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Teaching Personal Epistemology and Decision Making in a Global Leadership Course

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This article describes an interdisciplinary teaching experience between two faculty members in an MBA course on global leadership. Critical systems thinking theory informed course design and activities. Detailed pedagogy, course competency assessment, and personal reflections are included. Faculty used quantitative and qualitative measures to assess students' change in beliefs, attitudes, and competencies over the course. Data included written reflections from exercises, a quantitative pre-post measure of epistemological beliefs, and teaching reflections. Students reported gains in the importance of self-awareness, inter-cultural awareness, and complexity in decision making. Personal epistemology changes occurred, but less so. The course findings indicated that sense of self and one's beliefs will impact decision making and openness to new ideas and information. The capacity of students to assimilate new information is connected to their ability to relate the material to their personal lives, values, and world views. Faculty reflections led to insights in how to teach critical systems thinking for epistemological development and decision-making.

This article describes an interdisciplinary teaching experience between two faculty in an MBA course on global leadership. The course was designed to increase students' competencies in self-awareness, critical systems thinking, and epistemological development to enhance decision making. These are key competencies needed for global leadership but are often left out of courses on global leadership. Faculty disciplines were management/leadership and social work. Through an interdisciplinary teaching approach, we hoped to see students expand their use of systems thinking, self-awareness, and epistemological beliefs to inform decision making in the global business environment. The decision science literature indicates that a more interdisciplinary model based in epistemology for making decisions in complex global environments is needed for today's leaders. Prior research has determined that examining epistemological beliefs leads to higher levels of critical thinking, which is required for complex decision making.

In addition to developing the pedagogy, faculty used SOTL methods to examine personal epistemological beliefs and attitudes of students enrolled in the global leadership course. Faculty evaluated change in student's self-awareness, critical systems thinking, and decision making over the course. Data collection included written student work and observations from exercises, a quantitative pre-post measure of epistemological beliefs published by Anderson-Meger (2016), and evaluation exercises. Students (n= 16) were typically working adults employed in professional settings. Half the class included Chinese students who were attending the university for their MBA degrees. The course was face-to-face and met one night a week for four hours for eight weeks.

As part of the co-teaching experience, faculty explored their attitudes and perceptions. Faculty kept weekly process notes on how their presence may have influenced students. Increasing students' competencies in decision-making, self-awareness, and critical systems thinking required intentional reflection on faculty role and student responsibility. Working alongside students allowed faculty to examine both their attitudes and students' attitudes (Herr & Anderson, 2005). Faculty needed to function as motivator and coach throughout the educational process to influence change (Herr & Anderson, 2005). At the same time faculty needed to maintain high expectations and clear delineation of roles.

Literature Review

Thinking for Global Leadership

New models of global leadership acknowledge the importance of corporate stakeholders, shareholders, politics, employees, local communities, and the natural environment on the choices and decisions made by corporate leaders (Freeman & McVea, 2001; Donaldson & Preston, 1995). Accordingly, there has been a call for renewed focus on managerial decision-making, specifically considering the needs and expectations of diverse and multiple stakeholders beyond the shareholder and including the natural environment (Freeman & McVea, 2001; Kish-Gephart et al., 2010; Lawrence, 2015).

Concepts of critical thinking and systems thinking were stressed in the global leadership course. Systems thinking is defined in multiple ways, usually tied to specific disciplines. The authors adopted the following definition of systems thinking from Reynolds (2011):

> Systems thinking in practice involves stepping back from messy situations of complexity, change and uncertainty, and clarifying key interrelationships and perspectives on the situation. It further requires engaging with multiple often contrasting perspectives amongst stakeholders involved with and affected by the situation so as to best direct responsible joined-up thinking with action to bring about morally justifiable improvements (p. 40).

The process requires the thinker to engage in making sense of relationships, apply concepts and deal with complex ethical dilemmas which involve multiple stakeholders and value systems. Teaching critical systems thinking required the instructors to design classroom activities to activate all aspects of critical systems thinking. Students were exposed to dialog, meaning making, and challenges with their way of thinking (Lawrence, 2015). The importance of listening to multiple perspectives was central to learning about themselves and others. The initial reaction to different worldviews and complexity was confusion and uncertainty. Instructors used explicit instruction into the "why" of the teaching critical systems thinking and self-awareness to engage students (Hofer, 2006).

The evolution of systems thinking into critical systems thinking activates the affective and beliefs levels of the person's cognitive processes. In addition to considering the various components of the "hard" system, the thinker should examine his or her perceptions and beliefs regarding the system. Purpose and normative assumptions will affect the definition of the system and how it operates (Reynolds, 2011). When thinkers are faced with ambiguity, there is a natural tendency to revert to what is most comfortable. Teaching critical systems thinking requires a process where one is pushed outside of one's established thoughts and beliefs to examine issues and practice from new perspectives.

