Jungian Typology as a Holistic Teaching Strategy in Higher Education

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A four-quadrant educational model that includes psychomotor, cognitive, social/emotional, and creativity elements results in deeper, more engaged learning.

There is a long history of using the work of Carl Jung in the interactive processes of teaching and learning. For example, archetypal psychology influenced the ethical suggestions to teachers provided by Mayes (2005), and depth psychology has been promoted as essential consciousness work for teachers (Romanyshyn 2012), particularly with students in gifted education (Reynolds & Piirto 2005; 2007). Learning style has been theorized as a natural extension of personality typology (Bargar, Bargar, & Cano 1994), with abundant suggestions for planning and coordinating strategies to meet different learning preferences for all ages (Lawrence 1995) and with specific suggestions for young children (Murphy 1992).

Typically, when applying Jungian psychology to education, educational researchers have documented differences in the preferences of learners on the basis of psychological type. For example, Willing, Guest, & Morford (2001) found that students studying to become teachers were more likely to be extroverted, intuiting, and feeling types as compared with the general population. Among a group of students who were classified as at-risk for dropping out of high school, thinking and perceiving types were significantly overrepresented, while feeling and judging types were underrepresented (Hart 1991). Among a sample of human resource students, Gallagher (1998) found that thinking types, intuiting

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types, and judging types were more predominant. In an analysis of adult versus traditional-age college students, Lynch & Sellers (1996) found that adult learners were more likely to be judging types and traditional-age learners were more likely to be thinking and perceiving types. Many such studies can be found to better understand the needs of diverse learners across many disciplines.

Other research using typology demonstrates preferences in learning tasks. For example, among a sample of fifth-grade students, Ferdman & DiTiberio (1996) found that type is related to writing preferences and abilities. They found that intuiting writers were better able to organize details into a composition or draw critical inferences than were sensing writers. In a study of communication preferences in asynchronous learning, Lin, Granton, & Bridglall (2005) found that thinking types tended toward reflection and organization, while feeling types tended toward comfort and freedom from fear of confrontation as reasons for preferring asynchronous learning. Clark & Riley (2001) used typology to explain success in a beginning college chemistry class. Among a sample of Polish college students, Tobacyk & Cieslicka (2000) found that psychological type was related to the choice of college major, with language students more likely to be intuiting, feeling, and perceiving types, while management students are more likely to be sensing, thinking, and judging types. These studies point to differences in learning, communication, and task preferences based on psychological type. Yet, to take the awareness of type difference further, our team considered how knowing the typology of the learners might change the instruction and pedagogy of our teaching. Although we noticed patterns of dominant types in our classes, all types were represented. We further wondered if working only with the typological *strengths* of students might limit their holistic development. This, coupled with

our increasing desire to meet the full developmental needs of *all* our students, led to innovation in the design of our teaching strategies and methods.

Teaching and learning excellence in colleges and universities is focused on designing motivating lectures, activities, and assessment procedures to engage learners (Stes, Coertjens, & Van Petegem 2010; Stes, Min-Leliveld, Gijbels, & Van Petegem 2010). When we decided that typology preferences would be honored in our college classrooms, the integration of the four functions posited in Jungian typology became our teaching goal. Rather than emphasizing one typological quadrant, we applied an integrative model in our teaching. Our reflective work led us to conclude that this disintegrative approach to the use of typology had a significant limiting effect on students, helping them to develop in one area to the detriment of other important human and humanizing areas of development. Therefore, the purpose of this discussion is to argue for a more integrated, holistic view of typology for post-secondary learners. Although psychological type is highly relevant to learning preferences and expressed strengths in educational approaches and tasks, the view espoused here is that the psychological functions should be used to develop a holistic pedagogy that allows all preferences and strengths to flourish, while at the same time encouraging growth and exploration of those areas in which students do not express preference or show strength. By bringing imagination and emotion to formal study, adult learners can continue to excel in any domain of study within this integrated and holistic approach to development (Dirkx 2006). Using a holistic approach to higher education was advocated by Shoja and Mahdavinia (2011) in Iran, and Miller (2007) describes its importance in Japan.

Integrated Holistic Pedagogical Model

The word *holistic* is used in many contexts in education, such as holistic assessment, holistic curriculum, or holistic lessons. Some of the definitions for

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how the word is used include accomplishing a task by involving more than one area of development, often recognizing the social and emotional aspects of learning, but neglecting the creative, spiritual, or intuitive. While we applaud these efforts, our intention here is to include what many (Haynes 2009; Miller 1991) define as the four aspects of development: the cognitive, emotional, physical, and spiritual.

