

Schedule Changes

- Today

- Exams
- More on product development
- Creativity/Group Problem-Solving

- Next Week

- Yoplait (please reread!) and Market Research
- Send comments on Barco/Swatch
- Optional: Comments on a proposal

The exam...

Creativity

“Why didn’t I think of it myself?”

- Do most innovations come out of systematic thinking or a “spark of genius?”

Approaches To Creativity Research

- Personality Research
 - Who is the creative person
- Research on the Thinking Process
 - Thinking patterns/Thinking models
- Research on Creative Ideas
 - Reconstruction of the objective logic of the ideas themselves

New product development

- Is a central activity for all companies
 - Competition, changing needs, image etc.
- Where do these ideas for new products come from?
 - Market research?
 - Wait for the inventor's flash of insight?

Where should we look for ideas?

Market research can (often) only help to improve current products

Hard to hire only geniuses

To think of really new products one (often) cannot go to consumers

Can we listen to consumers? I

- Volkswagen: Polo Harlequin
 - 1995, very simple to implement
 - A huge success
 - Based on a joke!
- Market research?

Can we listen to consumers? II

- Post-It Notes
 - One of 3M's best products
- Based on a failed attempt to create a specific glue
- An individual found a use for it
- Marketing said there was no need for this product
- The developers distributed it and proved the marketers wrong

Can we listen to consumers? II

- Post-It

- A failure?
 - An accident?
 - A mistake?
 - An insight?
-
- Why did the marketing researchers of 3M fail to identify the need for such a product?
 - How could they have done better?

Bad Products

- There is a need (or at least a want) for these products...
- Which could be shown using market research...
- But they are obviously failures

Often consumers don't know needs

The market cannot indicate a need, if it is not aware that such a need exists

If we wish to find an innovative new product there is (often?) no point in looking in the market

Solutions

- What can we do to stimulate creativity?
- How do your companies do it?
- Does it work?

Idea generation and incentives

Free riding in idea generation

- Output is typically considered at the group level
- No individual incentives to generate ideas
- Free ride on other participants' creative effort

Can incentives improve idea generation?

How do incentives influence the idea generation process?

Ideation game (Olivier Toubia)

Participants score points for their ideas

Participants can be rewarded

- For their individual contribution (one point per idea)
- For their impact on the group (one point per “citation”)
- What difference does this make?

-(idea #77) dperry: The Security Council will never have power as long as there exist superpowers who have incentives to go against UN orders. We need to set up incentives in such a way that it is disadvantageous to the US (and other superpowers) to do so.

-(idea #79) dsc: One problem with this approach is How will we ever be able to get the US to cede power to the UN? We can't credibly get countries to agree to destroy (and not rebuild) their arms, for example. There is no way to enforce this!

-(idea #81) dperry: how about giving the UN security council a stockpile of weapons or an armed force (separate from any nation) that it could use to enforce it's orders?

-(idea #84) dsc: I fail to see how we could set it up so that people would want to serve in the UN's armed forces rather than in the armed forces of their own country?

-(idea #86) dperry: Indeed, The prestige of the armed forces of the UN would need to precede it's strong buildup. But perhaps we could start with paying these soldiers a lot!

-(idea #136) dsc: One problem with this approach is that giving weapons to the UN itself seems a little like a band-aid approach to the problem. Giving the UN the weapons, while keeping true decision making power (which is directly tied to economic power) doesn't really change the scope of the "game." We need to devise a strategy that aims to lift up the smaller countries - while reducing the incentive of more powerful countries to intimidate others. One thought (though admittedly difficult to implement) would be to tax the more powerful countries based upon their stockpile of weapons and redirect those funds to lesser developed nations.