Checkland (as cited in Reynolds, 2011) identified a seven-stage process for helping the learner move from problems to action using critical systems thinking. In stage one, the problem is unstructured and amorphous. One knows there is a problem but has no way of defining it or placing boundaries around it. Stage two involves creating a rich conceptualization of the problem and the context around the problem: in other words, attempting to articulate exactly what is going on. Stage three asks the learner to identify the relevant systems around the main system: customers/clients, agents/actors, purpose of the system, worldview of the system, decision makers in the system, and the environmental impacts within and on the system (p. 45). Stage four involves modeling different outcomes for addressing the issues. Based on the models the learner moves into comparative analysis to identify how the models may actually perform to solve the problem. Stage six results from the comparative analysis of stage five. Critiques and debate will illuminate the feasibility of implementing models. Finally, in stage seven the chosen model or models are put into action. The process becomes circular as the outcomes are evaluated.

Issues of power, politics, ideologies, beliefs, and worldviews will impact each individual and group in the process. Rather than ignore these elements, the student is pushed to examine the difficult and often conflicting forces. The only way for individuals to make sense of change and how change happens is to use critical reflection on their own thinking processes (Lawrence, 2015). This involves explicit instruction on the nature of epistemology. Students were exposed to the concept of epistemological development early in the class and were continually asked to examine the values and beliefs in their perspectives throughout the course.

Epistemology and Epistemological Development

Many researchers have examined the role of knowledge, an antecedent to decision-making, in the context of responsible global leadership (Bird & Osland, 2004; Brake, 1997; Briscoe, 2015; Kets de Vries & Folorent-Treacy, 1999). Exploring underlying beliefs that make up knowledge and decision-making helps students understand the complexity involved in global leadership situations (Briscoe, 2015; Cox, Hill, & Pyakuryal, 2008; Polanyi, 1966). This knowledge (often referred to as tacit knowledge) is embedded in personal experience and beliefs (Nonaka, 1994; Senge, Smith, Kruschwitz, Laur, & Schley, 2008). Tacit knowledge influences the perceptions of what one considers appropriate values, attitudes, and behaviors (Senge et al., 2008). According to Briscoe, our experiences and subsequent beliefs predispose us to pay attention to specific data, ascribe meaning, and derive conclusions (2015).

Personal epistemology is a term used to identify a person's beliefs regarding the complexity of learning and knowledge, processes of knowing, sources for knowledge, and justification of knowledge claims (Hofer & Sinatra, 2010; Marra & Palmer, 2008). Research has demonstrated a correlation between epistemological beliefs, critical thinking, and decision-making (Green & Azevedo, 2007; Lawrence, 2015; Marra & Palmer, 2008; McMillan, 2010; Pintrich, 2004; Zimmerman, 2008). The cognitive processes involved in critical systems thinking and decision-making are motivated by an individual's personal beliefs about knowledge: where knowledge comes from, what constitutes knowledge, and how one develops knowledge (Hofer, 2006).

Most models of epistemological beliefs have a common emphasis on constructivist, interactionist

approaches (Muis, 2007). From a developmental perspective, the person begins with an objective, dualistic viewpoint of the world, which is followed by a multiplistic stance nuanced by extreme subjectivity (Kuhn & Dean, 2004; Pintrich, 2002). In the final stages, the person can acknowledge multiple perspectives and integrate new knowledge with current knowledge to form complex ideas. A person's ideas of truth and knowing will become variable and multifaceted over time (Hofer & Sinatra, 2010).

Global leaders may frequently face values and beliefs that differ from their own. Persons with strong beliefs in the certainty of knowledge, extreme convictions, and disinclination towards cognitively challenging tasks are more likely to ignore information they read and develop biased conclusions towards their positions (Lawrence, 2015; Muis, 2007). Thinking can become linear rather than cyclical, leading to erroneous conclusions that do not address complexity (Briscoe, 2015). Exposing people to alternative evidence or information is not enough to alter their initial perspectives (Kuhn & Dean, 2004).

Kuhn identified various levels of epistemological understanding and then explained the assertions, reality, knowledge, and critical thinking components within those levels (Kuhn & Dean, 2004). According to Kuhn, students at the realist level believe that reality is directly knowable, and consequently, critical thinking becomes unnecessary. Absolutist level takes knowledge a step further and describes a dualistic belief system: knowledge is either right or wrong. Critical thinking becomes a vehicle for comparing assertions. Multiplistic beliefs are similar to a social constructionist view in that knowledge is true based on the beliefs of the knower. Critical thinking again becomes irrelevant. Why should someone question what might be knowable or not knowable by another? The highest level of epistemological knowing is evaluativist. One understands that beliefs and assertions are essentially judgments, and critical thinking is used to determine the validity of those judgments (Kuhn & Dean, 2004). Students who are aware of the stages can examine their own epistemological development in relation to their propensity to use critical systems thinking.

