moral dilemmas: An objective measure of development. *Developmental Psychology*, 10(4), 491-501.
- Rest, J. R., Narvaez, D., Bebeau, M. J., & Thoma, S. J. (2009). *Postconventional Moral Thinking: A Neo-Kohlbergian Approach*. New York, NY: Psychology Press.
- Rest, J. R., Narvaez, D., Thoma, S. J., & Bebeau, M. J. (2000). A Neo-Kohlbergian Approach to Morality Research. *Journal of Moral Education*, 29(4), 381-395.
- Rest, J. R., Thoma, S., & Edwards, L. (1997). Designing and validating a measure of moral judgement: Stage preference and stage consistency approaches. *Journal of Educational Psychology*, 89(1), 5-28. doi:10.1037/0022-0663.89.1.5
- Rogers, G. (2002). Rethinking moral growth in college and beyond. *Journal of Moral Education*, 31(3), 325-338. doi:10.1080/0305724022000008142
- Rottig, G., Koufteros, X., & Umphress, E. (2011). Formal infrastructure and ethical decision making: An empirical investigation and implications for supply management. *Decision Sciences*, 42(1), 163-204.
- Schaeffli, A., Rest, J. R., & Thoma, S. J. (1985). Does moral education improve moral judgement? A meta-analysis on intervention studies using the Defining Issues Test. *Review of Educational Research*, 55(3), 319-352.
- Schmidt, C. D., Davidson, K. M., & Adkins, C. (2013). Applying what works: A case for deliberate psychological education in undergraduate business ethics. *Journal of Education for Business*, 88(3), 127-135.
- Shaftel, J., & Shaftel, T. (2007). Educational Assessment and the AACSB. *Issues in Accounting Education*, 22(2), 215-232.
- Shawver, T. J., & Sennetti, J. T. (2009). Measuring ethics sensitivity and evaluation. *Journal of Business Ethics*, 88, 663-678. doi:10.1007/s10551-008-9973-z
- Sherblom, S. (2008). The legacy of the "care challenge": Re-envisioning the outcome of the justice-care debate. *Journal of Moral Education*, 37(1), 81-98.
- Sife, B. (1990). Introduction and overview of the special edition on Aristotle. *Theoretical & Philosophical Psychology*, 10(1), 3-6. doi:10.1037/h0091487
- Silverstein, A., & Trombetti, I. (2013). Aristotle's account of moral development. *Journal of Theoretical and Philosophical Psychology*, 33(4), 233-252. doi:10.1037/a0031013
- Simola, S. (2015). Understanding moral courage through a feminist and developmental ethic of care. *Journal of Business Ethics*, 130(1), 29-44. doi:10.1007/s10551-014-2203-y

- Smith, L. (1986). General transfer ability: An interpretation of formal operational thinking. *British Journal of Developmental Psychology*, 4(4), 377-387. doi:10.1111/j.2044-835X.1986.tb01033.x
- Steele, N. L., & Branson, L. (2014). A calculated morality: Development and validation of a business specific test of moral reasoning. *International Journal of Business and Public Administration*, 11(2), 73-83.
- Swenson, L. C. (1980). *Theories of Learning: Traditional perspectives/contemporary developments*. Belmont, CA: Wasworth Publishing .
- Teo, T. (Ed.). (2013). *Handbook of Quantitative Methods for Educational Research*. Rotterdam: Sense Publishers.
- Thoma, S. J. (2002). An overview of the Minnesota approach to research in moral development. *Journal of Moral Education*, 31(3), 225-245.
- Thoma, S. J., & Dong, Y. (2014). The Defining Issues Test of moral judgement development. *Behavioral Development Bulletin*, 19(3), 55-61.
- Thoma, S. J., Narvaez, D., Rest, J., & Derryberry, P. (1999). Does moral judgement development reduce to political attitudes or verbal ability? Evidence using the Defining Issues Test. *Educational Psychology Review*, 11(9), 325-341.
- Ugurel-Semin, R. (1952). Moral behavior and moral judgement in children [Supplement 2]. *The Journal of Abnormal and Social Psychology*, 47(2), 463-474. doi:10.1037/h0056970
- Vaughn, L. (2013). *Bioethics: Principles, issues and cases* (2nd ed.). New York, NY: Oxford University Press.
- Walker, L. J. (1986). Sex differences in the development of moral reasoning: A rejoinder to Baumrind. *Child Development*, 57(2), 522-526. doi:10.1111/1467-8624.ep7266672
- Walker, L. J. (2002). The model and the measure: An appraisal of the Minnesota approach to moral development. *Journal of Moral Education*, 31(3), 353-367.
- Weinstock, M., Assor, A., & Broide, G. (2009). Schools as promoters of moral judgement: The essential role of teachers' encouragement of critical thinking. *Social Psychology of Education*, 12(1), 137-151. doi:10.1007/s11218-008-9068-9
- White, Jr., R. D. (1999). Are women more ethical? Recent findings on the effect of gender upon moral development. *Journal of Public Administration Research & Theory*, 9(3), 459-471.
- Yeager, D., Walton, G., & Cohen, G. L. (2013). Addressing achievement gaps with psychological interventions. *Phi Delta Kappan*, 94(5), 62-65.
- Yolton, J. (1971). *John Locke and Education*. New York: Random House.