-(idea #138) dperry: In particular, any treaty that is agreed upon would have to include agreements that tied together each countries economic decisions, decisions to build weapons of mass destruction, and decisions to exploit other countries. The US sort of does this implicitly when it gives aid to countries to deter them from being hostile/building weapons. But perhaps making the agreement uniform across

TOPIC: How can the impact of the UN security council be increased?

test7, you have 0 points

Recompute

[View the rules of the Game](#)

Enter an idea not building on any previous idea



React to / build on idea #:

81

submit



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? Build on this idea:

More precisely.

submit

? Enter a comment:

submit

? Challenge this idea (because you think its author is cheating, *not* because you disagree with it)

Comments on your decision (optional):

Challenge

? Withdraw this idea (only if you are its author): submit

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Build on this idea:

More precisely,
More precisely,
On the other hand,
However,
In particular,
Indeed,
Moreover,
Instead,
Another way to look at this is
One problem with this approach is
(blank)

submit

Challenge this idea (because you think its author is cheating, *not* because you disagree with it)

Comments on your decision (optional):

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Withdraw this idea (only if you are its author): submit

Experimental design

Three conditions

- Flat reward: \$10
- Reward Own contribution: \$3 per idea
- Reward Impact: \$2 or \$1 per “citation”

Predictions:

- More ideas when incentives are present
- More ideas in “Impact” than in “Own” condition

- Source: Toubia, Olivier. “Idea Generation, Creativity, and Incentives.” MIT Sloan School of Management Ph.D. Thesis, 2004.

Experimental design

Engaging topic (in March 2003)

- “How can the impact of the UN Security Council be increased?”

