DPLS 776 Complexity Science & Leadership

Fall 2010 3 Credits

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Class Logistics-Hybrid Course Design
Meeting Dates & time (2010): Fridays, 6-10 pm
(a) Face-to-face presentations (Room: Til 115): 9/2, 9/30, 10/14, 11/18, 12/2
(b) Online presentations: (no meeting on 9/9, 10/28, 11/11)

Course Overview
The complexity of human motive, the entwinement of its threads, is infinite. The point, which is here relevant, is that the zest of human adventure presupposes for its material a scheme of things with a worth bey ond any single occasion. (Whitehead, 1961, p. 288)

Leadership is the most observed yet least understood phenomenon (Burns, 1979). It is an occasion of complexity. Analyzing this complexity is similar to an attempt to discern the infinite reflective images between a pair of parallel mirrors; its "order to chaos to order" (Briggs & Peat, 1989) confounds us. We feel being in the midst of temporal turbulent complexity. Fluxing in "a temporal maelstrom as much as a substantive one" (Vaill, 1998, p. 32), leaders are tasked to "manage time streams when the surprising, novel, obtrusive events-the permanent white water" (p. 31). Reality demands leaders to respond at a highly perplex level attending to a constant search for veracity in a wholistic multiplicity.

The focus of this course is on understanding complexity science, cognition, and theory pertaining to leadership phenomena. The course progresses through stages of understanding, moving from the fundamental nature of chaos and complexity, to complex social systems and leadership, to introduction to various complexity modeling toolkits. Five books are selected for major reading and supplemental book chapters/journal articles from other authors are to be posted on the Blackboard, as our exploration and the interests in the class emerge.

We begin with a light-hearted, yet seriously informative reading and then continuously raise our cognitive insights. Miller and Page (2007) introduced complex adaptive systems by modeling social worlds using emergence theory, agent-based adaptation, social dynamics, evolving automata, and modeling. Uhl-Bien and Marion (2008) explored complexity science and established a conceptual foundation for the twenty-first century leadership with the hope to change our paradigm to view leadership as complex, adaptive, nonlinear feedback networks. Jaques and Clement, (1994) demystified leadership complexity recognizing human nature at work, viewing leadership role, competence, and tasks from a cognitive science lens. Casteltan and Hafferty (2009) invited us to participate in a field of inquiry to study complexity science and the web of social practices using techniques such as, network analysis and clustering, systems dynamics and systems thinking, and mapping complexity using an array of methods in a toolkit. Winograd and Flores (1991) focused us on understanding computer modeling, cognition as a
biological phenomenon, and design decision support systems. Most of the supplemental chapters/journal articles may explore such topics as, fuzzy logic, artificial intelligence and heuristic reasoning, chaos pattern and fractal dynamics recognition, machine learning and data mining, and other thoughts on complexity science.

In this course, we explore the "implicate order" (Bohm, 1980) in complexity and engage in a dialogue to find ways that glue the fragments of human thought. We seek to gain "process wisdom" and continue to "see pathways through complexity and confusion, how purpose can remain alive and relevant when, for those distracted by the temporal maelstrom, the sense of direction and order has become utterly splintered" (Vaill, 1998, p. 35).

Course Objectives
This course expands our thinking and unleashes us from the limitation of our fragmented perceptions, to enfold leadership phenomena in a wholistic paradigm. This course expects you to:
• increase understanding of complexity and be open to new possibilities;
• embrace order-to-chaos-to-order pertains to the natures of leadership;
• understand the spatiotemporal dynamics of leadership phenomena;
• be able to discern patterns amidst complexity;
• gain clarity in the moments of perplexity;
• comprehend complexity science and its theoretical concepts; and
• become familiar with a number of complexity modeling techniques.

Diversity and Neutrality
As a learning community of practice, we expect all learners to be open and honest in sharing their own experiences, and to respect those of others. By holding open a learning space, in which they will honor differences in viewpoints, beliefs, values, stages in life, states of being, and paradigmatic opinions. Our learning activities will require us all to support one another and mutually strengthen commitment to social justice and morality.

