

Learning Business Ethics Through Making: Integrating a Makerspace Approach in Business Ethics Instruction

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Teaching business ethics is challenging: students struggle with the abstract nature of the theories, the uncertainty of practical outcomes, and the certainty that they are “good” people who already know right from wrong. Further difficulty emerges as teachers seek to integrate both normative and behavioral approaches. This paper presents the integration of makerspace to a business ethics course as a means of addressing all of the articulated challenges. This course design offers students learning of ethical principles and a business-like project-based setting where ethical dilemmas emerge spontaneously providing opportunities to identify, consider, and make decisions from the ethical theories studied.

Keywords: makerspace, ethics, ethics instruction, business ethics education

INTRODUCTION

Many challenges face those who would dare to teach business ethics. For starters, teaching ethics, business or otherwise, involves engaging in dilemmas that are never perfectly clear in the first place, which admit no “perfect” black and white solution, and which usually involve sensitive subject matter that touches on students’ personal moral commitments (Tittle, 2012). Hasnas (2013) goes further to suggest four primary challenges facing business schools delivering ethics courses. These four challenges include advancing the understanding of the range of terms accompanying ethical principles, introducing the abstract underpinnings of ethical principles, incorporating cultural relativism, and examining how to best incorporate ethics within and across business curricula. As if this state of affairs were not fraught enough with peril, students often seem to believe that they already know right from wrong, from their upbringing, in family or church circles, and see little value in taking an ethics course (Tittle, 2012). What can a faculty member do to diffuse this precarious state of affairs?

Many have called for business ethics courses to push students to reflect on their values and put them into practice in order to aid student moral reasoning and advance student character (e.g.; Adams et al., 1998; Hartman, 2006; Rossouw, 2002). Regarding content, de los Reyes et al. (2017) highlight the value of weaving both the normative approach that applies ethical principles to aid moral reasoning with the behavioral approach that considers actor and situational variables and their influences in making sense of ethical actions/choices.

Such an integrative approach aligns with Rossouw's (2002) suggestion that effective ethical teaching involves four parts including teaching basic concepts and frameworks; providing opportunities for students to practice concept application to business situations; encouraging student reflection on their moral reasoning; and engaging students in experiences that challenge them to appreciate the moral perspective of others. To this point, Bosco et al. (2010) found a highly integrated method of teaching ethics yielded greater levels of student moral reasoning competency. There are many ways to build a more personal, active, and integrative approach to ethics instruction. Some of these methods include to incorporate the analysis of text and film, to offer simulations and/or gamification, and to assemble experiential activities (Chavan & Carter, 2018).

Adopting a makerspace methodology or module offers another way to teach business ethics that incorporates normative and behavioral elements by taking advantage of a "learning-by-doing" method. Arising from the Maker Movement and the do-it-yourself culture, a makerspace module encourages learning through making (Briggs, 2005). Making and tinkering strategies work to aid student internalization of information through active learning; "hands-on, self-directed learning" (Perez et al., 2017, p.3). This supports the findings of Papavlasopoulou et al. (2017) who state the increase in the Maker Movement and maker culture-based initiatives including makerspaces, fablabs, and techshops as valuable opportunities for 21st century learning in general and business ethics education in particular. Additionally, in discussing their role set analysis approach, Adams et al. (1998) found that there is value in students considering ethical dilemmas from an organizational-level as well as an individual-level perspective through the application of moral reasoning to work-like situations.

Imagining, designing, modeling, and testing serve as the tools to explore basic business practices and, at their best, any and all associated theoretical ethical issues that have been addressed in the theoretical modules in the course. Adopting a maker approach to the business ethics course represents our interest to offer a "live" arena for students to experience business decisions and ethical dilemmas as they arise. Utilizing a tactile learning experience, a maker approach, provides a dynamic, unscripted environment that allows for decision points and ethical dilemmas to occur naturally and presents students with "real" opportunities to apply ethical principles. This paper presents the value of adopting a makerspace approach to the teaching of business ethics. First we offer a literature review of business ethics content perspectives (normative and behavioral) along with associated teaching methods including makerspace. Second we outline the design and execution of the business ethics makerspace course. Third, we discuss our makerspace business ethics experience along with the realized benefits and shortfalls. Finally, we consider key take-aways and next steps for course design and research.