Course Pedagogy

The course pedagogy was designed to enhance personal epistemological development in MBA students who were participating in the course, Globally Responsible Leadership. The class met face-to-face one night a week for four hours over eight weeks. Each class session included activities that focused on one of six competencies: 1) Self-Awareness regarding Thinking and Knowledge, Complexity Management, 3) Intercultural Awareness, 4) Learning Orientation, 5) Problem Solving, and 6) Decision Making. For each competency, there was an associated assessment. The personal epistemological inventory was given pre-and post (first class and last class) to assess self-awareness regarding personal epistemological beliefs. To assess understanding of complexity management in the context of global leadership and intercultural awareness, a Country Comparative Analysis was conducted. Assessment of learning orientation understanding consisted of a group assignment whereby students researched and designed a Global Organizational Learning Book. In order to assess understanding of problem solving and decision making, students worked in groups to analyze case studies. Students also researched and wrote a collective annotated bibliography on a global systems approach to corporate social responsibility.

The course began with an introduction to epistemology, critical thinking, and metacognition and how the concepts related to global leadership. Faculty administered the *Beliefs about Knowledge in Leadership Decision Making* instrument which was modified from the *Beliefs about Knowledge in Social Work* (Anderson-Meger, 2016). The instrument was designed to measure personal epistemological beliefs. Schommer's (1990) *Epistemological Belief's Inventory* and Gambrill and Gibb's (2009) questionnaire regarding beliefs in social work informed instrument development. The beliefs questionnaire was not only used for analysis, but also generated discussion during the class around personal epistemology and its relationship to critical systems and ethical thinking. Each week the researchers used exercises and assignments designed to promote students' self-awareness around epistemology, cultural awareness, bias in decision making, and research informed decisions. Each exercise and assignment was followed by written student reflections to illicit their beliefs and attitudes. The course assumptions and expectations are summarized in Table 1.

Table 2 identifies the course competencies. Each course competency was tied to learning activities designed to measure the competency. The competencies were based on the literature findings for effective global leadership.

Assignment Descriptions

Country Comparative Analysis Report – United States and developing country. This assignment was intended to prompt critical systems thinking about epistemological knowing through a comparative analysis of the U.S. and a country considered developing or an emerging market. By analyzing different (and similar) cultural norms and beliefs across the two countries, student groups engaged in the

Table 1
Global Leadership Course Assumptions and Expectations

Course Assumptions	Faculty Expectations
• Agenda broken down by hour.	• Students need to wrestle with ambiguity and uncertainty.
• Activity based with learning reflection a key component.	• Students do the work.
• High expectations for in-class and out-of-class work.	• Students figure out how to solve issues in groups.
• Group work.	• Students share leadership role on different assignments.
• Rapid work turn around and demands.	• Students need to value learning and realize learning takes work.

Table 2
Course Competencies and Assessment

• Self-Awareness: Thinking and Knowledge	• PE Inventory (Pre and Post)
• Complexity Management	• Country Comparative Analysis Report
• Intercultural Awareness	• Global Organizational Learning Group Book
• Learning Orientation	• Case Study Analysis
• Problem Solving	• Annotated Bibliography on Global Systems Approach to Corporate Social Responsibility
• Decision Making	

process of critically thinking about underlying judgments and assumptions that drive behaviors, in line with the absolutist and evaluativist level of Kuhn and Dean's (2004) levels of epistemological understanding.

Students began by reading the article, "Dimensions of National and Organizational Culture," by Geert Hofstede, which provided an overview of the theory and an explanation of the dimensions of national and organizational cultures. Next, students completed the Cultural Compass, an instrument based on Geert Hofstede's work on dimensions of national and organizational cultures. Students used the instrument to compare the United States to a country that is considered a "developing country / emerging market" based on Bloomberg's Top 20 list (http://www.bloomberg.com/slideshow/2013-01-30/the-top-20-emerging-markets.html). Finally, students integrated findings into a broader country comparison research report. The report included an examination of both countries with regard to the following:

- Economy: GDP, predominate industries (e.g., energy, agriculture, software/technology, clothing/apparel, minerals, energy, tourism), gap between wealth and poverty
- Government structure, regulation/control
- Environmental and Ecological Impact
- National culture (use Hofestede's Cultural Compass)
- Gender Relations
- Predominant Religion(s)
- Healthcare and Wellness system
- Food system
- Education system
- Median income and Median age of workforce
- Housing and Transportation
- Other: Your Choice

Global Organizational Learning Book. This assignment was designed to follow Checkland's (as cited in Reynolds, 2011) seven-stage process for moving learners from problem to action using critical thinking. To begin, the task was unstructured and amorphous. Students were told they would author a book that consisted of five chapters on the topic of Organizational Learning in the Global Context. Students worked in groups of five, and together they conceptualized the project: what the book would contain, how it would flow, and what purpose and main ideas would be conveyed in the literature. Each chapter synthesized main ideas about components of Organizational Learning in the Global Context. Student groups used a minimum of 15 journal articles (minimum of three articles per chapter). The majority (2/3rds) of articles had to come from scholarly peer-reviewed articles and some from trade journal articles (e.g., *Harvard Business Review*, *MIT Sloan*, *Forbes*), as well as relevant books and book chapters. The conclusion addressed implications for globally responsible leadership. Student groups were also very diverse (including students from China) and experienced issues of power, beliefs, and ideologies, which impacted the group process. Students were challenged to examine the conflicts and understand their own beliefs and assumptions underlying their perspectives.