The foundation of our holistic model is the two Jungian personality processes of judgment and perception, each with two functions, which results in the four functions of sensing, intuition, thinking, and feeling. These four functions are used as a guide to integrate development across the curriculum and pedagogical interactions with students. The four quadrant model as presented in Figure 1 below is a modified version of Clark's (2002) conceptualization of intelligence based on brain functions.

Figure 1. Holistic Integration:
The Four Quadrants

The circular portrayal of the four functions reflects the concept of the medicine wheel and the holistic representation for humans in balance with others and nature (Roberts, Harper, Bull, & Heideman-Provost 1998). Although the medicine wheel philosophy appears in different ways among American Indian tribes, it consistently is comprised of four quadrants representing direction (east, south, north, west), life-span (birth, youth, adulthood, aged), or develop-

mental areas (mind, body, emotion, spirit) (Meadows 1992, 1996; McCabe 2008; Roberts et al. 1998). Holism, balance, and harmony typically intersect in the center of the circle, which is often considered an outcome of healthy and fulfilling work in all four areas. Holism has been described as a goal for all humans by Gerber (2001), called Ultimacy by Forbes (2003) or individuation by von Franz (1964). Using the four quadrant model with all students appears to reflect a holistic learning experience. Varghese (2009) has provided such a model for teaching mathematics by blending direct instruction and the four quadrants of learning.

The Thinking World of the Mind

The Jungian process of judgment has two functions represented by the thinking quadrant and the feeling quadrant. Cognitive skills, making inferences, critical analysis, and comprehension of complex knowledge and information typically fill the college curriculum and will be characterized as the *mind* quadrant. This quadrant has been typically overemphasized in the traditional school curriculum. This emphasis can be seen in the fact that college entrance tests like the SAT and ACT measure verbal and quantitative abilities, both of which fall squarely in the domain of thinking or the *mind*. Nevertheless, this domain includes important skills such as analysis, problem-solving, comparing and contrasting, understanding and applying theory, and understanding how the same facts apply to new situations. These have been traditionally emphasized as important in higher education, occupying the highest steps on Bloom's taxonomy (Bloom, Englehart, Furst, Hill, & Krathwohl 1956), in the form of application, analysis, and evaluation (although recent revisions have suggested that creation belongs at the top of the taxonomy). The *mind* quadrant addresses many important developmental outcomes, including problem-solving skills, the ability to apply theory, to analyze and synthesize information, and to think critically. These outcomes are important developmentally. Individuals who develop better critical thinking skills score higher on tests and quizzes (Williams, Oliver, & Stockdale 2004) and are more successful in college in general (U.S. Department of Education 2005).

The Feeling World of Human Social Experience

In our model, the feeling function encompasses aspects of the affective domain, including individual emotional development as well as the development of social relatedness. The social and emotional needs of teachers and learners combine to bring the authenticity, humanity, and ethical dimension to the *heart* quadrant. This area has been instrumental in the work of several developmental psychologists. Other related work in this domain would include moral and ethical development and emotional regulation. Overall topics related to education focus on the need for the development of empathy for increased pro-social behavior and decreased bullying. Other more recent work on multicultural education and social justice emphasizes the feeling function to increase diversity, lessen stereotype threat, and interrupt power structures. The feeling function can also be conceived as a manifestation of the heart. On a more global scale this area includes work related to our feeling of connection to others and the need to work together for common human goals.

The Physical World of Sensing

The sensing function represents the *body* and physical, concrete experiences. The process of perceiving the environmental characteristics and the sensory notation of the lived experience fulfills the objectives of this quadrant. The sensing function is the psychomotor domain or the body quadrant. The process of perceiving the environment and the sensory information of personal experiences lie within this function. It is important for individuals to incorporate information, sensory data, and their instincts to appropriately take action within the educational context and transfer that knowledge into practical real world use. The body quadrant in curriculum planning relates to embodied learning through active doing, and methods might incorporate reviewing past and present experiences, recalling incidents, seeking detailed information, and comparing and contrasting similar situations which result in the ability to draw on the lessons of history, hindsight, and experience.

The Imaginational World of Intuition

The complementary function to sensing is the *spirit* quadrant which represents creative energy

and spiritual and imaginative abilities. Although much has been written about spirituality, it is seldom included in the curriculum in public schools, colleges, and universities. Intuition is difficult to define; however, Epstein (2010, 296) suggest that "intuition involves a sense of knowing based on unconscious information processing." Bringing the unconscious to consciousness was accomplished by Jung through art, sculpture, word association, and dream reflection (Forbes 2003). Insight and imagination are necessary components of creative thinking and behavior (Piirto 2004) that bring innovation, openness, and problem solving, all of which are skills deemed important for 21st century learning (Piirto 2004).

