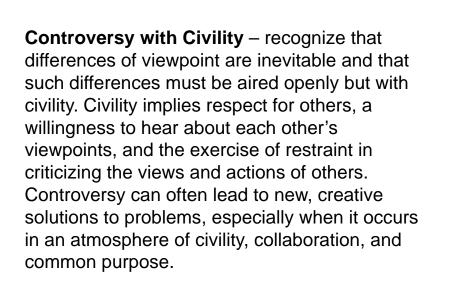
Introduction to Constructive Controversy: The Art of Arguing to Enhance Learning

Karl A. Smith

STEM Education Center / Technological Leadership Institute/ Civil Engineering – University of Minnesota & Engineering Education – Purdue University ksmith@umn.edu - http://www.ce.umn.edu/~smith

Lilly Teaching Seminar Michigan State University

April 11, 2013

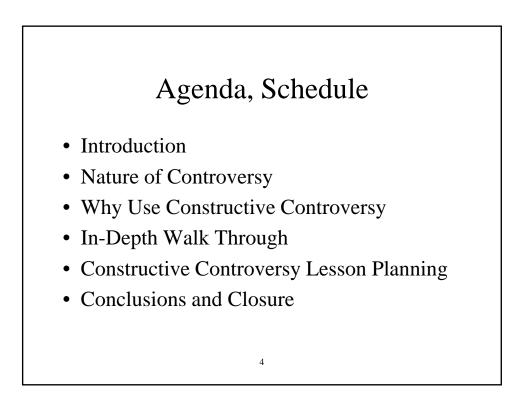


Astin, H.S. and Astin, A.W. 1996. *A social change model of leadership development*. Los Angeles, CA: The Regents of The University of California.

Second-Chance Meetings

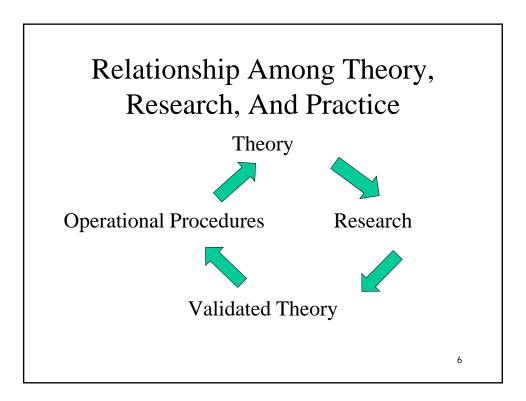
Alfred Sloan, when he was the Chairman of General Motors, once concluded an executive meeting called to consider an major decision by saying,

"... I take it we are all in complete agreement on the decision here... Then I propose we postpone further discussion until our next meeting to give ourselves some time to develop disagreements and perhaps gain some understanding of what the decision is all about."



Participant Learning Goals (Objectives)

- Understand the nature of intellectual conflict
- Understand the constructive controversy procedure to structure and manage intellectual conflicts
- Learn how constructive controversy enhances creative problem solving and innovation
- Learn the procedure for structuring constructive controversies as part of academic lessons
- Learn some of the essential skills in engaging in constructive controversy
- Learn how to plan and implement academic lessons featuring constructive controversy 5



Theory, Research, Practice

• Theory:

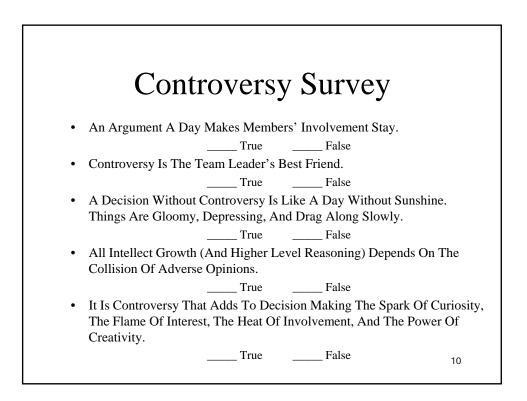
- Summarizes, Subsumes Research Into Meaningful Conceptual Framework (Makes Sense Of What We Know)
- Guides Future Research (Tells Us What We Need To Find Out)
- Guides Practice (Tells Us What To Do In Applied Situations)
- Research:
 - Validates Or Disconfirms Theory
 - Thereby Leading To Its Refinement, Modification, Or Abandonment
- Practice:
 - Is Guided By Validated Theory
 - Reveals Issues And Inadequacies That Lead To Refining Theory