Table 3
Weekly Reflection Questions

- Identify connections between content covered the last three weeks: Self Awareness of thinking and knowledge, complexity management, and intercultural awareness.
- Describe what you learned from researching and creating a book on organizational learning including, but not limited to content, group process, self, etc.).
- Describe what you learned from researching and creating a book based on the following two factors: a) you had a short amount of time to complete the assignment, and b) you worked with a diverse group of team members.
- What were the personal strategies you used to help yourself be successful? Define Successful in this context.
- What were the personal strategies you used to help your team be successful? Define Successful in this context.
- This week's project required collaboration in order to achieve the standards outlined on the rubric and meet deadlines. Describe what you learned: analyzing your assigned case, generating themes with your group, creating a PowerPoint presentation with your group.
- So far, this course has covered the following competencies required of global leaders: self-awareness of thinking and knowledge, complexity management, intercultural awareness, and learning orientation. Of the lectures and materials provided so far: from which have you learned the most? Least? Why? Which competency are you most interested in developing further? Why?

Personal Epistemology Reflections:

- A) Review your PE report. Based on the results, what are 5 Key points that resonate with you?
- B) How has the material covered in the course influenced your responses to the PE (if at all)?
- C) How has the course influenced your openness to using research and theories to inform your decisions?

Stakeholder-based decision making: Review your 5 Key Points from the homework readings and compare with group members.

- A) What questions have been raised for you based on the readings?
- B) Discuss insights gained. (WHAT)
- C) Discuss the implications for globally responsible leaders, as well as the implications for you. (SO WHAT)
- D) How will you transfer this knowledge into action? What is your top development goal based on the knowledge gained in this course? (NOW WHAT)
- Final Reflection
    - Self Assessment Part I: Was the course what you thought it would be? Explain.
    - Self Assessment Part II: Identify your Pre and Post levels of Knowledge and Importance for each course competency according the scale: 0=never thought about it, 1=little to no importance, 2=moderately important, 3=very important.
    - A) How will you transfer the knowledge gained into action?
      B) What is your #1 development goal?

Global Systems Approach to Corporate Social Responsibility – Annotated Bibliography and PowerPoint Presentation (Solo). This assignment was intended to promote critical thinking, as well as systems thinking. Students examined interrelationships of multiple, often contrasting, stakeholder perspectives. Students developed an annotated bibliography that consisted of content describing a global systems approach to corporate social responsibility, including 1) organizational outcomes with examples of competitive advantage, credibility, and viability of a business with enduring stakeholder value (including economic, social, and environmental), and possible disadvantages/burdens (e.g., associated costs); and 2) Organizational inputs and process: corporate governance, communication, problem solving, and decision making. A minimum of ten sources were required, including books / book chapters, scholarly peer-reviewed journal articles, trade journals (e.g., *Harvard*

Business Review), and trade magazines / e-zines (e.g., *Inc*, *Time*, and *Forbes*). At least half of sources had to be scholarly peer-reviewed journal articles. Next, students designed and presented a PowerPoint that summarized main ideas and key learning from annotated bibliography.

In addition to the assignments described above, weekly written reflective questions provided qualitative data on how students were processing the material. At times, the competencies were perplexing to the students. Weekly reflections encouraged students to reflect on their own learning about the competencies being explored. In addition, students were encouraged to think intentionally about class content and discussions within their groups, as well as to identify insights gained about their own personal epistemological understanding. Weekly reflection questions are listed in Table 3.

Each class session was highly structured. Table 4 provides an example of how faculty used intentional design in the course structure.

Table 4
Weekly Class Plan Example

MGMT 635 Globally Responsible Leadership

Competency for Week 2: Managing Complexity
Week Two Reading: Links to trade journal articles posted on Moodle Learning Objectives

Week Two Objectives:

Gain knowledge of:
1. Major issues affecting multinational organizations and the need to address the complex dynamics between organizations, global society, and the environment
2. Complexity Management processes and tools
3. Triune Thinking approach: Ethical, Critical and Systems Thinking processes and tools