Ziegler, W. (2016). *Kant in 60 Minutes*. (A. Reynolds, Trans.) Norderstedt, Germany: Books on Demand.

APPENDICES

APPENDIX A: Marshall University IRB Approval Letter



Office of Research Integrity
Institutional Review Board
One John Marshall Drive
Huntington, WV 25755

FWA 00002704
IRB1 #00002205
IRB2 #00003206

March 16, 2016

Ron Childress, Ed.D.
College of Education and Professional Development

RE: IRBNet ID# 883725-1
At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Childress:

Protocol Title: [883725-1] A STUDY OF OUTCOMES BASED EDUCATIONAL INTERVENTIONS AND MORAL DEVELOPMENT OF UNDERGRADUATE COLLEGE STUDENTS

Expiration Date: March 16, 2017
Site Location: MUGC
Submission Type: New Project APPROVED
Review Type: Exempt Review

In accordance with 45CFR46.101(b)(4), the above study was granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Designee for the period of 12 months. The approval will expire March 16, 2017. A continuing review request for this study must be submitted no later than 30 days prior to the expiration date.

This study is for student Jay Wildt.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Bruce Day, ThD, CIP at 304-696-4303 or day50@marshall.edu. Please include your study title and reference number in all correspondence with this office.

APPENDIX B: Permission for Use of UC Data

From: Zook, Letha
Sent: Wednesday, January 13, 2016 8:18 AM
To: Wildt, Jay <jaywildt@ucwv.edu>
Subject: Re: Appendix C D Research and Analysis Flowcharts

Jay you have my support to follow this line of inquiry. The University of Charleston will be aided by your research as we continue to find ways to demonstrate competencies in our students for our LLOs. Sorry for the delay. Best of luck.
Letha

Letha B. Zook, PT, EdD
Provost, Dean of the Faculty
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2300 MacCorkle Ave SE
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Phone: (304) 357-4875
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From: "Wildt, Jay" <jaywildt@ucwv.edu>
Date: Tuesday, January 5, 2016 at 11:25 AM
To: Letha Zook <lethazook@ucwv.edu>
Subject: Appendix C D Research and Analysis Flowcharts

Good Morning Letha,

I have attached a flow chart that illustrates the general process I intend to use to compile data for my dissertation. I am sending the flowchart to seek approval for a study of changes in moral development as measured by the DIT-2 in UC students. I will investigate whether students' attribute (independent) variables, including participation in specific ethics courses such as the one I teach, affect DIT-2 scores when compared to students whose ethics interventions are integrated into the curriculum.

Once I obtain your general approval, I will submit the proposal to my doctoral committee (including Dr. Beth Pauley). Upon their approval, I will submit an application to the Institutional Review Boards at both UC and Marshall to assure my study is acceptable with regard to confidentiality of student information.

An email respond granting me approval to continue my study will suffice for my proposal. Should you need additional information, I'm glad to provide it.

Jay Wildt

APPENDIX C: University of Charleston IRB Approval Letter



UNIVERSITY OF CHARLESTON

INSTITUTIONAL REVIEW BOARD FOR HUMAN
PARTICIPANT RESEARCH

DATE: April 5, 2016
TO: Dr. Jay Wildt
FROM: Dr. Juliana Serafin
Chair, Institutional Review Board
PROPOSAL #: 16-0020
SUBJECT: "A Study of Outcomes Based Educational Interventions and moral Development of Undergraduate College Students"

Your study has been approved after an exempt review by one member of the University of Charleston Institutional Review Board (IRB).

