# Fall 2017, R546 Instructional Strategies for
## Thinking, Collaboration, and Motivation
**Course Web Site: http://www.indiana.edu/~bobweb/**
**HTML of Syllabus:** http://php.indiana.edu/~cjbonk/Instructional-Strats-R546-2017.htm
**Word Document:** http://mypage.iu.edu/~cjbonk/Instructional-Strats-R546-2017.doc
**Videostreamed Course Recording** (Canvas R546, Section 10546) Canvas: http://canvas.iu.edu/
VMR (Virtual Meeting Room) or Video Bridge **#:** 2310546

**Dates:** August 26, 2017 to October 14, 2017 (8:00-1:00, Saturdays), IU-B, IUPUI
**IU-Bloomington:**     Section 10546, School of Education: Room 2101 (IUB)
**IUPUI:**                   Section 25404, Education/Social Work Building, ES2101 (Videoconferencing)
**Instructor:**   Curtis J. Bonk, Professor, IST Dept.; Room 2238 Wright Education Building
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## Course Description:
Students in this course will learn how to develop learning environments that stimulate critical thinking and creativity, and that promote cooperative learning and motivation. In addition, they will learn technology integration strategies. To highlight method similarities and differences and to link theory to practice in each area, scientifically researched strategies and programs will be illustrated through hands-on activities. There is much experimentation and risk taking in this class. Everyone will learn dozens of instructional strategies; but, more importantly, they will reflect on their overall teaching philosophy.

## Course History and Intended Audience:
Educators in all sectors are struggling with wave after wave of educational change. Many recognize the need for shifting their teaching philosophy to a more learner-centered or hands-on approach. This trend is especially evident here in 2017; the age of STEM, competency-based education, personalized instruction, problem-based learning, digital learning, Wikipedia, YouTube, and MOOCs. Today, learners can be more self-directed. However, learners often lack sufficient time and resources. In response, this course provides a roadmap for those stuck in the murky swamp of paradigm change and educational reform. Different versions of this course have been taught since 1991, with videoconferencing added in 1996. Past course participants have also included graduate students, corporate trainers, instructional designers, administrators, and private consultants. This course is intended for:

- ➢ Anyone wanting to feel better prepared to teach, train, or learn something new.
- ➢ Graduate students looking to round out a doctoral or master's degree or minor in IST.
- ➢ Corporate trainers wanting to embed practical strategies into their training workshops and classes.
- ➢ Higher education professors wanting to enhance their instruction with innovative teaching.
- ➢ Instructional designers interested in embedding thinking skills into software and other media.
- ➢ K-12 principals and other administrators hoping to integrate various educational reform efforts.
- ➢ Practicing teachers searching for professional development opportunities for engaging learners.
- ➢ Private consultants offering thinking skill or problem solving workshops or training.

**Required Material:** Bonk, C. J. (2017). *Packet of Course Handouts*. (available **FREE as a PDF** in Dropbox)
    Bonk, C. J., & Khoo, E. (2014). *Adding Some TEC-VARIETY: 100+ Activities for Motivating and Retaining Online Learners*. **Note: this is a FREE e-book:** http://tec-variety.com/; http://tec-variety.com/freestuff.php
**Highly Rec'd Texts:**
    Gary A. Davis (2004). *Creativity is Forever (5th Ed)*. Dubuque, Iowa: Kendall/Hunt.
    Bonk, C. J., & Zhang, K. (2008). *Empowering Online Learning: 100+ Activities for R2D2*. Jossey-Bass.

**Bonk Book Library:** I have an extensive set of books on motivation, critical and creative thinking, collaborative and cooperative learning which I am happy to loan out. I will try to bring many of these to class each week.

## Course Purpose, Approach, and Education 3.0 (or perhaps even Education 4.0):

Since the early 1980's, countless reports have detailed the shift toward an information-based economy and the need for a more technologically sophisticated workforce. Life in 2017 is much different from 1984. The skills and experiences required to succeed today are vastly different from three decades ago. A modern-day workforce clearly demands skills such as creativity, flexibility in thought, the ability to make decisions based upon incomplete information, complex pattern recognition abilities, and synthesis skills. Such changes are occurring faster than most of organizations and institutions can adapt. They are also accelerating massive transformations in teaching and learning environments across sectors of education.