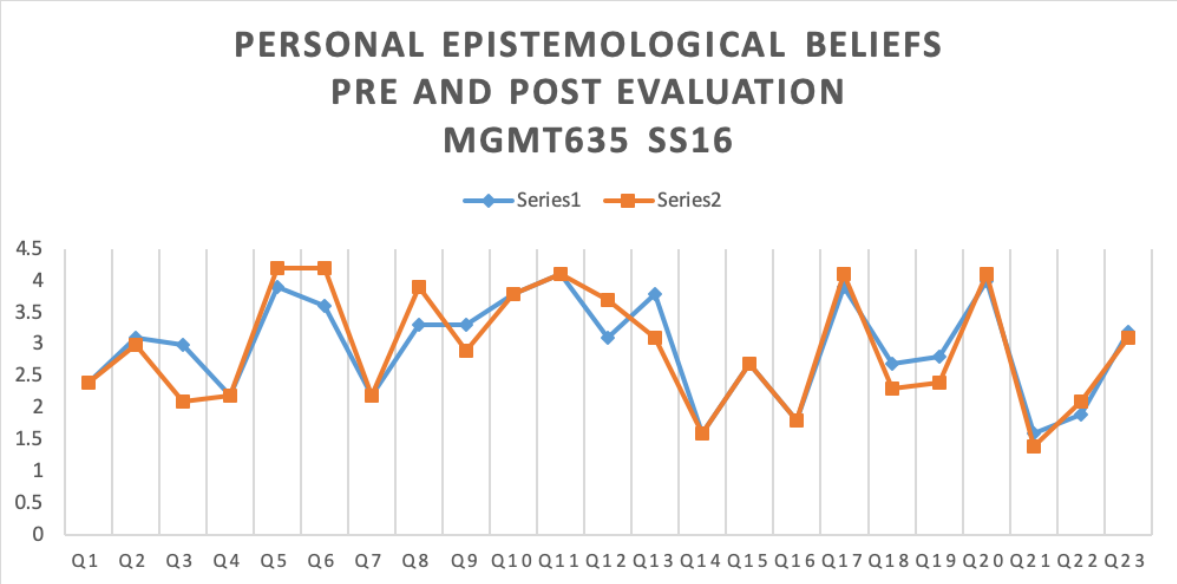
Hour #1
6:00 – 6:20 Introductions
6:40 – 6:55 Review purpose of assignments (emphasis on seminar nature of class) and discuss rubrics for assignment 1 & 2

Hour #2
7:00 – 7:10 Review agenda and introduce this week's competency and learning objectives
7:10 – 7:50 Groups of 3 discussion– Jigsaw- each group addresses issues with different systems thinking tools.

Hour #3
8:00 – 8:30 Review powerpoint slides-add to content. Watch VOCA video to summarize current state of global environment - Identify main ideas and integrate responses from prior exercise, compare and contrast responses
8:30 – 9:00 Large Group Debrief – Round Robin, key learning regarding complexity from exercise

Hour #4
9:10- 9:45 Project Group work on assignments.
9:45 -10:00 Wrap up and next steps.

Figure 1
Personal epistemological beliefs pre and post evaluation.



Pretest. N=16. Posttest. N=12 **Scale**: Strongly Agree(5),Agree(4), Neutral(3),Disagree(2),Strongly Disagree(1)

Measuring Competencies

In addition to developing the pedagogy, faculty examined changes in personal epistemological beliefs and attitudes of MBA students over the duration of the course. Data collection included written student work and observations from exercises, a quantitative pre-post measure of epistemological beliefs published by Anderson-Meger (2016), and evaluation exercises. Students (*n*=16) were typically working adults employed in professional settings. Half the class included Chinese students who were attending the university for their MBA degrees. The course was face-to-face and met one night a week for four hours for eight weeks. Quantitative descriptive data was analyzed with SPSS. The following paragraphs highlight quantitative and qualitative findings on course assessments and exercises. The section on teaching reflections integrates the findings with implications for future classes.

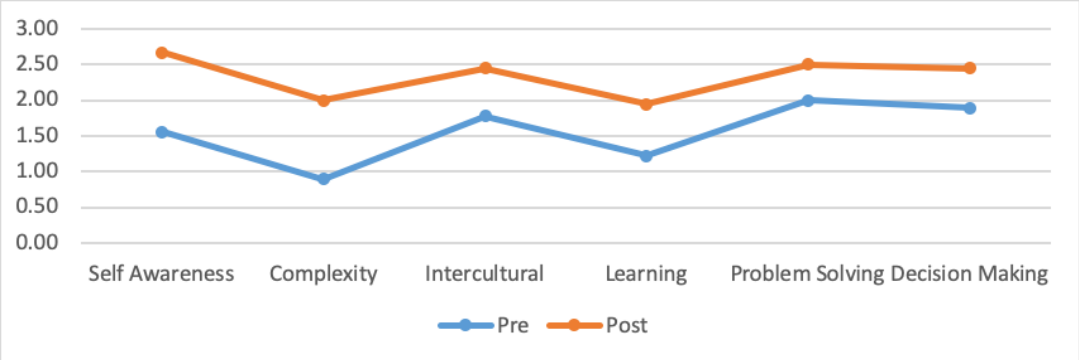
Quantitative Analysis

Figure 1 shows the position of students on the epistemological beliefs inventory at the start of the class and at the end. Faculty were able to determine slight changes on some aspects of epistemological development.