Educational Outcomes Addressed in This Model

One problem with traditional educational models, wherein students are given information, asked to memorize it, and later repeat it, or to analyze and report on the information, is that these types of activities do not directly produce outcomes that many educators and employers seek. Nor is the unconscious or emotional life considered a source for processing information. For example, cognitive types of tasks do not encourage a deeper archetypal imagination, creativity, or the production of new knowledge or problem-solving skills. Yet, this set of abilities has been cited as among those that employers most desire in college graduates, and that educators most commonly state they wish to instill in their students (Rhodes 2010). Social skills and teamwork are essential life and workplace skills, yet the traditional education model does not directly address them. The quadrant model of holistic education provides direct educational work in all of these outcomes, including creativity, innovation, producing new knowledge, problem solving, emotional skills, working with others, as well as hands-on experience and knowledge, and the traditional areas of education such as fact-based learning, analysis and synthesis of information, and integration of theory. In this way, this model provides a practical way for educators to address desired educational outcomes in a direct, intentional manner.

The Four Quadrant Model in Action In the University Setting

Our team of four university instructors met to systematically design curricula, implement four-quadrant instructional strategies in coursework, and reflect on the congruence of the four-quadrant model to the holistic goals of our teaching. Our team consists of a senior professor, who met with three doctoral students: one doctoral candidate with broad teaching experiences, one first-year doctoral student new to pedagogy, and another doctoral student with deep experience in teaching psychology. The senior professor started her career teaching regular elementary grades and special education for gifted learners, followed by over two decades of teaching undergraduate and graduate students. We met twice a month for one academic year to discuss the reflective data and to analyze reflective journals of teaching experiences. We found it important to keep the metaphor and meaning that the teaching experiences brought in us and to reflect on our own role in the teaching and learning interaction. In our attempts to remain true to holistic education theory, we questioned our own holistic development, mindful of Luvmour's (2002, 15) comment that "...holistic education theory and practice are firmly grounded in the notion that the teacher and student develop simultaneously."

What follows are reflections on our own practices and how the four quadrant model of holistic education was incorporated in various settings. The educational settings included a career and technical school; online and face-to-face undergraduate courses in child and adolescent development, creativity, motivation, and emotional intelligence for pre-service teachers at a university; and graduate coursework in educational psychology. We will describe how we applied the model and how this model enriched our teaching experiences, our interactions with students, and the outcomes we experienced from our students.

Applications of the Model

This model of education fits well with a variety of higher education classrooms, in which the coverage of these quadrants has typically emphasized the cognitive area. Higher education students can be engaged in our model of holistic education through a

variety of activities. We began by reflecting on our courses as they had existed prior to our application of the four-quadrant holistic model. We found that typically the cognitive area had been strongly emphasized, with very little emphasis on intuition or feeling. In those courses that were part of the teacher preparation core, we discovered a different emphasis, where there was more attention given to the sensing and feeling quadrants. However, in no course did we find an *integrated* holistic approach. We therefore endeavored to find ways to more deeply involve all four quadrants of the students (and by extension, ourselves) in the learning process.

Community Experience

An essential application of our model was the opportunity for students to design and implement projects in the community. Students took the theoretical knowledge of a subject that they had learned in the classroom and were invited into a community-based organization to test those theories in action. This engaged not only the *cognitive* quadrant, but also the *psychomotor* quadrant by bringing theoretical knowledge into physical reality. In many cases community involvement engaged the *heart* quadrant as students participated in service-related activities during the semester, routinely making connections to others within society. For some students, the experience with these organizations led to additional involvement with the community.

Semester Long Projects

Another broad application was the use of semester-long projects to engage all four quadrants of this model. For this project, students began by conducting research on a subject of interest. Students could choose either performing traditional academic research or conduct interviews with community members and/or leaders. This fact-gathering activity led to analysis and synthesization and a short paper that integrated the research with material from class and came to conclusions about the problem or topic of choice. Next, students were assigned to prepare a reflective paper on how this information pertained to their own career choice, how they could use what they learned, and how this information related to their experience, which was then in-

tegrated with the earlier research paper. The next step was the creative component of the project, which could be more involved for a longer course, or less involved for a shorter one. This involved students creating some kind of an action plan, or a way of utilizing the information they have gained. For some, this meant partnering with a local business or organization. For others, this meant coming up with a business plan, or presenting a plan on how to improve an existing business or product. The project concluded with a presentation of the research information, reflection, and creative components to the class. Many students went on to successfully implement their creative components at their current place of employment, or to use their creative components to gain entry with their local business partners. This project engaged all four quadrants of the holistic education model presented here throughout the semester, and helped students turn their classroom knowledge into real-world applications.