In response to the emerging global marketplace, there has been a renewed interest in innovation and creativity. It does not matter if one is in a public school or higher education setting or in a military and corporate training environment. The shift in perspective is the same. Everyone is seeking the Holy Grail and become more inventive and productive then the next person or organization. Some are labeling this new age "Education 3.0." The markers of this time are tinkering, making things, invention, connection, freedom, imagination, play, collaboration, engagement, passion and purpose, finding meaning, and the open exchange of ideas. Consequently, this class will begin with a dialogue of what Education 3.0 represents. Each student will find his or her own sense of meaning or philosophy in this course.

In Education 3.0, people will no longer tolerate a curriculum that emphasizes the rote memorization of facts over problem solving and creativity. Instead, innovative instructors and trainers engage learners with more authentic and active learning experiences. Even with such renewed interest and resources, most teachers still lack the time and resources to adequately deal with the proliferation of instructional practices and associated ideas regarding educational change. This course—R546 on instructional strategies—can change all that for you. The basic purpose of this course, therefore, is to attempt to fuse motivation and cooperative learning to thinking skill areas such as critical and creative thinking.

The books and activities selected will enable us to understand coinciding trends in education related to creative thinking, critical thinking, motivation, and cooperative learning. In starting on this path, specific techniques and ideas will be offered as well as implementation steps. Demonstrations and hands-on experiences of various methods will be used to highlight method similarities and differences. In addition, students will be exposed to ways to use technology to increase student thinking skills and teamwork. Finally, advice will be offered for getting started using these alternative instructional strategies.

## Course Objectives:
**As a result of this course, participants will:**
- Understand the commonalities and differences of creative and critical thinking;
- Feel comfortable using dozens of motivational strategies and instructional techniques;
- List thinking skill options for different types of learners and content areas;
- Design innovative thinking skill activities as well as unique cooperative learning methods.
- Develop a personal synthesis and perspective on instructional strategies and pedagogy.

**During the course, enrolled students will be expected to:**
- Complete the required readings and actively participate in course activities;
- Write and reflect on the subject matter;
- Search for and share additional resources beyond the course materials provided;

- Develop and share curriculum materials and course plans.


## Grading Scale: I will use a 90-80-70-60 scale based on 180 total points.
168 pts = A; 162 = A-; 156 = B+; 150 = B; 144 = B-; 138 = C+; 132 = C; 126 = C-


## Weekly Modules and Course Sequence
Week 1. Aug 26 **Education 3.0 and Strategy Review/Recap (R2D2 and TEC-VARIETY)**
Week 2. Sept 2 **Coop Learning Methods/Principles & Flipping the Class** (Read a creativity book)
Week 3. Sept 9 **Critical Thinking Defined and Explained** (Continue reading creativity book)
Week 4. Sept 16 **Critical Thinking Methods** (Read 2nd book) (**Due:** 2 papers from Task #2)
Week 5. Sept 23 **Creative Thinking Defined and Explained** (Continue reading 2nd book)
Week 6. Sept 30 **Creative Thinking Methods** (Read 3rd book or special journal issue)
Week 7. Oct 7 **Motivation Defined and Explained** (Continue reading 3rd book or special journal issue)
Week 8. Oct 14 **Motivation Theory and Techniques** (**Due:** Final papers and Presentations)


**Note #1 on Readings:** During Weeks 1-3, I want everyone to read a creativity book. I recommend Gary Davis' *Creativity is Forever* book (buy used). During Weeks 4-7, students are to read two 2 additional books or one book and one special journal issue (as approved by the instructor). I want you to read books in critical thinking, creativity, cooperative learning, motivation, or problem solving. For doctoral students, at least one of these books should be research related. Some recommend books are listed below.