Changes were identified on items 3, 8, 12, 18, and 19 (Figure 1.). Item # 3 was, "Students who learn things quickly are the most successful." The response at the beginning of the course was more in agreement with this statement. At the end of the class, students moved towards disagreeing with the statement, indicating a willingness to accept that learning takes time (Course Competency Connection: Self Awareness). Item# 8 was, "Absolute moral truth does not exist." While students tended to agree with this statement at the beginning of the class, they moved towards even stronger agreement at the end of class. Instructors determined the movement indicated a willingness to acknowledge there are uncertainties in what constitutes absolute truth (Course Competency Connection: Self Awareness and Decision Making). Item # 12 was, "Everything is relative - there is no one better way to know something." Students agreed with the statement at the beginning of the class, but they moved towards stronger agreement at the end of the class. While this suggests students are willing to engage in different ways of knowing, it did not explain *how* they evaluate and judge forms of knowledge (Course Competency Connection: Collaboration). Item # 18 was, "When a (discipline) authority gives direction, they are usually right." and item 19 was, "Instructors in (discipline) should focus on facts instead of theories." Students started in a place of more neutrality with both of these statements and moved towards disagreement at the end of class. At the end of the course, they seemed more willing to question authority rather than just accept without critical questioning. The response to the last statement is interesting. Faculty stressed theories instead of facts. Students who were concrete thinkers wanted specific facts and directions for decision making. The exposure to theories throughout the course may have been frustrating because students search for

Figure 2

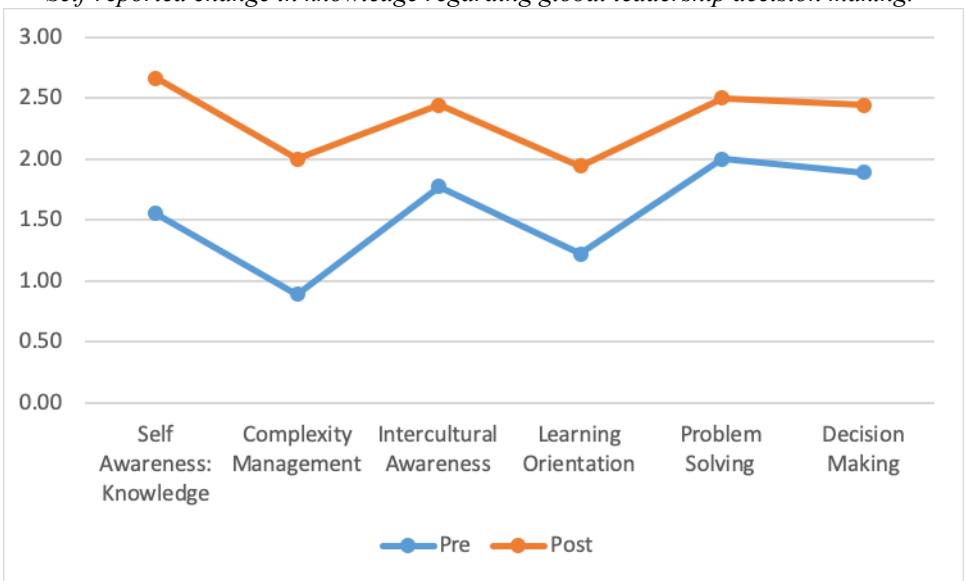
Pre/Post evaluation of competency importance.



Competency	Pre	Post	DIFF
Self Awareness	1.56	2.67	1.11
Complexity	0.89	2.00	1.11
Intercultural	1.78	2.44	0.67
Learning	1.22	1.94	0.72
Problem Solving	2.00	2.50	0.50
Decision Making	1.89	2.44	0.56

Figure 3

Self-reported change in knowledge regarding global leadership decision making.



Knowledge	AVG PRE	AVG POST	DIFF
Self Awareness	2.22	2.25	.77
Complexity	2.00	2.11	.88
Intercultural	2.22	2.25	.55
Learning	1.67	1.74	.55
Problem Solving	2.78	2.86	.11
Decision Making	2.78	2.86	.11

Figure 4.
Word cloud – Results of students reflections.

specific formulas to help understand complex situations (Competency: Self Awareness, Decision Making).

In addition to movement on the Epistemological Beliefs Inventory, the faculty saw changes in self-report of how *important* certain competencies were at the beginning and at the end of the course (Figure 2.). The scale consisted of 0=Never thought about it, 1= Little to no importance, 2=Moderately important, and 3=Very important. The resulting change was statistically significant (p=.004).

The instructors saw that students gained the most awareness of the importance of self-awareness, complexity, and intercultural awareness over the course of seven weeks. These were all new competencies that students had not been exposed to in previous management courses. In addition, as part of the final reflection during week seven, students were invited to identify the knowledge gained on each competency using a retrospective pre-post. The scale used for Knowledge consisted of: None = 0, Limited = 1, Moderate = 2, Extensive = 3. While change was noted, it was not statistically significant at the $p \leq .05$ level ($p = .80$).

Qualitative Analysis

Qualitative data analysis utilized the constant comparison method. Coding and categorizing elicited common themes from students' narratives. Open coding identified meaning units in the narratives. Each researcher coded and then compared coding to enhance validity in the coding schemes. Categorizing followed open coding. Each week student reflections were uploaded into Dedoose® and coded. Researcher One used inductive coding. Researcher Two used deductive coding with codes that emerged during inductive coding. In all, 185 codes were identified over 7 weeks of reflections. Codes were mapped in Dedoose® and downloaded into an Excel spreadsheet. Clear patterns emerged with certain codes, as presented in Figure 4. Word Cloud of Student Reflections. Dominant codes were reviewed in comparison to the Personal Epistemological Beliefs Inventory findings.