Research Papers

We found that with practice our traditional writing assignments could be easily adapted to integrate the four quadrants of the model by breaking down the process and encouraging deep exploration at each level. For example, when one assignment asked students to write about learning theories, the student was asked to first look up a learning theory from the text, then describe the key terms, concepts, and ideas from that theory. Next, they related this information to other contextual ideas. They then described the theories that were most related to their own personal experience and explained why they felt it was so. Finally, they related the information to their intended future careers and noted how they might use this information later. Asking students to write about each of the four quadrants of the holistic model can easily be applied for any given topic. Later the students would create artifacts for portfolios or classroom materials that would be helpful in their future careers.

Another writing assignment that utilized the holistic model created tasks that addressed all four quadrants by requiring the student to create, think, feel, and act within the scope of the content. For example, one research assignment required the students to summarize, analyze, reflect on, and develop

the implications of a specific topic. The first step required the students to gather and summarize three peer-reviewed developmental journal articles. This step addressed the psychomotor quadrant by finding and presenting relevant information. Students then analyzed and synthesized the information against two theories presented in their course textbook, thereby addressing the cognitive quadrant. Students incorporated a personal reflection on their connection with the newly gained information from within the social emotional quadrant. Finally, students discussed the future implications of the information for the field and their future careers, which attends to the intuitive quadrant. Each quadrant was weighed equally by allocating points evenly across the sections.

Journaling

Other types of writing besides traditional academic papers are also beneficial to students' holistic development. One class incorporated a semester-long journaling assignment. The last ten minutes of every class period were set aside for the students to record their thoughts, feelings, knowledge, or experiences about the lecture topic of that day. While some days were reserved for freestyle writing about the content, a prompt was often written on the board for their journal entry to focus on one of the four quadrants.

Movie Critique

Movie critique projects allowed the students to stretch their new knowledge base and apply holistic skills to common practices. The students were encouraged to choose any movie that depicted a character or characters who experienced successful or unsuccessful emotional development, self-directed learning, or success. Each student had to thoroughly analyze their films and connect them to the concepts discussed in class. This analysis component activates the cognitive or *mind* quadrant. For this particular assignment the students could either prepare a written paper or create a presentation. Depending on the student's choice, this psychomotor component either required them to display the information in written form or actively present to their classmates. How the students performed either of these tasks involved a

creative component of language, organization, or visual stimulation, connecting to the intuitive quadrant. The final task for all students to incorporate into their projects was a reflective piece that connected each student personally with the characters they analyzed. This final component united the affective or *heart* quadrant to the previous three, providing a student a holistic journey through a single assignment.

Group Project

Another example of a holistic application was a group project assignment. The students choose the developmental topics their groups were to explore and presented their findings to the class. Each group first designed a formal project plan that outlined the specific details of their project, allocated responsibilities, and created a structured timeline for task completion. By working collaboratively and mindfully on projects that included the four quadrants, students developed vital skills in building equitable and effective teams. Students routinely commented on how they were able to assign and assume tasks based on each person's strength, which meant that while team members were not contributing the same type of work, each felt that their contribution was as meaningful as those of their peers. The groups then gathered and synthesized critical information and supplies to meet their project goals. They had to collaborate to make connections and analyze their material with information from the textbook and their own personal experiences. Finally, the groups imaginatively and creatively presented their project discoveries to their classmates. The projects were evaluated on criteria from the four quadrant model with points evenly distributed. Evaluations were provided by the instructor and the class members, reinforcing the collaborative learning community by giving feedback as gifts to each other.

Online Courses

As more universities and colleges incorporate online teaching into their degree programs, the involvement of holistic education in the development of online courses becomes important. There are a number of ways this can be effectively accomplished while meeting curricular goals.

For example, many online courses are heavily discussion based. A minor revision of the discussion questions helped them more fully develop the student in accord with the four domains presented in this article. For example, the psychomotor dimension might be addressed by traditional memory and understanding questions; a cognitive question might involve analysis, comparison, or integration; an affective question might address reflection and personal application; and an intuitive question might involve a imaginative, innovative, and creative look at the course material. The ideal mix of questions will depend on the subject matter and the level of the course, but splitting the questions between these areas will help students develop more holistically through their discussions.