Motivated participants

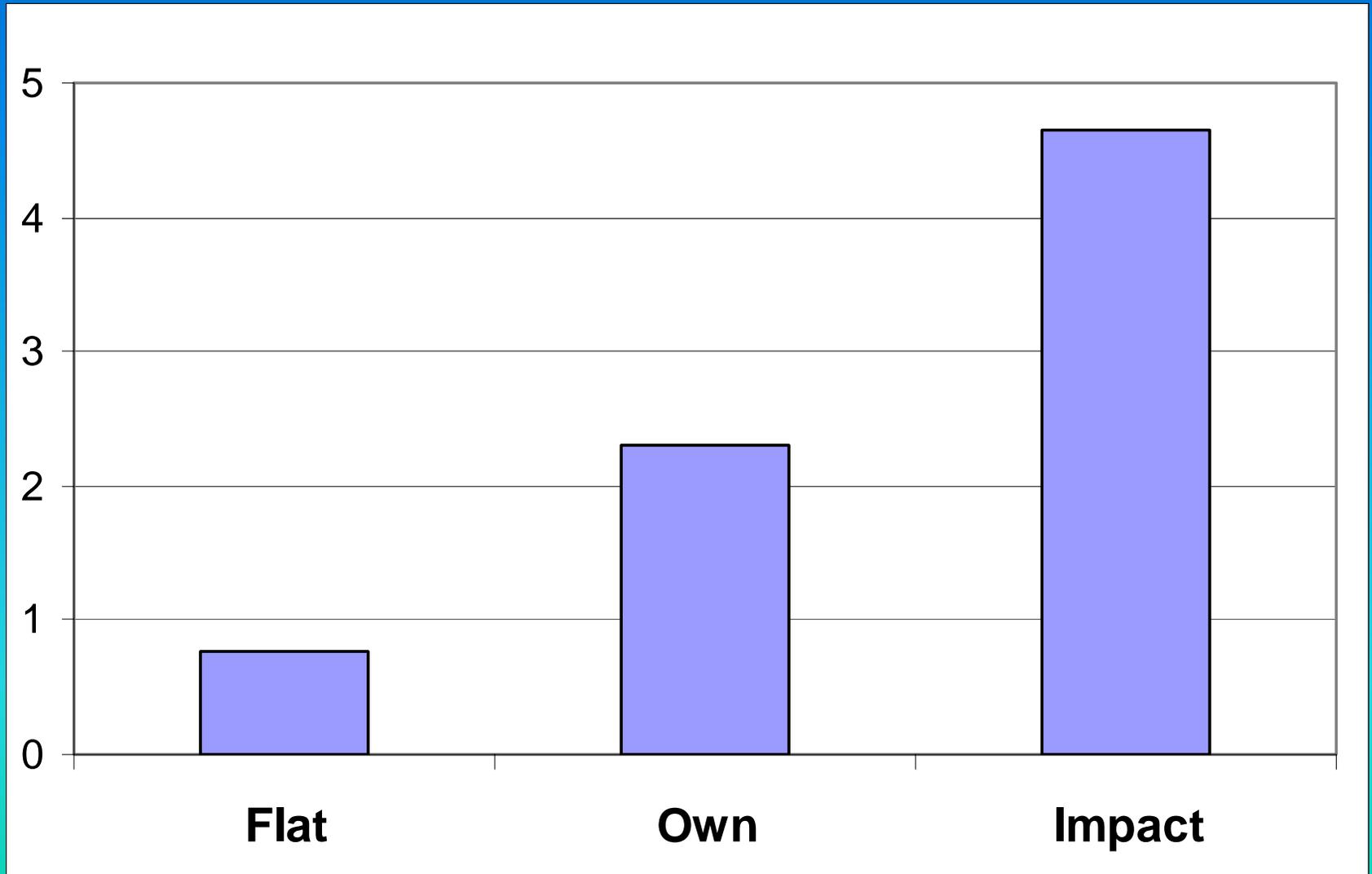
- Recruited at anti-war walkout

Expert judges

- Three PhD students