**Note #2 on Collaboration and Teaming on Assignments:** Students are allowed to work in teams on any paper or project but the length of such papers or presentations are, in effect, double/twice the length.

**Note #3 on Lateness Policy:** Assignments have a 96 hour (i.e., 4 day) grace period with no penalty.


## Sample of Course Related Books:
**Creativity, Thinking, and Innovation Books**
1. Anderson, Chris (2012). *Makers: The New Industrial Revolution*. NY: Crown Business.
2. Catmull, Ed (2014). *Creativity, Inc.: Overcoming Unseen Forces in Way of Inspiration*. Random H.
3. de Bono, E. (2004). *How to have a beautiful mind*. Vermillion. (or *Lateral Thinking* from 1990).
4. Dweck, Carol (2006). *Mindset: The New Psychology of Success*. Random House.
5. Grant, Adam (2016). *Originals: How Non-Conformists Move the World*. Viking.
6. Heath, Chip & Dan (2008). *Made to Stick: Why Some Ideas Survive & Others Die*. Random House
7. Isaacson, W. (2014). *The Innovators: How a Group of Hackers, Geniuses, and Greeks Created…*
8. Kaufman, S. B. & Gregoire, C. (2015). *Wired to Create: Unraveling Mysteries of Creative Mind*.
9. Martinez & Stager (2013). *Invent to Learn: Making, Tinkering, & Engineering in the Classroom*.
10. McArdle, Megan (2014). *The Up Side of Down: Why Failing Well is the Key to Success*. Viking.
11. Michalko, M. (2006). *Tinkertoys: A handbook of creative-think tech* (2nd ed). Ten Speed Press.
12. Mueller, Jennifer (2017). *Creative Change: Why We Resist It…How We Can Embrace It*. HMH.
13. Pink, Daniel (2009). *Drive: The Surprising Truth About What Motivates Us*. Riverhead Books.
14. Robinson, Sir Ken (2011). *Out of Our Minds*: *Learning to be Creative*. Capstone.
15. Robinson, Sir Ken (2013). *Finding Your Element: How to Discover Your Talents and Passions*.
16. Robinson, Sir Ken (2015). *Creative Schools: The Grassroots Revolution That's Transforming Ed.*
17. Sawyer, Keith (2013). *Zig Zag: The Surprising Path to Greater Creativity*.
18. von Oech, Roger (2002). *Expect the unexpected (or you won't find it)*. Berrett-Koehler Publishers.
19. Wagner, T. (2012). *Creating Innovators: Making of Young People Who Change World*. Scribner.
20. Wagner, T. & Dintersmith, T. (2015). *Most Likely to Succeed: Preparing Kids for Innovation Era*.

**K-12 Cooperative Learning Books and School Change or Transformation Books:**

1. Christensen, Clayton, Horn, M., & Johnson, C. (2008). *Disrupting Class*. McGraw-Hill.
2. Johnson, D., Johnson, R., & Holubec, E. (2002). *Circles of Learning*, 5th ed. Interaction Book Co.
3. Kagan, S. (1997). *Cooperative Learning*. Kagan Cooperative Learning: www.kagan.online.com
4. Khan, Salmon (2012). *The One World Schoolhouse: Education Reimagined*. NY: Twelve.
5. Lehmann, Chris, & Chase, Z. (2015). *Building School 2.0*: *How to Create the Schools We Need*.
6. Palmer, Parker (2007). *The Courage to Teach* (10th Anniversary Issue). Wiley.
7. Perkins, David (2009). *Making Learning While: How 7 Principles of Teaching Can Transform Ed*.
8. Ritchhart, Ron (2015). *Creating Cultures of Thinking: The 8 Forces We Must Master...*
9. Wettrick, Don (2014). *Pure Genius: Bldg a Culture of Innovation & 20% Time to Next Level*.
10. Zhao, Yong (2012). *World Class Learners: Educating Creative and Entrepreneurial Students*.