By building our dexterity in logic reasoning and developing skills in philosophizing and theorizing, we take precaution to guard against making fallacious statements regarding new concepts and meanings of leadership. Logic reasoning will help one maintain a stoic perspective, which is a neutral/supportive/authentic stance, and recognize that there are multiple solutions to a problem in leadership phenomena. Multiple solutions are a situation of mathematical singularity and multiple realities are a concept of modern physics, together they reveal sense perceptions of being in realities of different temporal-spatial dimensions. These disciplines enable us to think out-of-the-box and enhance our ability to understand parodoxes in events and to find complementarity. Together, we discern an optimal path amidst complexity and chaos, we gain clarity of what matters to the collective purpose.

Learning Activities
This course reflects a learning philosophy that the adult education at a doctoral level functions as what Knowles (1980) describes as andragogical learning as opposed to pedagogical teaching. That is, we expect doctoral leadership students to be intellectually motivated in self-directed learning with occasional individualized advice and guidance to thrive both intellectually and
spiritually. Thus, during this course, we hope to co-create a learning space or virtual presence where the learning facilitator/professor, the learning materials (written/audio/visual), group discussion, and peer supports all merge in synchronicity to maximize student learning.

**Learning Buddies**
In our 1st class meeting, we will form small learning buddy groups. Your learning buddies are to become supportive peers who are always there for you throughout this course. You may toss wild ideas around and share your learning with them. They will diligently review your papers and give you feedback. Each buddy group will decide the appropriate processes for exchanging paper reviewing as well as for completing reading assignments.

**Reading Assignments**
Please complete the required reading assignments, listed in Table 2: Outline of Class Sessions. You might peruse the whole book in general then read areas of special interest in detail. Beyond the required readings, you might want to venture into additional works pertinent to your interests individually. Please write thoughts and learning in your reflection journals. Post your points and inquiries to dialogue with peers in the Discussions Board area on the Blackboard.

**Class Meeting Attendance**
This is a hybrid course. The three online and the five in-class discussions will focus on integrating themes from the various texts and are pertinent as they stimulate intellectual growth for all members. Thus, participation in the eight class sessions is a requirement for this course. If you miss a class session, please inform me via email or phone prior to the missed session. Missing two or more class sessions will result in an incomplete grade and require either taking the course again or auditing it at some future time.

**Writing Assignments**
Please email writing assignments (in ms-Word, APA style), except the Reflection Journals, to me at fu@gonzaga.edu before or on the due date specified in Table 2. They are:

- Pre-class paper is due at our 1st class meeting: a 3-page (max.) paper reflecting on first readings, *Complex adaptive systems: An introduction to computational models of social life* (Miller & Page, 2007) and postings in the Course Documents on the Blackboard. Please include a statement about a leadership theory of your interest for going deeper in thought (10-30 words).
- Reflection Journals are due at our 2nd - 8th class sessions: each is a 1-page (text, graphic, and/or sound) learning journal that reflects on class discussions, presentations, and/or thoughts on next reading assignments. These journals, excluding confidential material, are to be shared with a “writing buddy” with whom you will exchange critiques prior to class presentation/sharing. To receive quality feedback in class, I suggest you post your paper on the Blackboard's Discussion Board to share with your buddies at least a full day prior to class.
- Special interest project proposal is due at our 4th class session: a 2-page (max.) paper that ideates the nature of your proposed leadership theory or theory-in-use. The proposal could be about modifying an existing theory to address a gap in explaining some leadership phenomenon or conceptualizing a new theory. A new theory could be a major modification of an existing theory or a combination of numerous disciplines and existing
theories formulated into a new concept. Please include your thought on how the proposed concept will benefit and contribute to the leadership studies to better address, analyze, and/or explain the complexity of leadership phenomena.

- Special interest project final paper is due five days after our last class meeting-a 10-page (max.) paper that describes your proposed concept, theorizes, philosophizes, and suggests a method for confirming/validating the concept. Please include presentation slides, your reflections, revelations, and epiphanies on project experience, learning in this course, possible future extended learning, and any modifications made to your original special interest proposal.

Writing Criteria
APA style is required. This document illustrates some of the APA style format criteria: 1-inch margins-top, bottom, left, and right; 12 point Times New Roman font. There are other guidelines such as, appropriate selection of headings, proper placement of citations, enclosing direct quotes with quotation marks (author, year, cited page numbers) within the text and a complete reference list. You can find APA guidelines and academic paper template on DPLS program website.