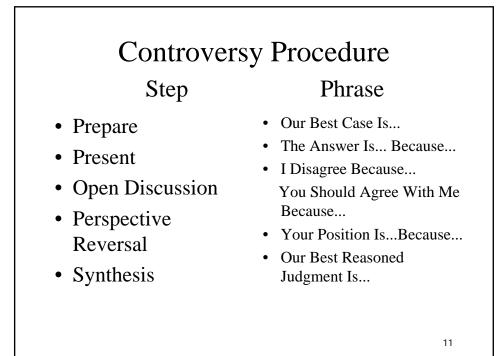
What Is Constructive Controversy? • Definition • Survey • Walk-Through of Procedure • Discussion

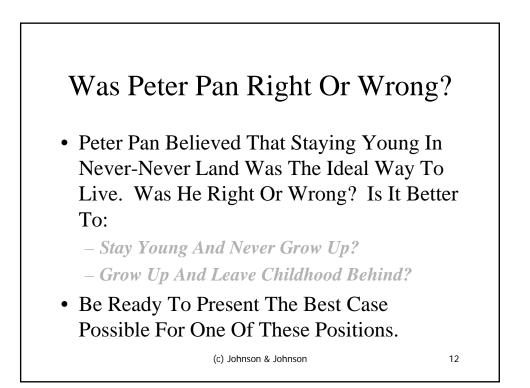
8

Controversy

- When One Person's Ideas, Information, Conclusions, Theories, Or Opinions Are Incompatible With Those Of Another --
- And The Two Seek To Reach An Agreement.



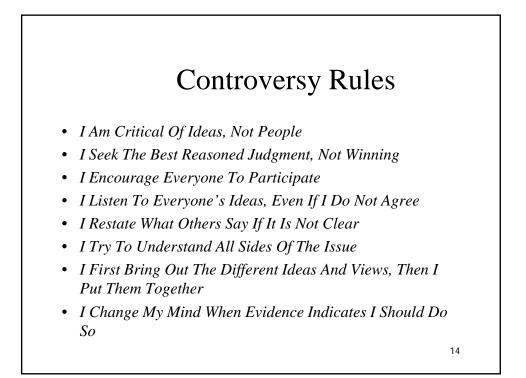




What Is An Argument?

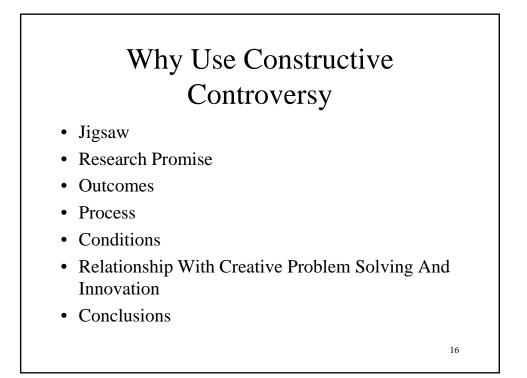
- An Argument Is A Connected Series Of Statements Intended To Establish A Proposition.
- Thesis Statement, Claim, Proposition
- Rationale (Given That)
- Conclusion (Same As Thesis Statement)