**Motivation and Adult Learning Books:**

1. Angelo & Cross (1993). *Class Assessment Tech: Handbook for College Teachers* (2nd ). Jossey-Bass.
2. Baumeister, R., & Tierney, J. (2011). Willpower: Rediscovering the Greatest Human Strength. Penguin
3. Barkley, Cross, & Major (2005). *Collab lrng tech: A Handbook for College Faculty*. Jossey-Bass.
4. Brookfield S. (2012). *Teaching for Critical Thinking: Tools/Tech to Help Students Q Assumptions*.
5. Brookfield, S. (2013). *Powerful Techniques for Teaching Adults*. Jossey-Bass/Wiley.
6. Ferlazzo, Larry (2013). *Self-Driven Learning: Strategies for Student Motivation*.
7. McCombs, B. L., & Pope, J. E. (1994). *Motivating hard to reach students*. DC: APA.
8. Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education* (2nd Ed.). Prentice Hall.
9. Reeve, J. (1996). *Motivating others: Nurturing inner motivational resources.* Allyn and Bacon.
10. Salmon, G. (2013). *e-tivities: The key to active online learning (2nd Ed)*. London: Kogan-Page.

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# Class Activities: (I) Class Participation; (II) Reflection and Personal Exploration Activities; and (III) Final Project

**Task #I. Class participation and attendance (30 points).** I will note attendance and participation each week in this class. In addition, anyone has a chance to present an instructional idea during the first or last 5 or 10 minutes of class time. Let me know if you are interested.

**Task #II. Reflection and Personal Exploration Activity Options (90 Points--Pick any 3):**
Note: Two of these tasks are due September 16 (Week 4 meeting) and the other one is due October 14 (Week 8 meeting). Examples of some of these tasks can be found at the Bobweb Web site. These tasks have been designed for you to go deeper into a theory, theorist, topic, concept, strategic approach, or issue. I want you to become a budding expert on some aspect of this course. See grace period (96 hours) above.

**Option A. Curriculum Brainstorm (30 points)**
In this option, I want you to spend 1-3 hours all alone brainstorming (perhaps in a closet with a flashlight) all the possible ways you could use critical and creative thinking and motivational techniques and cooperative learning in your job setting (page 1). After attending a few classes, you will spend more time personally ranking these ideas and reconfiguring your original 3-4 lists. For example, you might sort your ideas into categories or prioritizations that are useful to you this coming year (page 2). Next, I want you to reflect and jot down notes on this list and how it changed (page 3—single spaced). On the Bobweb Web site are examples of good curriculum brainstorms from prior years. I will give feedback on this 3-4-page assignment related to your (1) creative, originality, and insightful ideas, (2) coherent and complete

reflection, (3) practical relevance to this class and your future, (4) impact, and related matters. **(This option is HIGHLY RECOMMENDED for practicing or future teachers!)**

**Option B. Super Thought Paper (30 points)**
The exploratory thought paper allows you to summarize some of the thinking you have been doing as a result of this class or book that you have been reading related to this class. Your super thought piece or book review will be a 2-4 page (single-spaced) exploration and explanation of a thinking skill, motivational strategy, or cooperative learning technique or idea that you have been contemplating or reading about. This is not mindless idea doodling, but, instead, is a way to coherently explore something that "inspires" you at a deep level. Your paper will be assessed for: (1) insightful, creativity, (2) impact, (3) strong logic, flow, and coherence, (3) completeness and depth of thought, and related things.

**Option C. One Super Summary Search (30 points)**
In the Super Summary Search, you might conduct a library search (preferably online) on a topic within motivation, critical thinking, creative thinking, or cooperative learning that you find important (this must include at least 10 articles (for doctoral students, at least half of these must be research-based articles). For instance, you might be interested in cooperative learning in K-12 classrooms; or, more specifically, cooperative learning in environmental science classrooms. If that is your topic, you would search through the research and practice literature on this topic (let's say for the past 3-5 years) and then create a personal bibliography on this topic for your later use. I would like for you to categorize the articles somehow (e.g., according to research or practice, task, age-groups, domain, time required, etc.). In addition, I would like for you to write a one paragraph summary for about 3-5 of these articles, wherein you summarize the article and discuss its importance to the field and to yourself and your colleagues. You will turn in the following items to me: (1) bibliography of the articles found listed in important categories/topics and (2) 4-5 brief summary abstracts. I will look for the following in your work: 1. completeness and depth, 2. impactfulness of the project, (3) insight and relevancy to class and topic selected, 4. coherent analysis and categorization, and related things. Unless I ask, I do not need copies of any of the articles you select though you might include the first pages of every article.