LITERATURE REVIEW

Teaching business ethics typically follows one of two paths, one focused on a normative (prescriptive) view and the other on a behavioral (descriptive) view. The common approach to teaching business ethics involves a normative or prescriptive approach whereby application of moral theories to an ethics-related business situation aid in developing possible actions that seek to be right, fair, and just (Moore & Gino, 2015; Treviño & Weaver, 1994). Through the use of norms or character virtues consideration is given to how one ought to behave (Moore & Gino, 2015; Treviño & Weaver, 1994). Teaching ethical principles provides learners with tools and frameworks to apply to ethical challenges, a key advantage of this approach (Avci, 2017). However, a criticism of this approach involves student application of theories while perhaps not fully engaging in broader ethical thought and often lacking any real-life application (Cannaerts et al., 2014).

The rise in business schools delivering business ethics within their curriculum has brought a social science-grounded behavioral approach to teaching ethics (de los Reyes et al., 2017). The behavioral or descriptive method views business ethics from the perspective of what-is or how-people-do-behave (Moore & Gino, 2015; Tenbrunsel & Smith-Crowe, 2008). Behavioral ethics considers moral reasoning in organizations through explaining individual actions and influences upon those actions (situational and personal) relative to societal values and common moral norms (Ambrose et al., 2014; de los Reyes et al.,

2017; Treviño et al., 2006). Differing from the normative approach, behavioral ethics focuses on what leads to unethical behaviors and what variables support ethical behavior (de los Reyes et al., 2017). Yet limitations do exist including the potential for over- or under-thinking some matters and using complexity to over-rationalize poor ethical decisions (de los Reyes et al., 2017).

Calls for an integration of normative and behavioral ethics education are on the rise (de los Reyes et al., 2017). Supporters are encouraging the delivery of a classroom experience that offers learners opportunities to practice ethical decision making and to gain awareness of situational and personal variables that challenge ethical judgement (Cannaerts et al., 2014; de los Reyes et al., 2017). This mix of the normative and behavioral approaches encourages ethics education to move the classroom experience beyond the use of theoretical exploration of ideas and case analysis alone to shared or paired discussion, guest speakers, and other just-in-time experiential approaches (Brennan, 2018; Michaelson, 2016). The integration of narrative film (Skorin-Kapov & Benson, 2018) and novel analysis (Michaelson, 2016) can help foster student theory application along with analysis of moral, social, and business values. Technology-based simulations and gamification offer computerized ethics interaction with ethics learning (Nordby et al., 2016; Schumann et al., 2006). Further, several recent studies provide insight into the value of problem-based (Brennan, 2018), critical thinking (Corazza et al., 2018), and experiential learning approaches (Chavan & Carter, 2018). Learning through doing is a means to provide context through which to apply behavioral and normative ethics. Incorporating a makerspace module to a business ethics course presents an additional opportunity to integrate both normative and behavioral views.

Makerspaces

There is no one definition of a makerspace. In a review of makerspaces, Weinmann (2014) provides several definitions of makerspace from notable sources. Dougherty (2013), the founder of Make: Magazine offers:

Makers give it a try; they take things apart; and they try to do things that even the manufacturer did not think of doing. Whether it is figuring out what you can do with a 3D-printer or an autonomous drone aircraft, makers are exploring what these things can do and they are learning as well. Out of that process emerge new ideas, which may lead to real-world applications or new business ventures. Making is a source of innovation. (p. 7)

The Mentor Makerspace Group (2013) describes makerspaces as “gathering points where communities of new and experienced makers connect to work on real and personally meaningful projects, informed by helpful mentors and expertise, using new technologies and traditional tools” (p. 1). The EDUCAUSE (2013) learning initiative offers the following account of a makerspace being a “physical location where people gather to share resources and knowledge, work on projects, network, and build. They are primarily places for technological experimentation, hardware development, and idea prototyping” (p. 1).

The use of a makerspace emphasizes learning through practice. This method has important practical explicit connection to a “live” business context, through engagement with project components and involved community partners. This practice of learning transfer whereby “learning from the original context in which we encounter it into novel or unfamiliar contexts” offers significant value to the learner as they recognize when learning is formed through exposure to new contexts (Lang, 2016, p.72).