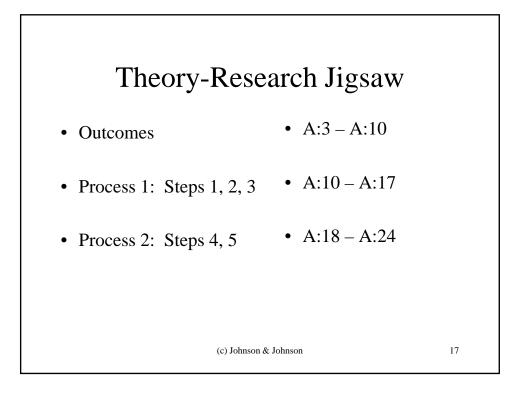


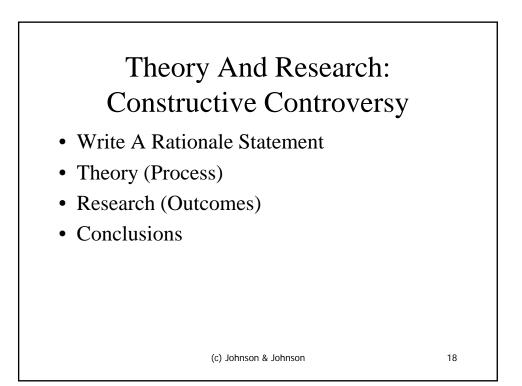


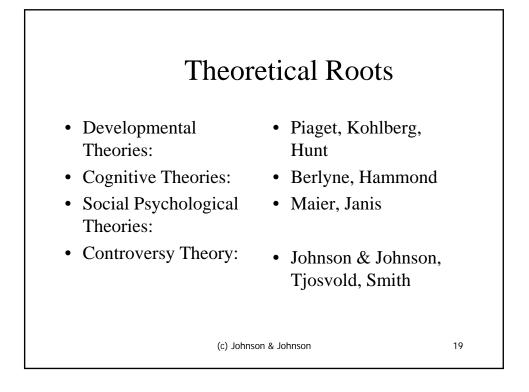
Structuring Constructive Controversies

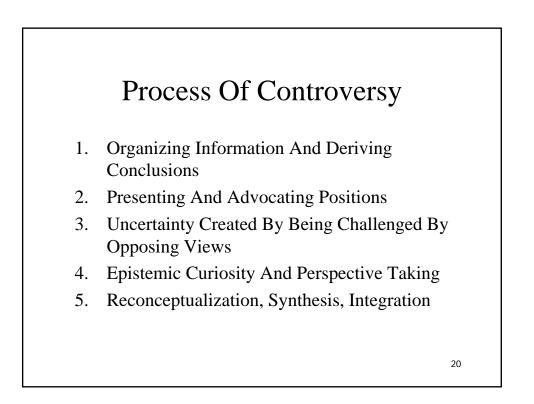
- Propose Several Courses Of Action
- Form Advocacy Teams
- Engage In Controversy Procedure
 - Research Position And Prepare Persuasive Presentation
 - Presentations
 - Open Discussion: Advocacy, Refutation, Rebuttal
 - Perspective Reversal
 - Drop Advocacy, Make Best Reasoned Judgment About Issue
 - Process How Effectively Procedure Was Followed
- Implement The Decision