**Option D. Program or Strategy Review (30 points)**
Find a method for teaching thinking skills, cooperative learning, or motivation, or a problem solving program or other heavily researched method (e.g., reciprocal teaching, cooperative scripts, etc.) and review or synthesize that approach and its applicability to learners who you currently or someday might teach. What flaws or limitations are apparent? What are the strengths or potential uses of the program? You might ask a teacher how he or she would actually use it in the classroom. You are to turn in a 2-4 page single-spaced review of this program or approach. These papers will be graded for (1) relevance, logic, and organization, (2) completeness and depth, (3) originality, impact, insight, and practicality, and other things.

**Option E. Expert or Scholar Review (30 points)**
Sometimes an instructional approach or thinking program is synonymous with the inventor or creator of that program. In this option, I want you to review the work of a scholar in this field. For instance, you might read about person who invented a popular instructional technique or series of techniques or who authored a famous book, such as Sir Ken Robinson, Edward De Bono, or David or Roger Johnson from the Cooperative Learning Center. You might send that person (or someone who has developed similar programs or strategies) a letter asking for additional information. For instance, you might want to see what else exists on a topic, find out how teachers are using a thinking skill program, write to competing researchers for research reports, or something similar. It is the exploratory, inquisitive nature of the task that is prized here, not what you actually do. In addition to orally reporting what you found out, you must turn in a 2-4 page single-spaced summary of the work of this person. Be sure to include what you did, why you chose this activity, what you gained from it, any resources received, and a copy of your letter(s). You

might place an appendix in the paper outlining that person's life. These papers will be assessed for (1) exploration, (2) relevance, (3) depth, (4) coherence, and other related matters.

**Option F. Fulbright Teacher or Visiting Scholar Interview(s) (30 points)**
In this option, I want you to interview one or more Fulbright teacher participants or visiting scholars in this class. Ask them how the ideas of this class are carried out in their country or classroom. Just how are they using or planning to use creative thinking, critical thinking, cooperative learning, motivation, and/or technology integration when they return home or how have they incorporated them already? Ask the Fulbrighter(s) or visiting scholar(s) some questions about what they are learning in this course. How can their use of these approaches be improved? How might they use the ideas of this class in their own classes? How do the respective ideas of this course link together? What is especially beneficial or intriguing about this course? In your 2-4 page single spaced paper, you are to summarize what you found out. You might also make some recommendations to the expert. Your review will be evaluated for: (1) coherence, (2) relevance, (3) completeness/depth, (4) originality of ideas, (5) potential impact, (6) insights, etc.

**Option G. Education 3.0 Philosophy Paper (30 points)**
In this option, you are to define what the Education 3.0 means to you. Please back up your claims with 5-10 references. I also want you to describe your teaching or instructional philosophy. What instructional principles and guidelines do you view as vital? What does an effective learning environment look like in light of this class? Stated another way, what have you learned in this class that has altered or perhaps transformed your philosophy of teaching? Perhaps it entails an emphasis on flipping the classroom? Or perhaps it is allowing learners more time for exploration and creativity. Be sure to list at least ten guiding principles and describe how at least 4 of them would be operationalized. Be sure to turn in a 2-4 page single-spaced paper. These educational philosophy papers will be graded for (1) logic and organization, (2) completeness and depth, (3) originality, insight, (4), impact, (5) relevance and practicality, etc.