Moreover, applying a makerspace approach to a business ethics course provides an opportunity to explore behavioral ethics and to build ethical awareness and decision making while practicing ethical reasoning and ethical actions. The dynamic, unstructured environment of a makerspace allows student to see the complexity of engaging in ethical reasoning and decision making while having to deal with business structures including working in teams, considering development and production, exploring marketing opportunities, and examining stakeholder needs and wants along with legal requirements. Jackson (2006) proposes that a morally educated businessperson is one who is capable of responding to

an increasingly complex business environment, adhering to social mandates, financial imperatives, and legal rules/regulations beyond just compliance, infusing ethical practices throughout the business, and managing challenges associated with globalism. Jackson's (2006) imperatives may be met through the incorporation of a makerspace, whereby students are asked to work across the cultures and majors represented in any given class's makeup; to design, model, and build a product as members of a team; to immerse in a challenge-rich environment; and to practice and then reflect on core ethical principles that are usually only addressed theoretically.

BUSINESS ETHICS AND A MAKERSPACE

Beginning with the end in mind, learner outcomes served as the focus of our undergraduate Business Ethics course design. There were three Learning Outcomes:

***LO1.** To demonstrate an understanding of philosophical questions that arise in various disciplines. (These questions emerge from a dialogical, critical, and dialectical examination of our world, both past and present. These questions also incorporate what constitutes a moral and/or ethical commitment, as well as the three major views of human nature that inform moral decision making, namely Aristotelian, Kantian, and Utilitarian.)*

***LO2.** To demonstrate knowledge of how the philosophical commitments that are examined in the course are in dialogue with Catholic intellectual and cultural traditions*

***LO3.** To demonstrate the ability to pose reflective alternatives to the ethical positions studied.*

These learning objectives aligned with internal and external constraints. Internally, this course adhered to the university's General Education's Moral Traditions expectation that ties to the university's Lasallian Catholic identity and mission. Externally, the business department including the Business Ethics course aligned with its accreditation partner's (International Accreditation Council for Business Education) ethical expectations for graduates of business programs.

The structure of the Business Ethics course featured an 8-week normative research phase and entailed a makerspace module for the second 8-weeks, involving learners making longboard-skateboards. Previous course makerspace modules have featured stained glass making, Ghana-based drumming, and even GIS modelling and app development. The first 8-weeks of the 16-week course engaged learners with a common set of academic practices and behaviors usually known as "research" or "inquiry" that centered on content related to Aristotelian Virtue Ethics, Kantian Duty Ethics, and Mill's Utilitarianism. Learners began their research with a Wikipedia entry on Aristotle, Kant, and Mill and then moved on to the Stanford Encyclopedia of Philosophy. Next, learners selected portions of their primary works and ended their inquiry with a librarian-assisted selection process of a peer-reviewed article on Virtue Ethics, Deontology, and Utilitarianism. Three practices were used to aid student learning including student generated notes, student-instructor individual meetings, and student reading and interpreting alternative text. The first 8-weeks focused on LO1 to build learner understanding of philosophical questions which emphasized a normative approach.

Practice One: Student Notes

The primary core practice and a privileged means of assessment of the learners' progress toward LO1 in the first 8-weeks came from a set of hand-written notes kept in a notebook. Learners were informed that all notebook entries must meet a few basic expectations. All entries needed to include the date at the top of the page and entries must be legible, if not neat. To show engagement and core academic and professional readiness, learners needed to be attentive to and capture in writing what others are saying. Finally, learner notes within their notebook had to clearly demarcate between notes taken "in-class" and those taken "out-of-class". This practice represented the essence of the work for the course and the

notebook functions as the proof of the practice of listening in as concrete form as is imaginable (i.e., hand-written notes on a page).

The “out-of-class” portion of the notebook practice engaged three discrete behavioral expectations: (a) daily, the learner tracked facts or data points around the disciplinary content related to this course from the texts in their notebook, (b) intermittently, the learner made meaning of the facts by attempting to offer an interpretation of them or by forging explicit relationships between the newly discovered content with the learner’s prior knowledge (preferably from another discipline, but if from earlier readings for this class, fine), and (c) always, learners practiced their ignorance by taking the time to look up and record any new or unfamiliar vocabulary that is encountered during the reading. Thus, at the very least, each and every seminar participant experienced vocabulary growth.

The first two expectations were met (or not) in what was known as the Front of the notebook and the third task in the Back of the notebook. Learners, in the Front or “in-class” portion of the notebook, made a data set which loosely tracked to what other learners and/or the professor were saying when in pairs, small groups, and large group seminar alike. If in class, the notebook was open and one’s pen was ready.