If any problems arise during your study, you are required to immediately notify the IRB Chair in writing preferably by E-mail (julianaserafin@ucwv.edu). Address all non-electronic correspondence to:

Dr. Juliana Serafin
University of Charleston
2300 MacCorkle Ave. SE
Charleston, WV. 25304

To avoid confusion, please use the assigned project number when communicating with the IRB about your project. Also, you are reminded that any changes in your protocol that affects human participants must be submitted to the IRB for approval *before* implementing these new procedures. This requirement applies to changes in subjects, equipment, procedures, investigators, and location of data collection site.

Your project is approved for one year only and is subject to an annual review. An Annual Progress / Renewal Application is available on the UC IRB website at ucwv.edu/irb. You *must* complete and return this survey to the UC IRB regardless of whether you intend to continue the project for another year. Upon completion of all involvement of human subjects, and no later than the expiration date of the project, a Closure Report with a summary of findings from the project must be submitted.

APPENDIX D: DIT-2 Instrument

DIT-2

Defining Issues Test

Version 3.1

University of Minnesota

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University of Alabama

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Center for the Study of Ethical Development

Instructions

This questionnaire is concerned with how you define the issues in a social problem. Several stories about social problems will be described. After each story, there will be a list of questions. The questions that follow each story represent different issues that might be raised by the problem. In other words, the questions / issues raise different ways of judging what is important in making a decision about the social problem. You will be asked to rate and rank the questions in terms of how important each one seems to you.

This questionnaire is in two parts: one part contains the **INSTRUCTIONS** (this part) and the stories presenting the social problems; the other part contains the questions (issues) and the **ANSWER SHEET** on which to write your responses.

Here is an example of the task:

Presidential Election

Imagine that you are about to vote for a candidate for the Presidency of the United States. Imagine that before you vote, you are given several questions, and asked which issue is the most important to you in making up your mind about which candidate to vote for. In this example, 5 items are given. On a rating scale of 1 to 5 (1=Great, 2=Much, 3=Some, 4=Little, 5=No) please rate the importance of the item (issue) by filling in with a pencil one of the bubbles on the answer sheet by each item.

Assume that you thought that item #1 (below) was of great importance, item #2 had some importance, item #3 had no importance, item #4 had much importance, and item #5 had much importance. Then you would fill in the bubbles on the answer sheet as shown below.

GREAT MUCH SOME LITTLE NO	● ② ③ ④ ⑤ ① ② ● ④ ⑤ ① ② ③ ④ ● ① ● ③ ④ ⑤ ① ● ③ ④ ⑤	Rate the following 12 issues in terms of importance (1-5) 1. Financially are you personally better off now than you were four years ago? 2. Does one candidate have a superior moral character? 3. Which candidate stands the tallest? 4. Which candidate would make the best world leader? 5. Which candidate has the best ideas for our country's internal problems, like crime and health care?
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Further, the questionnaire will ask you to rank the questions in terms of importance. In the space below, the numbers 1 through 12, represent the item number. From top to bottom, you are asked to fill in the bubble that represents the item in first importance (of those given you to choose from), then second most important, third most important, and fourth most important. Please indicate your top four choices. You might fill out this part, as follows:

Rank which issue is the most important (item number).

Most important item ● ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ Third most important ① ② ③ ● ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

Second most important ① ② ③ ④ ● ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ Fourth most important ① ● ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

Note that some of the items may seem irrelevant to you (as in item #3) or not make sense to you—in that case, **rate** the item as “No” importance and do not **rank** the item. Note that in the stories that follow, there will be 12 items for each story, not five. Please make sure to consider all 12 items (questions) that are printed after each story.

In addition you will be asked to state your preference for what action to take in the story. After the story, you will be asked to indicate the action you favor on a three-point scale (1 = strongly favor some action, 2 = can't decide, 3 = strongly oppose that action).

In short, read the story from this booklet, and then fill out your answers on the answer sheet. Please use a #2 pencil. If you change your mind about a response, erase the pencil mark cleanly and enter your new response.

[Notice the second part of this questionnaire, the Answer Sheet. The Identification Number at the top of the answer sheet may already be filled in when you receive your materials. If not, you will receive instructions about how to fill in the number. If you have questions about the procedure, please ask now.]

Please turn now to the Answer Sheet.]