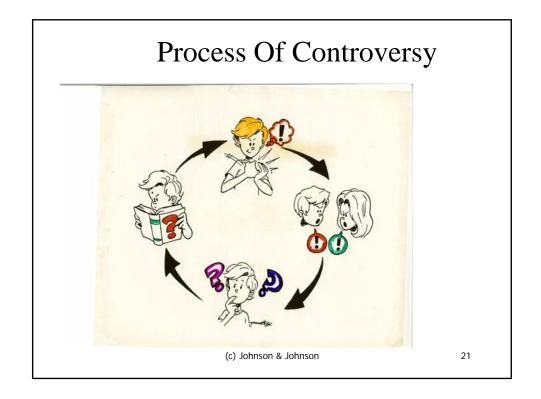


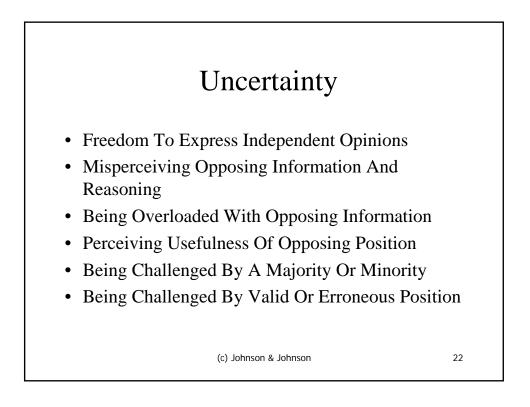


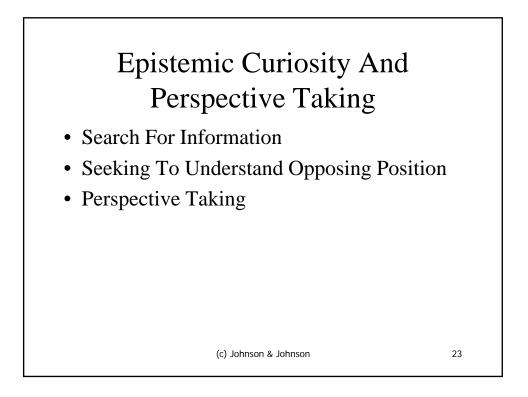


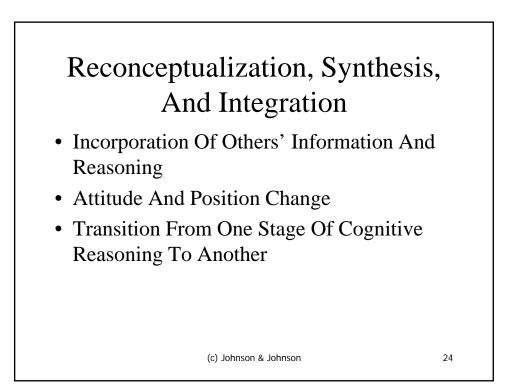


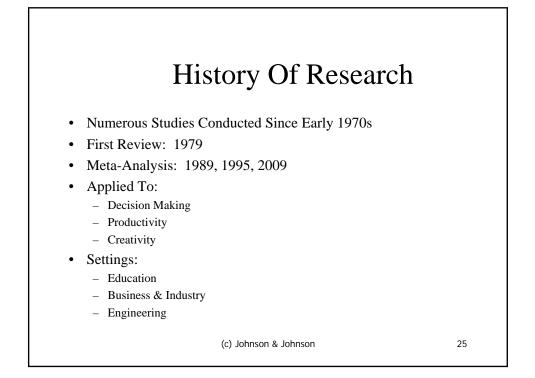


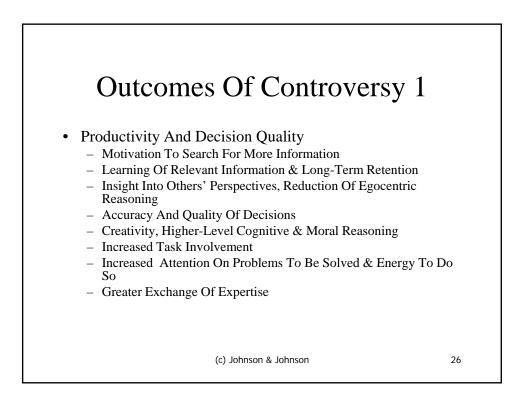


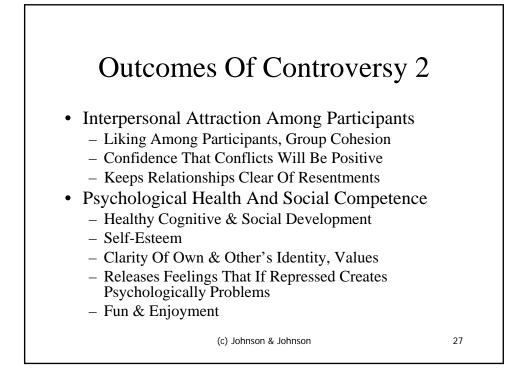


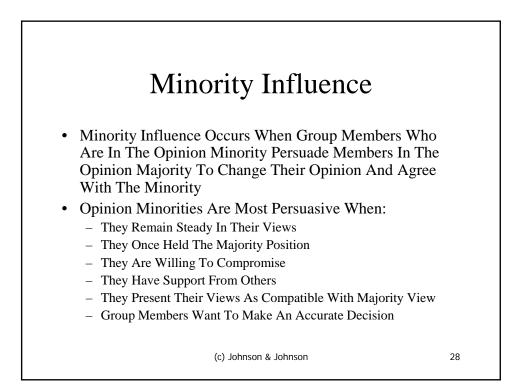












Research Results

- Motivation To Search For More Information
- Insight Into Others' Perspectives, Reduction Of Egocentric Reasoning
- Higher-Level Reasoning
- Higher Achievement And Retention, Productivity
- Higher-Quality Problem Solving And Decision Making
- Creativity
- Exchange Of Expertise
- Task Involvement
- Positive Relationships
- Self-Esteem