While the instructor occasionally noted an exact phrase or nice turn of phrase from a particular learner’s notebook, the instructor mostly assessed learner performance in real time against a rubric that assessed learner ability to meet some of the elements associated with LO3. This assessment included learner use of text to drive conversation (primary and/or secondary), learner ability to engage others in conversation in a data-driven manner, guide conversation (begin, continue, or effectively end a particular direction) in the large group seminar, and learner engagement whether in pairs, jigsaw exercises, small group work, or seminar. So, instead of requiring a term paper comparing or contrasting the normative positions studied during the first 8-weeks, we engaged in two other assessment practices.

Practice Two: Learner-Professor Meetings

The second core practice involved quarterly individualized meetings between the learner and the instructor about the quantity and quality of their notebook to date. These meetings functioned as either a *de facto* oral exam or a professional meeting, but no matter which, the main function was to ensure progress on LO1 and LO2. A special note on LO2, thanks to our mission, we had the unique opportunity to read and discuss both in seminar and in the in-office visit, what it means for the university to claim to prepare learners for “ethical lives of service and leadership.” This engaged the learners in moral reasoning and allowed us to have conversations about the role and meaning of character for ethics (e.g.; Adams et al., 1998; Hartman, 2006; Rossouw, 2002). It also afforded us the opportunity to explore in an academic manner both our Lasallian and Catholic traditions, again uniquely reinforcing LO2.

Practice Three: Reading and Interpreting Alternative Texts

The third core practice involved “reading” and “interpreting” alternative “texts”. In our course, we used the film *The Godfather*. The learners were to watch not only with an eye to capturing a decent set of notes in the notebook about its facts and possible meanings, but also to explicitly assess the words and deeds of Don Corleone from the three normative perspectives studied. This exercise was based on Rossouw’s (2002) advice to engage learners in the practice of concept application as a way of concretizing their grasp of the theories and their differences. Further, the exercise fostered appreciation for other learner’s perceptions of ethical reasoning and application. It also allowed us to meet LO1 by offering a dialectical examination of our world, both past and present; we demonstrate knowledge of what constitutes a moral and/or ethical commitment.

So, by midterm, the instructor would have a robust set of data housed within their own notebook that documented learner-attendance, learner-performance as judged in every class session against the seminar rubric, and learner-performance as judged in the individual meeting. At mid-term the course transitioned into the makerspace-based project, but the core practice of the notebook was maintained for both the instructor and the learner alike.

Makerspace

For 3-weeks after midterm, learners were invited to engage texts about makerspace in general starting with the Wikipedia and Google available material only. Next, learners participated in a seminar about makerspace itself and then engaged (a) pre-selected peer-reviewed texts on skateboarding itself from several discrete disciplinary perspectives, (b) a popular film and two documentaries about the “origins” or “genesis” of skateboarding, (c) an article on how to make a longboard-skateboard by Gouchnour (2016) entitled “Build a Longboard” in *Fine Woodworking*, and (d) the Master Woodworker during a series of in-class visits. During these 3-weeks, while we switched the content of our inquiry, we maintained our core academic practices both in the notebook and in our seminar meetings alike from the first 8-weeks.

For the last 5-weeks, we began the actual making of the longboard-skateboards. The Master Woodworker led learners through an experience of making a longboard-skateboard in teams of four or five. The process included five basic phases: (a) designing the top and bottom of the deck for the board; (b) cutting, gluing, and sanding of the aesthetic veneers that make up the top and bottom of the deck; (c) completing the deck of the board by attaching the aesthetic veneers to the core material before band-sawing, varnishing, and sanding to the final product; (d) reflecting on the process, dilemmas/decision-making, in light of both mission and philanthropy; and (e) donating the completed boards for a charity auction. Existing spaces on campus were used as makerspaces. The primary makerspace involved the art department’s Art Studio. Student work stations were set up and furnished with necessary woodworking tools and equipment. University administration provided funding for some materials and equipment.

Learners were required to engage in team-based decision-making about all phases of the project itself, tracking meetings and work notes in their notebook. At a slightly more abstract level, learners were asked to evaluate challenges experienced in the team-work in the last 5-weeks in light of the ethical principles learned in the first 8-weeks, (all in their notebook). Finally, learners were asked to reflect “globally” on the intersection of the corporate experience in the Makerspace Module and the thought of Aristotle, Kant, and Mill, again, in their notebook. These elements tracked directly to Rossouw’s (2002) guidance for achieving effective ethical teaching by providing opportunities for concept application to business situations, reflection on one’s own moral reasoning, and gaining appreciation for others’ moral perspectives. These elements uniquely addressed LO3 to demonstrate the ability to pose reflective alternatives to the ethical positions studied. LO2, connections between philosophical commitments and the Catholic intellectual and cultural traditions, was central to our motive for exploring philanthropy and donating the finished products to an annual charity auction held on our campus. This decision not only made the mission and vision uniquely tangible but it showed that a prescriptive approach to ethical action can augment learner awareness of and concern for social welfare (Stahl & Sully de Luque, 2014). Further, a shift to the behavioral view took place during the second 8-weeks yet the normative view remained in use.