**Option H. Book or Special Journal Issue Review (30 points)**
Review a book or special issue of a journal related to this class (including one of the books you decide to read). It can be a book or special issue that is practical, research-oriented, or theoretical. What are the key points or findings of the book or issue? What are the strengths and weaknesses? What are future trends? How will you apply some of the ideas from this book? You might decide to compare and contrast two books. An option of this would be to write a rebuttal to an existing review or critique as if you were the author. You should turn in a 2-4 page single-spaced review. These papers will be graded for (1) logic and organization, (2) completeness/depth, (3) originality and insight, (4) relevance, (5) practicality, etc. If you do a book review and post a piece of it to Amazon and share the link with me, you can gain 2 bonus points.

**Option I. Research Dig (30 points)**
Unlike the Super Summary Search which also includes practical articles, in this option, you are to canvass the research literature on a topic related to this class. Perhaps this will lead to a dissertation, master's theses, or research project. You must find at least 15 articles on a topic and read at least half of them. In your paper, you should describe how you found your articles and essentially describe the state of the research? What are the general findings? What are the strengths and weaknesses or limitations? Where are the open issues, questions, or gaps on this topic and how might you research this area? What are future trends? Also, how will you apply some of the ideas from this work? You should turn in a 2-4 page single-spaced review. This will be evaluated for (1) logic and organization, (2) completeness/depth, (3) originality and insight, (4) relevance, (5) practicality, etc.

**Option J. Job Application Paper (30 Points)**
Here, you are to write a 3 page single-spaced paper where you evaluate one or more perspectives, strategies, or approaches from the perspective of an educational setting, issue, or problem of importance to

you (preferably your current or past job). For example, the paper might be titled, "My life as a cooperative learning teacher in a competitive classroom." Like all good papers, it should have a descriptive title, some kind of thesis statement, and a conclusion. Since this is not a library research paper, you do not necessarily need to use any references resources other than the text and class discussion. These papers will be graded for (1) demonstration of understanding of the idea or strategy, (2) relevant application of it to some educational setting or context and impact, (3) insights, (4) coherence and organization, (5) completeness.

**Option K. Case Situations or Problems (30 Points)**
Write 3 case situations or vignettes related to your current or most recent job setting (each will be about one page long single spaced). In these cases, you will point out the situation or problem in 1-2 paragraphs as well as the key questions or issues. Next you will detail the concepts that relate to this class. Finally, you will provide a resolution based on your readings in this class. If anyone shares their cases with co-workers or peers and gets feedback on them, you will get 2 bonus points provided you attach this to your work. Your paper will be graded for: (1) sound solution and overall demonstration of understanding of idea, strategy, perspective, or approach, (2) case richness/detail, (3) coherence and organization of the paper.

# Task #III. Final Project Options (Pick one—Due October 14):
**Master's students I recommend Option A below and doc students I recommend Options B, C, or D.**

**Option A. Presentation/Description of Curriculum Unit or Idea (60 points: this can be team taught)**
For master's students, the key class assignment here is the development of a curriculum idea or unit on critical or creative thinking, motivation, or cooperative learning for a content area that you teach or would like to teach someday. Here, I want you to specify the materials to be learned/studied, targeted age group, learning objectives, instructional plan, time length, method(s) used and procedures, and anticipated assessment procedures (about 4-5 single spaced pages total). Note that the topic of this unit or lesson is up to you. I would ask that you present your curriculum ideas to the class with at least one class handout so that we all benefit from your efforts; the normal time allotment is 9-10 minutes for individuals and 15-18 minutes for teams. During your presentation, you can be as creative as you want to be.

Grading criteria for your curriculum unit presentation and paper include:
1. Organization of the ideas and presentation (logic, flow, length, practiced).
2. Topic stimulation (active engagement of audience).
3. Usefulness of materials (clear, practical, handy, relevant, informative, handout(s) provided).
4. Knowledge of the topic (expertise, good ideas, insights).
5. Scope of plans and curriculum impact (goals clear, important, appropriate, significant, doable).
6. Uniqueness (creative spark, catches attention, has chance to explode, something different).