in Political Science

Quantitative results:

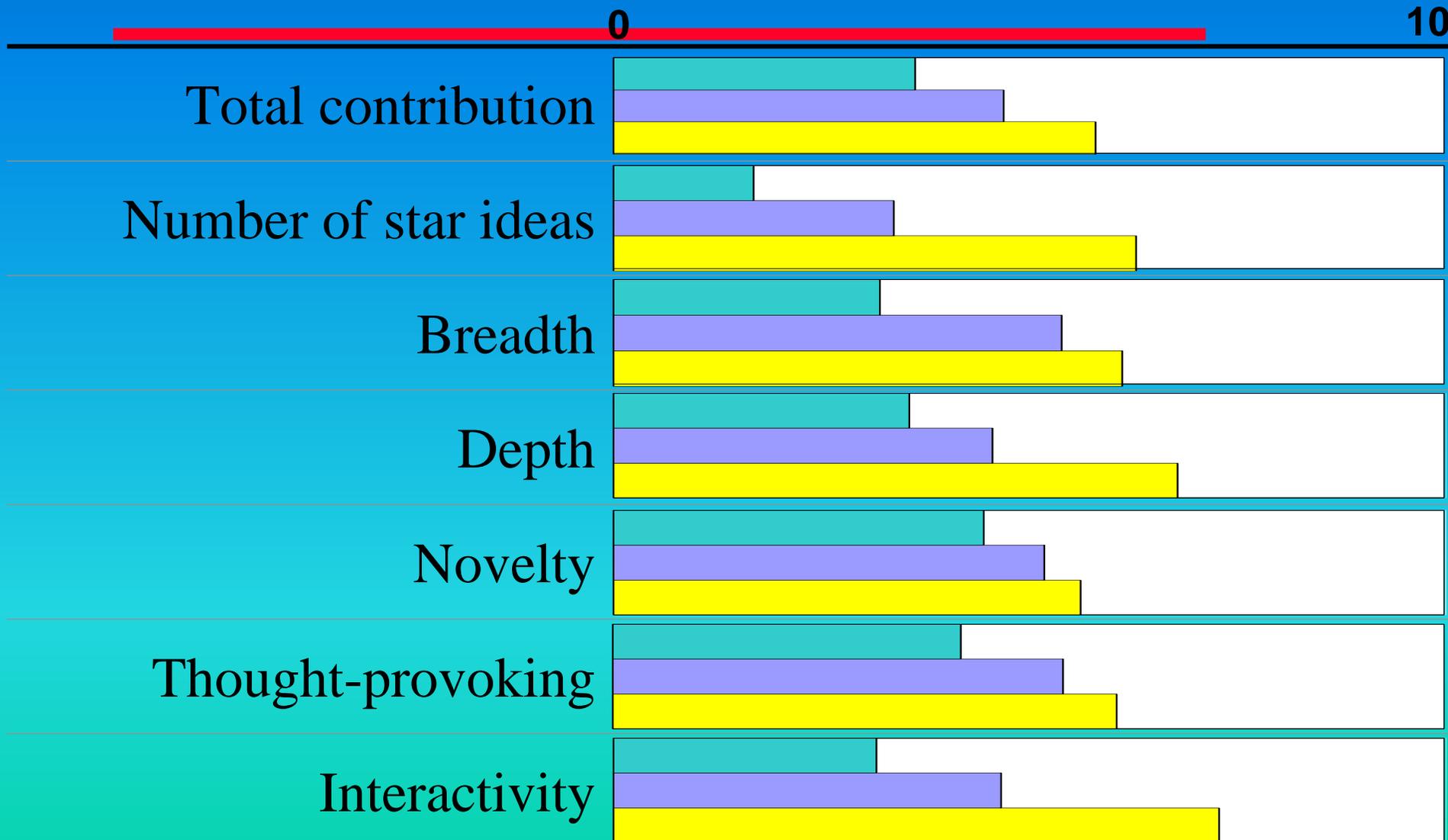
Number of non-redundant ideas per participant