Strongest findings supported competencies that were a focus for the course: Learning Orientation, Intercultural Awareness (Interaction), Knowledge – Knowing, Decision Making, Problem Solving, Managing Complexity, and Thinking. These areas were identified as new, or as shifting, from the students' original perspectives.

There is a strong indication that "Intercultural Awareness Interaction," "Collaborating," and "Cultural Awareness," resulted from the mix of Chinese and U.S. students in the classroom and in group work. Students reflected that they felt the influence of "Self Awareness of Thinking and Knowledge," as well as "Learning Orientation," as important mechanisms in decision-making for global leaders.

Teaching Reflection

The purpose of this SOTL project was to examine the personal epistemological beliefs and influences on decision-

making in an 8-week course on Globally Responsible Leadership. The project involved one course with 16 students. The conclusions from the project can help educators enhance personal epistemological development, critical systems thinking and decision making in students. These constructs are very abstract. Interdisciplinary collaborative teaching projects can enhance the classroom environment by showing students how multiple ways of thinking are needed in today's global environment.

Faculty gained insight to how personal epistemological awareness and critical systems thinking enhances decision making for future global leaders. Students were asked to complete several major assignments that required critical systems thinking processes and reflection in addition to research on context and factual information. In the beginning of the course students were suspect about the prominence of self-awareness, reflection, and theoretical concepts. There was visible and audible frustration observed in the classroom, and resistance was identified by week three in students' reflections. Students clearly wanted a pathway or "tool" they could use to "be a global leader". Diversity in the course was an advantage and a challenge. The mix of U.S. and Chinese students helped students understand each other's worldviews and beliefs but was also met with frustration. Faculty had to push students to develop an empathic understanding of "the other." The understanding did not come naturally.

Instructors met weekly to reflect on process and content. The instructors were intentional about revisiting concepts over the weeks to create a connection from one week to the next to achieve learning transfer. The intentionality of class design and reflection was critical to tracking students' processing and attitudes. Faculty were very explicit in their expectations. Even so, students often expressed frustration at the ambiguity involved in the projects. For example, while faculty scaffolded assignments in terms of complexity, the "how" they would complete the assignments was left to the students.

Part of co-teaching the course involved weekly debriefings between the instructors. During meetings faculty discussed each class, reviewed written work, and determined how to approach the next class. This extra time and attention was needed to process students' thinking. Table 5 is a summary of personal reflections on teaching this course.

Faculty learned students' sense of self and beliefs impact decision-making and openness to new ideas and information. The capacity of students to assimilate new information is intimately connected to their ability to relate the material to their personal lives, values, and worldviews. The strong learners are going to engage in the search for deeper meaning. This resonates well with the research from Ambrose, Bridges, DiPietro, Lovett, and Norman (2010) that personal experience and self-awareness are going to motivate learners. Strong learners will also exhibit the ability take risks and develop their metacognitive awareness. Faculty were pleased with the changes exhibited in the competencies of self-awareness, critical systems thinking, and epistemological development.

Implications for Future Teaching

This course was designed to increase students' competencies in self-awareness, critical systems thinking, and epistemological development to enhance decision-making. Teaching critical systems thinking requires a process where one is pushed outside of their established thoughts and beliefs to examine issues and practice from new perspectives.

Based on a modest shift in the Pre-Post Personal Epistemological beliefs assessment (figure 1), the faculty concluded that a change occurred in personal epistemological beliefs consistent with what Kuhn and Dean (2004) referred to as the highest level of epistemological knowing: evaluativist. Specifically, results indicate a shift in learning orientation (more thoughtful), acknowledgment that there are uncertainties in what constitutes absolute truth and different ways of knowing, and increased willingness to question authority and to work with theories versus facts. The faculty concluded that through the use of weekly reflection questions, students became aware of their own epistemological development in relation to the use of critical systems thinking.