Typically, presenters are provided with immediate feedback from other students as well as from me. I have collected tons of examples from previous years to share with you--see Bobweb Web site for some of these previous units. For many students, this assignment is typically the highlight of the course!

**Option B. Research Proposal on Instructional Strategies**
Doctoral students might focus more on research ideas and select Option B. For instance, you might conduct a pilot test of an instructional approach. Alternatively, you might observe and code the teaching techniques used by one instructor or a series of instructors. Or, you might observe a student "think aloud" as he uses a learning strategy or technique. Instead of that, you might perform action research in a course that you are teaching. For instance, you might try out a cooperative learning, or, more specifically, a cooperative reading technique like reciprocal teaching or cooperative scripts. Please turn in a maximum of 10 single-spaced pages, exclusive of references, appendices, chats, and tables.

**Research Proposal Outline:**
 I. Title Page (Name, affiliation, topic title, acknowledgments)
 II. Review of the Literature
 1. Intro to Topic/Problem (purpose, history, importance) (1 page)
 2. Review of Literature (contrast relevant literature on the topic) (2-3 pages)
 3. Statement of Hypotheses/Research Q's (what do you expect to occur) (1 page)
 III. Method Section (2-3 pages)
 1. Subjects and design (i.e., sample, who and how assigned to groups)
 2. Materials/setting (i.e., hardware, software, text, models, figures)
 3. Dependent measures/instruments (i.e., tests)
 4. Procedure (i.e., training)
 5. Other (i.e., coding, other materials)
 6. Experimental analyses or comparisons
 IV. Results and Discussion (OPTIONAL): 1. Antic/dummied results; 2. Discussion of results
 V. References (APA style: see instructor for examples)
 VI. Appendices (pictures, figures, graphs, instruments, charts, models, coding criteria, etc.)

**Option C. Grant Proposal**
Perhaps you are working for a center that needs grant money. Here is a chance to help out. After thoroughly reading a topic area, draft a proposal for a grant to a government agency or a foundation. You (and your boss) choose the funding agency, title, and monies needed. Include the purpose and goals, timeline for the project, ramifications or implications, budget, and other items required in the grant. An extensive literature review with associated research questions should ground your proposal, while the names and addresses of 3 reviewers and your resume should end your proposal. Please turn in a maximum of 10 single-spaced pages, exclusive of references, appendices, chats, and tables.

**Option D. Center Creation Proposal**
Write a proposal to create a teaching and learning center with a focus in an area wherein you are interested. This proposal can either be internal (i.e., written to a university, school district, or corporate training department) or external (i.e., written to a government agency or foundation). Include a rationale and purpose for center in your proposal as well as goals or targeted plans, a timeline, a budget, stakeholders, key players (make up names and bios if you want), space needed, resource needs, etc.). Please turn in a maximum of 10 single-spaced pages, exclusive of references, appendices, chats, and tables. Be specific, practical, unique, and inspiring in your design. A general overview will **not** suffice. Be creative!

**Grading Scale from Options B, C, or D** (Note 1 (low) to 10 (high) for each of the following criteria):
 1. Review of the Problem, Issue, and Literature (interesting, relevant, current, organized, thorough)
 2. Relevancy (linked to content of the course, connections to course, fulfills task expectations)
 3. Implications/Future Directions (important, generalizability, options available, research focus)
 4. Overall Richness of Ideas (richness of information, elaboration, originality, uniqueness)
 5. Overall Coherence (clarity, unity, organization, logical sequence, synthesis, style)
 6. Overall Completeness (adequate info presented, fulfills task, no gaps/holes, precise, valid pts)

**Option E. Other: Student Determined Equivalent**
Note: The course Website, the Bobweb, was created in 1996 by Dr. Jamie Kirkley and later updated by Noriko Hara (now an IU professor), Dr. Gayle Dow, Doug Moore, and Michael Bennett. You might update it or create an interactive online glossary, summary video, or some other useful product. When done, you are to write a 2-3 page single spaced reflection paper on about your project and what you learned from it.