APPENDIX E: CURRICULUM VITAE

Jay C. R. Wildt
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wildt2@marshall.edu 304.926.6666

EDUCATION

December 2016	Ed.D., Curriculum and Instruction, Marshall University
May 2003	M.B.A., University of Charleston
May 2000	B.A., Health Care Administration, West Virginia University Institute of Technology; Magna Cum Laude
May 1982	A.A.S., Respiratory Care, University of Charleston

PROFESSIONAL EMPLOYMENT

April 2014 to Present	Program Director, Department of Natural Science University of Charleston <ul style="list-style-type: none">• Directly oversee University Department of Natural Science program delivery• Develop, implement, and evaluate University course delivery schedules• Oversee Department of Natural Science budget• Coordinate teaching loads for Natural Science faculty with the Science Department Director• Represent University at Maroon & Gold Events, Scholarship completions, and other events• Coordinate course catalog updates and other University College publications, and website• Work diligently to maintain an open and communicative work environment for all staff• Regularly meet with UC Program Directors and school deans to discuss, evaluate and improve various aspects of program delivery
August 2014 to Present	Part Time Faculty Coordinator University of Charleston <ul style="list-style-type: none">• Act as informal liaison between part-time faculty, university administration, course developers, and other stakeholders• Assist in the development and presentation of the part-time faculty institutional training session each fall• Develop and implement monthly meetings to discuss policies and procedures required of part-time faculty, including grading, on line instruction, and other topics as needed• Act as resource coordinator to facilitate instructional practice and Learning Management System training• Work diligently to maintain an open and communicative work environment for all part-time faculty• Provide one-on-one counseling and training for new and part-time faculty as needed

- August 2005
to Present
- Assistant Professor, Department of Natural Science
University of Charleston**
- Provide Natural Science instruction in the First Year Experience program, Bioethics, Health and Wellness, and for other programs including Leadership
 - Maintain a direct advising load of approximately 25 pre-professional Biology students including all correspondence, appointments, maintenance of advising records, and development of academic improvement plans for probation students
 - Develop and implement Independent Learning Plans with students desiring to obtain Liberal Learning Outcomes through non-traditional processes
 - Coordinate with other FYE faculty to regularly evaluate and modify assessment measures for freshman COMM portfolios
- August 2000
to
May 2004
- Instructor and Director Clinical Education, Department of Respiratory Care
University of Charleston**
- Develop and Coordinate clinical didactic education in concert with the Program Director of Respiratory Care
 - Maintain a direct advising load of Respiratory Care students including all correspondence, appointments, maintenance of advising records, and development of academic improvement plans for probation students
 - Develop and implement a teach-out strategy to facilitate the closure of the Respiratory Care program

COMMITTEE SERVICE

Faculty Manual revision team
 Faculty Affairs Committee (including service as Secretary)
 Science Roundtable (Inquiry) (including service as Chair)
 Ethical Practice Roundtable
 Curriculum Committee
 Grievance Committee (including service as Chair)

CLASSES TAUGHT

NSCI 345 Issues in Medicine: NSCI 345 is a course in Bioethics, which provides learners interested in the medical profession opportunities to discuss and debate moral dilemmas that exist in the practice of medicine today. Additionally student complete a service learning experience designed to foster an appreciation for altruistic actions

NSCI 117 Why Science Matters: NSCI 117 is a First Year Experience (now hybrid) offering designed to foster science literacy and critical thinking skills to non-science majors. Learners experience significant foundations of a variety of scientific disciplines including Chemistry, Physics, and Biology. Additionally students construct a portfolio of writing examples for the COMM 101 and COMM 102 portfolios.

UNIV 100 Health and Wellness: UNIV 100 is a now online course that explores the fundamentals of health and wellness including, but not limited to healthy relationships, dietary health, disease transmission, alcohol, tobacco, and drug use, sexual behavior, and mental health.

COLL 101 The Inner Life of the Leader: COLL 101 is the first course for Welch Colleague scholarship recipient. The course explores the idea that effective leadership starts with an understand of self, particularly personal strengths, attitudes, and traits that can advance leadership capabilities

COLL 102 Leadership Theory and Practice: COLL 102 is the second course, offered in the spring semester, in the Welch Colleague program. While the focus remains on leadership, a recent redesign incorporates investigations of innovative practice by emerging companies and leaders

UNIV 101 & 102 University Experience: UNIV 101 and 102 are freshman orientation courses designed to enhance student involvement and provide a platform for disseminating information about university policy, the mission of the university, Liberal Learning Outcomes, service learning, and ethical practice. Students also complete the COMM 103 speaking portfolio as part of the UNIV 102 curriculum

NSCI 115 Politically Incorrect Biology: NSCI 115 is the predecessor to NSCI 117. The course was a FYE course with an emphasis on science controversies, discovery, and exploration of deceptive practices designed to minimize important scientific truths. Topics included evolution, climate change and an examination of non-scientific ideas held up as science, including creationism.