(c) Johnson & Johnson

Meta-Analysis Of Academic Controversy Studies: Mean Effect Sizes				
Dependent Variables	Controversy / Concurrence Seeking	Controversy / Debate	Controversy / Individualistic Efforts	
Achievement	0.68	0.40	0.87	
Cog Reasoning	0.62	1.35	0.90	
Perspective Taking	0.91	0.22	0.86	
Motivation	0.75	0.45	0.71	
Attitudes Task	0.58	0.81	0.64	
Liking For Others	0.24	0.72	0.81	
Social Support	0.32	0.92	1.52	
Self-Esteem	0.39	0.51	0.85	

Impact Of Controversy On Moral Development

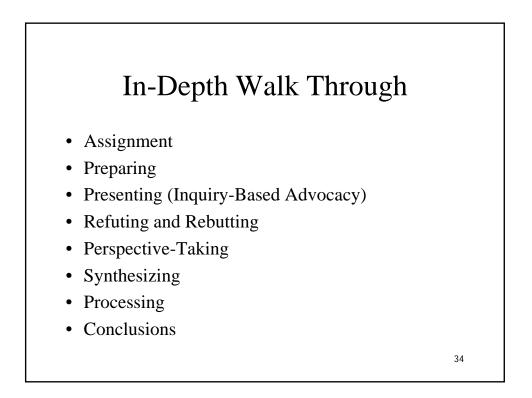
- 56 3rd, 4th, 5th Grade Students
- Participating In Controversy (Vs. Individualistic Learning) Resulted In:
 - Greater Overall Moral Development
 - Greater Moral Reasoning
 - Greater Moral Motivation
 - Greater Moral Character
 - Greater Ethical Skills (i.e., Perspective Taking, Self-Perception As Moral Person, Rule Orientation)
 - Higher Academic Achievement
- Tichy, M., Johnson, D. W., Johnson, R. T., Roseth, C. (2010). The impact of constructive controversy on moral development. Journal of Applied Social Psychology, 40(4), 765-787.
 (c) Johnson & Johnson

```
31
```



Self-Diagnosis: Controversy Procedure

Phase	Strengths	Weaknesses
Research		
Present		
Discuss		
Reverse Perspectives		
Reasoned Judgment		
	(c) Johnson & Johnson	33



Controversy Assignment

Tasks:

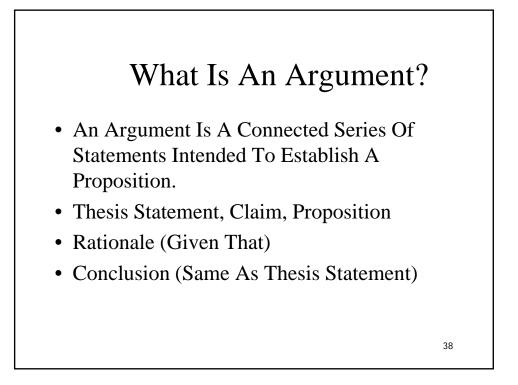
- Prepare, Present, Defend Two Opposing Positions
- Write Report Synthesizing Both Positions
- Cooperative: One Report From Group, Everyone Has To Agree, Everyone Has To Be Able To Explain Rationale For Group's Position
- Criteria For Success:
 - All Group Members Receive Grade For Report
 - Each Group Member Takes Test Covering Both Positions. If All Members Score 90 Percent Correct, Each Member Receives Five Bonus Points
- Individual Accountability:
 - Each Member Takes Test
 - One Member Randomly Selected To Present Report To Class
- Expectations:
 - Everyone Participates In All Steps Of Procedure
 - Everyone Follows Rules Of Constructive Controversy

35

Constructive Controversy Topics Who makes the best project manager? Generalist Specialist Brooks' Law: "adding resources to a late project makes it later" - Right on! – Way off! Scope Creep - Parkinson's Law: Work expands to fill the time available for completion (manageable) - Progressive refinement rules! (unavoidable) The future work environment is remotely distributed - Future is already here (it's just not evenly distributed) - Gibson - Fad Best location for a call center - US - Abroad (low cost country, e.g., India, Philippines, etc.) Make project management certification, e.g. PMI-PMP, a part of the MOT program? - Yes – No