While conducting exit interviews after the first semester’s run of the course, one woman (Jane) reported a story that illustrated the rich potential of the Makerspace. During his first visit with the class, the Master Woodworker registered his highest hope for the work we would be doing in the makerspace module stating “Maybe in times that are as politically divided as ours, an experience at making things in a mixed group can provide a unique opportunity for civility and respect by allowing us to share in work that crosses usual party lines.” On hearing him outline this hope, Jane (a self-described religious and political conservative and non-athlete) rolled her eyes and thought to herself “more liberal bs.” Jane bashfully and laughingly admitted, “Well, I was proved wrong.” Jane had been assigned to a team that included no one from her usual social circle and at least two athletes. One day, Jane had to miss the in-class work session and her small group had had to make some design decisions in her absence. While she was in the school cafeteria later that same day back with her usual friend group, she witnessed a male from the hockey team see her, leave his friend group, come to her table, pull up a chair, sit down, and begin to fill her in on what she had missed. She reported that both she and her friends registered some shock about what had just happened. And as if this weren’t strange enough, 20 minutes later while she was walking on the quad with a smaller group of her usual friends, Jane saw a woman from the volleyball team see her, break with her own clique, walk straight over to her, and fill her in on what she had missed. Jane told me directly that she

suspected that I might have paid those student athletes to do what they did that day. Jane admitted that while she was skeptical of the claims made at midterm, indeed, she had seen them realized in her own experience, and that vividly in the short space of 20 minutes. Jane admitted that something close to what the Master Woodworker had described and that she had scorned had now happened to her. She was provoked, perplexed, and involved with a more complex sense of moral reckoning thanks to the experience of Makerspace. This example is one of many that illustrated student engagement in moral reasoning on a personal level (one's own view of the world), interpersonal level (engagement in teamwork with team members), and business level (decisions and tradeoffs regarding process, time, quality, etc.).

DISCUSSION

Business ethics courses are challenged to help prepare students for the dynamic and complex business world by advancing their ethical awareness, honing their reasoning skills, sharpening their awareness of principles, and refining their abilities to work and manage ethically (Jackson, 2006). Engaging students in ethical dilemmas within a “live” environment presents an opportunity for learners to appreciate the “greyness” of ethical dilemmas and the often no “perfect” solution option. Moreover, a “live” environment, such as a makerspace, aids in generating student involvement; a strong predictor of student learning and development (Astin, 1984; Pascarella & Terenzini, 2005; Wilczynski et al., 2017). Creating opportunities in a makerspace draws in students and entices them to commit time and energy to their learning. In turn, students experience the “logic of learning content” whereby content is worked through sense-making and experimentation (Wiggins & McTighe, 2006). As business professionals are faced with ethical issues in every aspect of business decision-making, providing a dynamic learning environment with uncertainty and complexity brings students closer to “real-life” experiences with business ethical dilemmas.

We believe there are several benefits and a few shortcomings that come from incorporating the makerspace method into a business ethics course. We have found students benefit through an unbounded makerspace environment whereby ethical issues may arise requiring ethical decision making and the selection of no “perfect” solution. The makerspace application goes beyond the use of traditional case discussions by placing learners in the center of a “live” situation. Learners recognized the value of this approach as noted by one business ethics student, who stated in his notebook reflections:

Instead of doing research and having seminar discussion [of research into peer-reviewed articles on topics in Aristotle, Kant, and Mill as we do in the first half of the course] as the primary learning tool in our Makerspace module, we are actually doing something that is, literally, “hands-on”. We are making skateboards. The idea of working with others to create something new is exactly what I will be doing in the management field.