Your writing should be clear and succinct demonstrating careful word choice with skillful, parsimonious, and purposeful sentence constructions. We expect all papers to be grammatically flawless. Transitions between paragraphs and sections evidence your efficacy of weaving concepts, themes, and purposes together. Appropriate summaries and effective conclusions are vital elements of good writing. Careful proof reading of your paper is a basic expectation before exchanging your paper with your learning buddies.

Electronic Learning Portfolio
We ask each of you to build an electronic learning portfolio, which reflects all learning accumulated over the semester. The electronic portfolio consists of your papers as outlined in the Writing Assignments above, special interest project presentation slides and other learning papers that reflect your learning in this course. The following is a portfolio checklist and corresponding percentages toward your grade for guiding you through the assembly process.

Table 1: Learning Portfolio
<table>
<thead>
<tr>
<th>Portfolio item</th>
<th>Percent toward grades</th>
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<tbody>
<tr>
<td>Pre-class paper</td>
<td>10%</td>
</tr>
<tr>
<td>7 Reflection Journals</td>
<td>7 x 5% = 35%</td>
</tr>
<tr>
<td>Special interest project proposal</td>
<td>5%</td>
</tr>
<tr>
<td>Special interest project final paper</td>
<td>40%</td>
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<tr>
<td>Portfolio folder completeness</td>
<td>10%</td>
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</tbody>
</table>
Grading
The grading conveys your individual learning achievement in this course, a before-after comparison of self, not a bell-curve competition with others. Point/Grade correspondence:
95 - 100% = A;
90 - 94.99% = A-;
85 - 90% = B;
80 - 84.99% = B-

Table 2: Outline of Class Sessions

<table>
<thead>
<tr>
<th>Week</th>
<th>Pre-class Readings</th>
<th>Writing due</th>
<th>Class Theme</th>
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<tbody>
<tr>
<td>1st 9/2</td>
<td>(Miller &amp; Page, 2007)</td>
<td>Pre-class paper</td>
<td>Creating mindful field for learning and leading Complex adaptive system Form buddy groups</td>
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<tr>
<td>2nd On-line</td>
<td>(Uhl-Bien &amp; Marion, 2008)</td>
<td>Reflection journal 1</td>
<td>Complexity leadership--a conceptual foundation</td>
</tr>
<tr>
<td>3rd 9/30</td>
<td>*Book chapters &amp; journal. Articles on Blackboard</td>
<td>Reflection journal 2</td>
<td>Embracing chaos &amp; complexity Buddy group presentation #1</td>
</tr>
<tr>
<td>4th 10/14</td>
<td>(Jaques, 1994)</td>
<td>Reflection journal 3 Special interest project proposal</td>
<td>Executive leadership: managing complexity Buddy group presentation #2 Project proposal discussion</td>
</tr>
<tr>
<td>5th On-line</td>
<td>(Castellani-Hafferty, 2009)</td>
<td>Reflection journal 4</td>
<td>Sociology and complexity science: a new field of inquiry</td>
</tr>
<tr>
<td>6th On-line</td>
<td>*Book chapters &amp; journal. Articles on Blackboard</td>
<td>Reflection journal 5</td>
<td>Complexity modeling and design</td>
</tr>
<tr>
<td>7th 11/18</td>
<td>(Winograd &amp; Flores, 1991)</td>
<td>Reflection journal 6</td>
<td>Understanding computers and cognition: Design Buddy group presentation #3 Buddy group presentation #4</td>
</tr>
<tr>
<td>8th 12/2</td>
<td>*Book chapters &amp; journal. Articles on Blackboard</td>
<td>Reflection journal 7</td>
<td>Harvest products of learning Project presentations (all)</td>
</tr>
<tr>
<td>12-7</td>
<td></td>
<td>Learning portfolio &amp; Capstone project paper</td>
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*Journal articles or book chapters posted in Blackboard Course Document folders

Required Books


**Recommended Readings (selected chapters on Blackboard)**


**Suggested Special Interest Readings**