NSCI 105 Issues in Biology: NSCI 105 was the original FYE biology course for non-majors. Students were required to take NSCI 105 and Physic (NSCI 205). The course was team taught and examined the traditional topics associated with Biology including DNA, cells, organisms, population growth, and more.

MGMT 311 Principles of Management: MGMT 311 explored the nature of management functions and the changes taking place in business organizations today. The course examined the roles played by managers and provides an introduction to the major functions of management and the problems managers face in today's dynamic business environment

MGMT 420 Organizational Behavior: MGMT 420 explored behavioral science concepts and research findings directed toward understanding human behavior within organizations. Human behavior was examined as a function of individuals and groups, including the interaction of stakeholders while accounting for the structure of the larger organization

REST 230, REST 320, REST 321, REST 331& REST 340: The five courses focused on didactics and clinical practice of the Respiratory Therapist, including, disease management, patient assessment, diagnostic procedures, mechanical ventilation, and continuum of care

GRANTS

Title III

February 2002: Course Development - \$2,250.00
March 2002: Mini-grant - \$375.00
December 2002: Mini-grant - \$100.00
January 2003: Mini-grant - \$250.00
September 2003: Mini-grant (2) - \$525.00
July 2007: Course Development - \$2000.00
August 2008: Global Issues grant - \$2000.00
August 2009: Action Research grant - \$2000.00
August 2014: Course Development grant - \$1000.00
August 2015: Course Development grant - \$2000.00

Other

June 2003: Benedum Task Force grant - \$100.00
January 2004: CAJE Mini-grant - \$200.00
December 2004: Integrated Learning Mini-grant - \$150.00
April 2013: Marshall University presentation mini-grant - \$500.00

PROFESSIONAL PRESENTATIONS

April 2014

National Technology and Social Science Conference: *Professional Development and Common Core State Standards: Case Study Findings from a Rural West Virginia School District* (Co-presenter with Dr. Ron Childress); Las Vegas NV

PROFESSIONAL SERVICE

The West Virginia Society for Respiratory Care

2008 - 2010	Chair, Bylaws Committee
2001 - 2003	President
1998 - 2001	President-Elect
1998 - 2004	Chair, Legislative Committee
1990 - 2003	Chair, Program and Education Committee
1990 - 2003	Member, Legislative Committee
1990 - 1991	Chair, Nominations and Elections Committee
1988 - 1990	Member, Program and Education Committee

The American Association for Respiratory Care (AARC)

2003 - 2005	WV Representative to The AARC House of Delegates
1997 - 1998	Chair, The AARC Chartered Affiliate Committee
1994 - 1998	WV Representative to The AARC House of Delegates
1994 - 1997	Member, The AARC Chartered Affiliate Committee

The American Lung Association (ALA)

2014 – Present	Member, ALA in WV Board of Advisors
2008 - 2014	Chair, ALA in WV Board of Advisors
2010 – 2012	Member, ALA of the Mid-Atlantic Board of Directors
2005 - 2008	Member, ALA of the Mid-Atlantic Board of Directors
2005 - 2007	Vice-Chair, ALA in WV Board of Advisors
2003 - 2004	Vice-Chair, ALA of WV Board of Directors
2001 - 2003	Secretary, ALA of WV Board of Directors
2000 - 2006	Chair, ALA of WV Government Relations Committee
1999 - 2000	At-Large Member, ALA of WV Board of Directors

Advisory Board Memberships

2000 - 2001	Vice Chair, Local School Improvement Council	Carver Career Center
1986 - 2001	Member, Advisory Board of The University of Charleston Respiratory Care Program	
1998 - 2000	Member, Advisory Board of the College of West Virginia Respiratory Care Program	
1998 - 2001	Chair, Advisory Board of the Carver/WVUIT Respiratory Care Program	
1996 - 2000	Member, The Carver Career and Technical Center Local School Advisory Council	
1996 - 1998	Member, Advisory Board, Carver/WVUIT Respiratory Care Program	

HONORS AND AWARDS

2015	The University of Charleston Leadership Shell for work on the Faculty manual Revision team (shared award)
2010	The University of Charleston Leadership Shell
2008	The American Lung Association of the Mid-Atlantic award for service and contribution to those with lung disease
2005	The American Lung Association in WV Chairman's Award for outstanding service
2004	The West Virginia Society for Respiratory Care; Honored as past President
2003	The West Virginia Society for Respiratory Care; Honored for thirteen years as the Chair of the Society's Program and Education committee