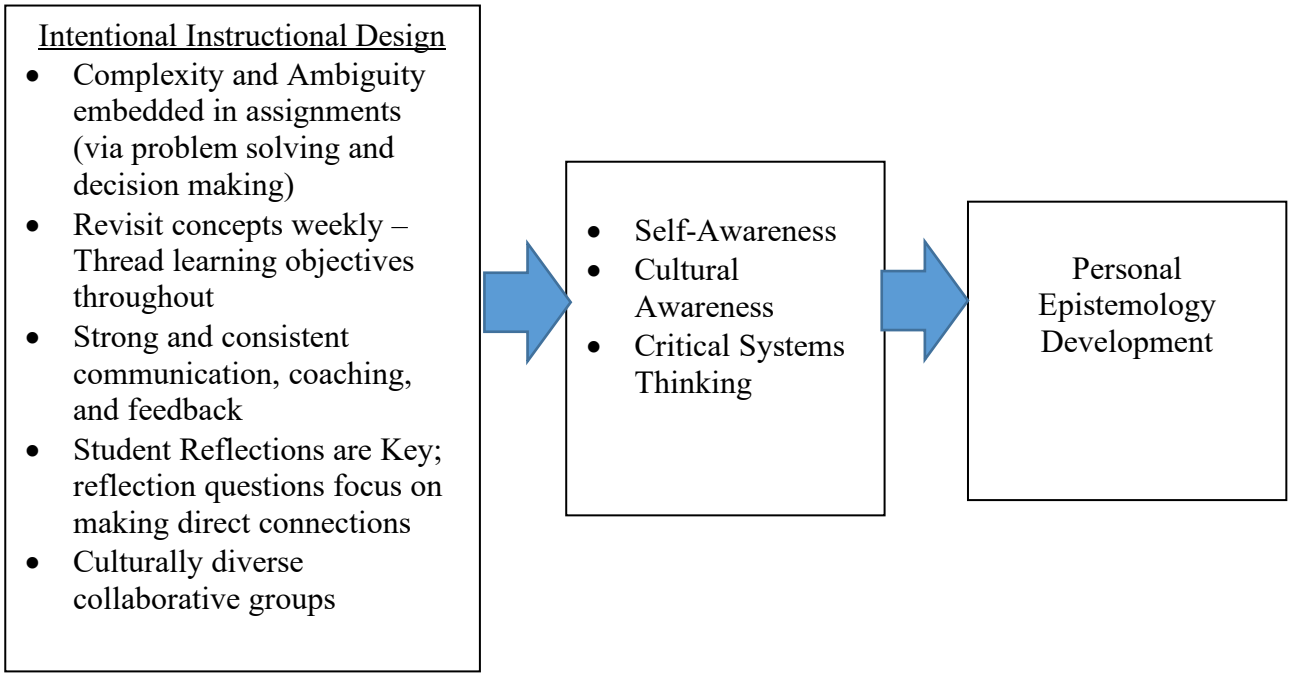
Faculty designed classroom activities that engaged students in dialog, encouraged meaning making, and challenged their way of thinking based on the complexity and ambiguity of "how" to accomplish expected outcomes, particularly with the cultural diversity in the groups. The importance of listening to multiple and diverse perspectives was central for students to learn about themselves and others. Checkland's (as cited in Reynolds, 2011) seven-stage process for moving learners from problems to action using critical thinking systems was engaged using explicit instruction on the nature of epistemology early in the class, and students were continually asked to examine the values and beliefs in their perspectives throughout the course. As can be seen through open-ended comments in student reflections (figure 4), students identified a shift in their perspectives regarding learning orientation, intercultural awareness interaction, decision making, and collaborating. This suggests an impact of high levels of diversity within student project teams. In this case, international students from China were working with U.S.-born students.

Faculty determined that intentional instructional design – along with implicit attention to students' awareness of systems, values, and personal epistemology – is necessary to enhance critical thinking and decision making (figure 5).

Table 5
Teacher reflections

- Met weekly to reflect on process and content.
- Students suspicious about theory and reflection. Why are we doing *this*?
- Very difficult to examine *how* learning is happening. We only know what we observe or can document.
- Diversity of the class was an advantage.
- INTENTIONAL class design was critical to tracking what was happening.
- What we think is important is not necessarily what students think is important – how to bridge the gap?
- Explicit communication of expectations (ex. Dealing with ambiguity is necessary in the global environment, therefore we are going to do xyz).
- Faculty need ongoing education in the teaching/learning process.
- Frustration – week 3 seems like nothing is moving ahead, resistance.
- Some students dominate/power struggles. Gender? Culture?
- Fatigue impacts learning!
- Small group dynamics – we had to carefully approach. Not solve issues for students but let them know we are supporting them in their struggles.
- Learning takes TIME. Condensed courses good for …. What?
- Need to revisit concepts over and over to create thread and connections from one week to the next. Only way to achieve learning transfer.
- If you teach a night class – be a night person. We were not.
- Hard to stay positive but we supported each other.
- In end it was very gratifying to see the results, however small.

Figure 5
Instructional design for epistemological development



Important lessons were learned from this experience. Overall, teaching for personal epistemological development and critical systems thinking is not easy. Frustration will occur, both on the part of students and faculty. Students who tend towards concrete thinking, or absolutist/ relativistic states of epistemological development will resist through procrastination, complaints, or outright claims that things do not make sense (Kuhn & Dean, 2004). Diversity is an advantage to faculty and students as they grapple with the concepts and thinking processes. Classroom dynamics can emerge based on culture/power struggles and group dynamics. Faculty need to anticipate this and proactively manage it for an effective learning environment. Students wish to remain in their comfort zones. Faculty must be okay with, and anticipate, the group process: confusion

(forming), frustration and fight/flight (storming), norming, and performing (Tuckman & Jensen, 1977). The outcome is worth the struggle.

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