Online course projects were also holistically developed. For example, one successful course project involved a multi-step process of writing a research paper with personal reflections, career applications, and creative components. At the end of this process, students would have written a quality research paper, integrated personal affective experiences, applied the material to their own careers, and created a way to innovatively apply what they had learned. This project was presented in steps so that students submitted a portion of the assignment each week of the semester. The focus on each step helped with common problems in the online course format, such as attrition and perseverance among online students. Most important to the instructor experience was that the focused work at each step allowed for constant feedback and an accommodation of all areas of development for each student. We were surprised how easily this project engaged all of the areas of the holistic model outside the classroom.

Our Teaching Experiences

Student-instructor and student-student interactions were noticeably improved by emphasizing the feeling or *heart* quadrant of the model. We noticed that our students felt the need for the environment to be psychologically secure with the development of ground rules for class participation. These discussions were guided by aspects of the affective domain, such as the need for being prepared, showing mutual respect, and welcoming diverse viewpoints.

We found that this emotional connection led to more students coming to office hours or sending casual emails to clarify assignments, negotiate processes, and ask for assistance. Course evaluations from classes in which the holistic model was used revealed that students appreciated the instructors' feedback, timeliness, and concern. Comments about the instructors indicated that they were perceived as caring about student progress, which was linked to overall learning and enjoyment of the course. Because these students felt that their instructors had an investment in their learning, they invested more of themselves in the course and consequently got more out of their classes. Yet, in our reflections, we now recognize the dramatic need to enhance the *spirit* quadrant by going beyond creativity to include deeper connections, exploring consciousness (Montgomery 2012) and spirituality.

Students who had been given a stake in developing class guidelines for appropriate behavior were well prepared to discuss and build upon their peer's comments. This was especially noticeable in the online courses when the discussion threads became deeper and more meaningful. Assignments such as journaling and peer evaluation that encourage reflective behavior helped students develop skills in emotional regulation, time management, and critical thinking. By giving students a chance to receive and give peer feedback, they were able to enhance their evaluative and communication skills and develop more professional-level products for use in their careers.

Our satisfaction with this pedagogical model was enhanced as we experienced the positive outcomes of the learners. The evidence on student learning outcomes was derived from various types of informal assessment, student surveys, informal comments, and the observations and reflections of our team of experienced teachers. We do not have formal empirical analyses of results of differences between classes taught in the holistic education paradigm described here and other classes; instead, we have a much richer picture of student learning outcomes that emerged from our experiences working with them, observing their interaction with each other, hearing their comments about the course content, seeing how they engaged with that content, and noting how they

tended to work in the classes. Indeed, as our experience with applying the holistic model in our courses grew, so did our appreciation for the unique and balanced outcomes in students. It is from this rich experience of working directly with students, understanding their experiences with our courses, and observing how these experiences differ from courses taught in other paradigms that we make the following observations.

Students, although they often experience some discomfort at being asked to "stretch" and "flex" their strengths and weaknesses in class, generally grow to enjoy classes taught in this paradigm more than those taught under other paradigms. We believe it is essential to explain the model to students, including the theoretical reasoning underlying the approach. This explanation leads to the ability for learners to go beyond the level of "trying" to learn to a more authentic learning where they are fully engaged with the content as a whole person. We observed that students tend to show deeper content knowledge and the ability to connect concepts and theories, and apply them, particularly on final exams. Further, students reported on surveys and in informal conversations that they subjectively felt more engaged with the content, that they learned more, and that the content was more applicable, even though the content remained unchanged. It is only the method of teaching that changed, yet student outcomes seemed to be quite different. Anecdotal evidence gathered from instructors about the students in subsequent academic terms also seemed to indicate they continued to look for deeper learning experiences and to engage more fully with their learning after having experienced this model of holistic education. Students reported a deeper sense of a learning community and support from classmates. Further, based on this same anecdotal evidence, it appears these students have greater long-term retention of content than students in comparable classes taught under other paradigms.

By engaging the whole person — creativity, cognitive abilities, emotional capacities, and the physical dimension of the person — the student experiences several improved outcomes that are important in the education system. First, students appear to become more engaged generally with their learning.

Second, enjoyment and interest in the classroom appear to be higher, which are related to a host of motivational variables. Students also seem to learn at a deeper and more integrated level, as evidenced by an analysis of their exams compared with their knowledge of other course exam content. Finally, our approach seemed to create longer lasting knowledge and an attitude toward learning that is at least somewhat persistent, based on the reports of other instructors the students have in subsequent terms. In short, the four-quadrant holistic educational model appears to improve student learning outcomes.

Conclusion

Recognizing the importance of personality typology in the learning process for all ages, we are using it to plan, implement, and assess the teaching and learning in our college and university courses. However, by planning for holistic growth in the four areas of psychomotor, cognitive, social and emotional, and creativity, we believe that developmental potential is realized and the integration of other personality areas are strengthened.

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