Preparing Your Position

- Your Goal Is To Present The Best Case Possible For Your Assigned Position So Other Group Members Will:
 - Seriously Consider Your Position
 - Learn The Information Contained In Your Position
- Plan Compelling Statement Of Your Thesis
- Plan Rationale Statement:
 - Summarize Evidence Supporting Your Position
 - Arrange It In Logical Order
- Plan Compelling Statement Of Your Conclusion
- Use More Than One Media In Presenting Your Position
- If Presentation Is To Be Made In A Pair, Plan The Division Of Labor



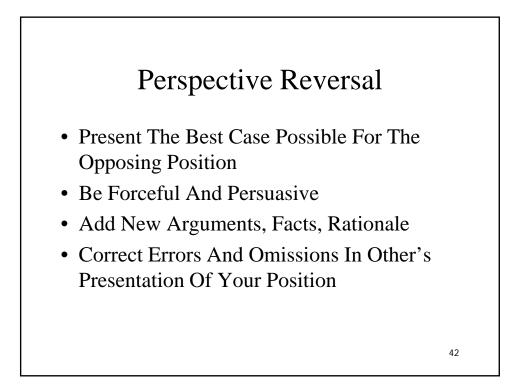
Presenting Positions

- Goal Is To Advocate Your Assigned Position Even If You Do Not Believe It
- Position "A" Is Presented Sincerely And Forcefully (Save Some Of Your Evidence For The Discussion)
- Position "B" Is Presented Sincerely And Forcefully (Save Some Of Your Evidence For The Discussion)
- Listen To Opposing Position Carefully, Learn The Information Supporting It, Take Careful Notes
- If Pairs Present, Each Member Presents Equally

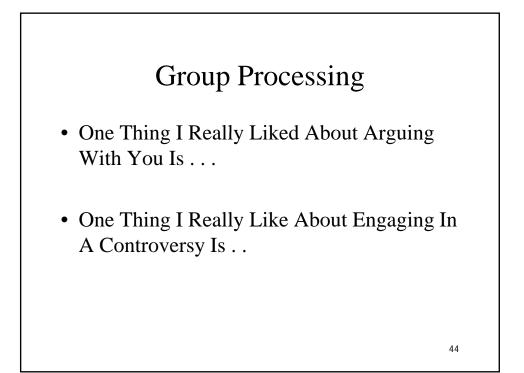


Controversy Rules

- I Am Critical Of Ideas, Not People
- I Seek The Best Reasoned Judgment, Not Winning
- I Encourage Everyone To Participate
- I Listen To Everyone's Ideas, Even If I Do Not Agree
- I Restate What Others Say If It Is Not Clear
- I Try To Understand All Sides Of The Issue
- I First Bring Out The Different Ideas And Views, Then I Put Them Together
- I Change My Mind When Evidence Indicates I Should Do So



Beaching A Decision Goal Is To Reach Best Reasoned Judgment About The Issue Drop All Advocacy Summarize The Best Evidence And Reasoning From Both Sides Seek A Synthesis That Incorporates Both Positions Write Report As An Argument (Thesis, Rationale, Conclusion) Sign Report Indicating "I Agree, I Can Explain Rationale, All Other Group Members Can Explain"



Lesson Planning

45

- Select A Lesson
- Plan It In Pairs
- Guided Practice
- Barriers And Solutions

Controversy References Garvin, David A. and Roberto, Michael A. 2001. What you don't know about making decisions. Harvard Business Review, 79 (8), 108-116. Johnson, David W., Johnson, Roger T. 2007. Constructive controversy, 4th Ed. Edina, MN: Interaction Book Company. Johnson, David W., Johnson, Roger T., and Smith, Karl A. 1996. Enriching college instruction with constructive controversy. ASHE-ERIC Reports on Higher Education. Washington, DC: ERIC. [ASHE-ERIC, One Dupont Circle, Suite 630, Washington, DC 20036-1183] Johnson, D.W., Johnson, R.T., and Smith, K.A. 2000. Constructive controversy: The power of intellectual conflict. Change, 32 (1), 28-37. Smith, Karl A. 1984. Structured controversy. Engineering Education, 74(5), 306-309.