- Source: Toubia, Olivier. "Idea Generation, Creativity, and Incentives." MIT Sloan School of Management Ph.D. Thesis, 2004.

Qualitative ratings

Flat < Own < Impact



Creativity Summary

- Difficult to capture creativity
- Market Research often incapable of predicting innovation
 - But better at predicting improvements
- IDEO seems to be successful. Why?

Group Problem-Solving

It was the morning of March 19 in the White House Situation Room, just hours before President Bush's 48-hour ultimatum to Saddam Hussein to get out of Iraq was to expire. President Bush had just polled his war council for any last-minute reservations about the war plan. Hearing none, he issued the "execute" command to Gen. Tommy R. Franks...

- Source: Bumiller, Elizabeth, David E. Sanger, and Richard W. Stevenson. "How 3 Weeks of War in Iraq Looked From the Oval Office." *The New York Times*, April 14, 2003.

Problems?

Groups can make good decisions

Decision Markets

- Iowa Electronic Markets
 - election predictions off by just 1.37%
- Hewlett-Packard employees
 - Outperformed company's forecasts 75% of the time

But they often don't...

Why groups go wrong

- Authority structures
- Conformity
- Pluralistic Ignorance

Authority

Authority

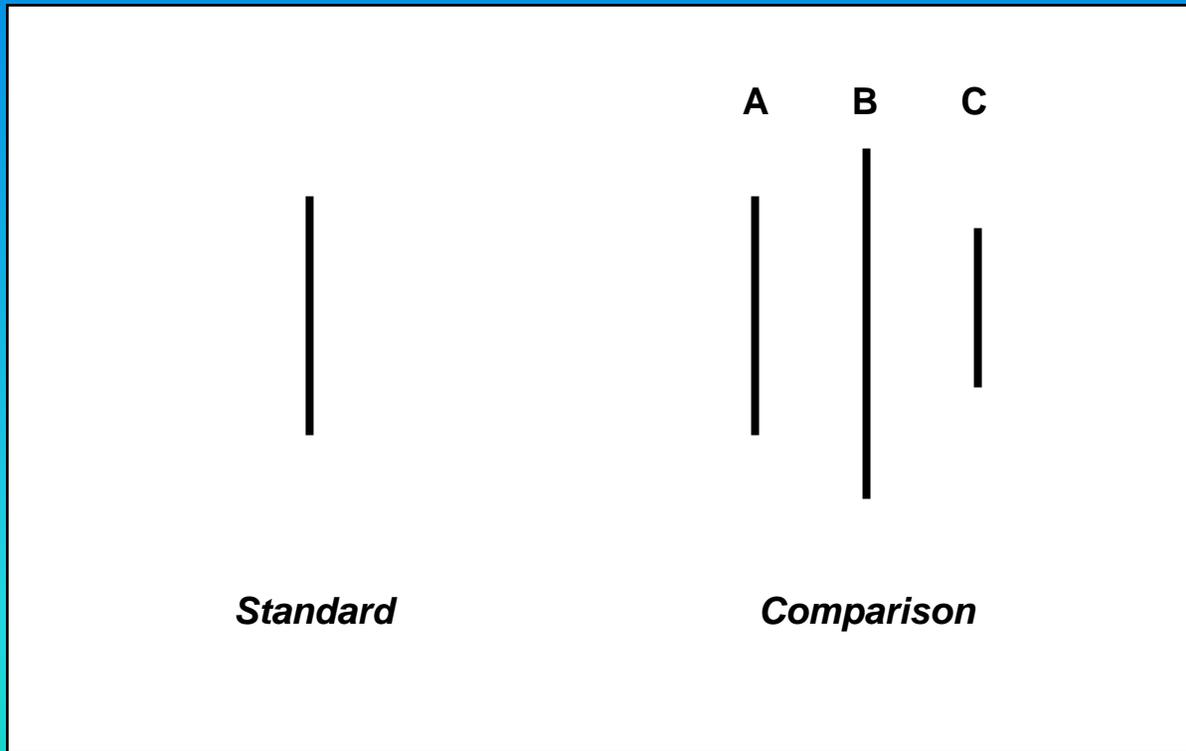
Captainitis

One case involved a famous air force general named Uzal Ent whose copilot got sick before a flight. Ent was assigned a replacement who was honored to be flying alongside the famous general. During takeoff, Ent began singing to himself, nodding in time to a song in his head. The new copilot interpreted the gesture as a signal to him to lift the wheels. Even though they were going much too slowly to fly, he raised the landing gear, causing the plane to drop immediately onto its belly. In the wreck, a propeller blade sliced into Ent's back, rendering him a paraplegic.

When I took the copilot's testimony, I asked him, "If you knew the plane wasn't going to fly, why did you put the gear up?"

He said, "I thought the general wanted me to."

Conformity



Conformity



“ B ”

Conformity



“ B ”



“ B ”



“ B ”



“ B ”

Conformity

Over 10 trials, **75%** of people conform at least once, giving the obviously wrong answer.

Compared to **< 1%** errors when alone

Back to going to war...