To this point, another business ethics student shared the following in her notebook reflection:

Working with others, making human connections, and keeping business intentions in line with potential outcomes for the greater good of society is primarily what this class has been about. All of these things combined readily demonstrate the reality that is a “makerspace”. The business world is evolving out of just a profit mindset (20th Century realities) and turning into one of corporate social responsibility (21st Century reality). Consumers demand more than just product, they demand efficiency, fairness to workers, and environmentally-friendly manufacturing processes (People, Planet, and Profit). There is no singular solution that one person could dream up to satisfy these demands. What is needed is multiple people, diverse ideas and backgrounds, and unique connections to make this attempt remotely possible. What is called for is a “makerspace”.

Beyond student-identified connections across ethics, makerspace activities, and business, faculty observed a high level of student engagement as they worked with ethical dilemmas, applied ethical constructs, and solved real-world issues. The notebook worked along with in-class discussions and teamwork to provide deeper interpersonal ethical awareness, engaged reasoning skills, and even a growth in appreciation of ethical principles. With this initial positive feedback, our next step is to design and collect data to rigorously evaluate student learning advances. Assessment of student learning outcomes (SLOs) could follow the pre and post assessment design linked to SLOs and perhaps institutional outcomes (mission elements) as suggested by Mumford et al. (2015). Use of a makerspace competencies rubric may also serve as a valuable tool in understanding how makerspaces may impact student learning outcomes (Cantu & Wallace, 2018).

Students also expressed some challenges to the incorporation of the makerspace project within the business ethics course. The nature of the project, to build something, was daunting for many student who had little to no related experience. Student anxiety also came when faced with the murky boundaries and process of the project along with the discussions and dilemmas that needed to be addressed. By the end of the project, students had a great appreciation for these challenges and found them beneficial to their learning.

Benefits enjoyed by the faculty involved in the delivery of the makerspace business ethics course have been many. Faculty have enjoyed the innovation and creative freedom that comes from a makerspace application. Project guidelines provided boundaries for learners yet the organic nature of how each student team's experience developed fostered a rich opportunity for ethics discussions and faculty-student engagement. This high level of engagement supported one-on-one faculty-student conversations around student reflections on their project experience. Conversations also led to discussions regarding the application of ethics concepts providing another valuable connection point for faculty with their students. Not surprisingly, faculty highlighted the forged faculty-student connections as a primary benefit to the makerspace approach.

Further, opportunities for scholarship was another faculty noted benefit. Scholarship of Teaching and Learning can be explored in the areas such as student learning outcomes, pedagogical design advances, and external partnership relationships.

From the implementation of business ethics courses integrating a makerspace dimension, faculty have found challenges in gaining access to on-campus maker materials and space, building external partner relationships, and accommodating external partner schedules. There have also been obstacles with settling student "worries" given the unique makerspace approach and uncertain outcomes. Involved faculty would also note the extra work that is involved with designing and delivering the course. These shortcomings have diminished over the three semesters we have engaged in the makerspace approach as past success has built up credibility on campus with students and administration as well as with external partners.

The business school and the university realized benefits through the positive student comments about the makerspace experience. Involvement of external partners and the creation of new products provided valuable public relations opportunities to promote the course, the school, and the university. Donations of completed products were auctioned off with proceeds going to a charity or donated outright. Of course external partner relationships need to be nurtured and promotion materials need to be developed which take time; time away from the faculty engaging directly with students. With each iteration of the course we have realized greater efficiencies as early errors are corrected and templates are developed.

CONCLUSION

Universities continue to face increasing pressure from students, parents, and society to assure their graduates will be well prepared to succeed as career professionals and members of society. To this issue, the 2014 Gallup-Purdue Index (Gallup, Inc.) identified six college experiences found to be strongly correlated to alumni reports of employment engagement and overall well-being. These six college experiences involve students engage with faculty that care for them as individuals, work with faculty that create excitement about learning, connect with a mentor that encourages the student to pursue their goals and dreams, seek job/internships opportunities that required applied classroom learning, work on a

semester or more long project, and participate in extracurricular activities. These Gallop-Purdue identified college experiences align with Chickering and Gamson (1989; 1999) principles for good practice in undergraduate education including contact between student and faculty, student teamwork, active learning, time on task, and incorporating different ways of learning. As we consider the outcomes of our business ethics makerspace pilot courses, we find connections with these valued college experiences including fostering strong faculty-student and student-student engagement and connection, creating an opportunity for faculty to generate student excitement about the maker project, and delivering a student-driven experiential long-term project. Through the use of a makerspace method there is potential to enhance teaching objectives through the integration and application of normative and behavioral approaches within a dynamic situation and to advance student learning outcomes specific to ethics and moral reasoning as well as communication, teamwork, and problem-solving skills.

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