- Bush speaks, then publicly polls his cabinet one by one

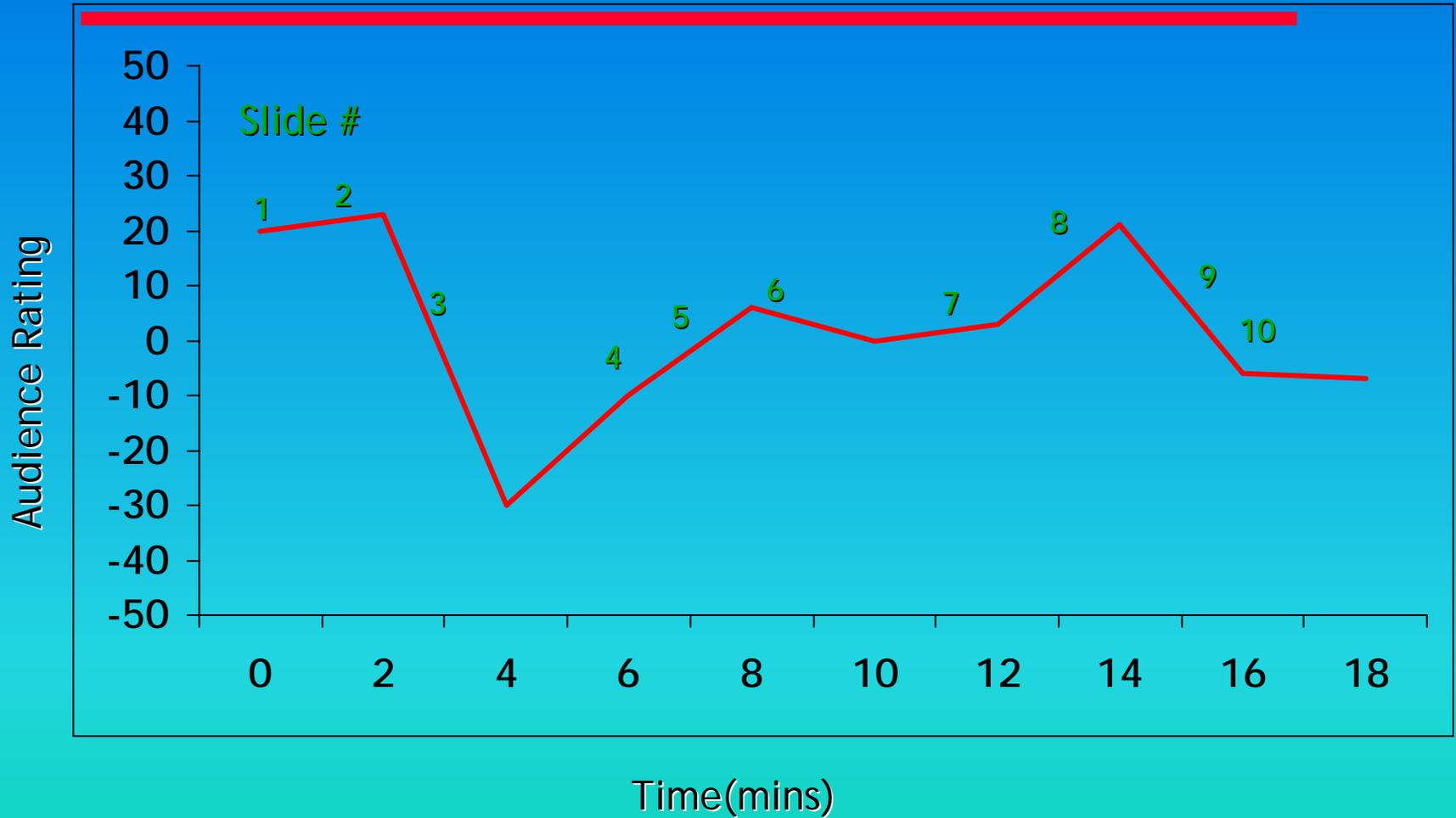
Pluralistic Ignorance

- Incomprehensible lectures
- Bystander Intervention
 - Helping others
 - Helping yourself!

Solutions

- AntiGroupWare
 - Private signaling device – useful for speakers and audience members

Solutions



Solutions

- AntiGroupWare
 - Increases anonymity
 - Has the potential to address conformity, authority, and pluralistic ignorance
 - Will it work??

Solutions

- Second Messenger
 - <http://web.media.mit.edu/~joanie/second-messenger/> (accessed May 25, 2004)
- Also has idea generation function
- What problems does it solve?
- What's missing?

Groups Summary

- Many factors contribute to problems with group problem-solving
- Some systems can help
- How does IDEO confront these problems?

Summary

- Creativity is one of the most essential – but most difficult – things for companies to capture
- Many existing systems inhibit creativity
- Some newer systems in development to try to foster creativity, improve group performance