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Could One Head Be Better Than Two? A Qualitative Examination of Paired Ideation

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ABSTRACT

Group Support Systems (GSS) have been used to support facilitated ideation sessions for years. Participants in GSS ideation sessions typically work individually at their workstations, but a previous study found that pairing participants could yield higher quality ideas and participant satisfaction. That study did not, however, explain *how* paired participants could generate higher quality results or *why* they reported perceptions different from previous studies. This study examined the experiences of paired ideation session participants and found that having a partner heightened participants' sense of engagement in the ideation process, leading to higher quality ideas and increased satisfaction, while simultaneously providing a new communications channel that reduced production blocking.

Keywords

Group Support Systems, ideation, idea quality, satisfaction, production blocking.

INTRODUCTION

Osborn (1957) created a formalized processes for generating creative ideas in a group setting that remains one of the most common reasons for bringing people together in a professional setting. His manual process was subsequently re-examined in light of emerging collaboration technologies, and studies showed that computer-assisted ideation could produce higher quality results (Fjermestad & Hiltz, 1998/1999). Group Support Systems (GSS) leveraged those results to support group ideation with highly customizable software that allowed each participant to work individually at networked workstations (Dennis & Reinicke, 2004).

A recent study examined pairing participants at GSS workstations and reported improved results from the paired ideation process (Murphy & Khazanchi, 2008). In effect, this research assumed "two heads per workstation are better than one" and ran counter to traditional GSS ideation that effectively said "one head is optimal." While that initial paired-participant study reported the positive results, it did not describe *how* paired participants could generate higher quality results or *why* they reported perceptions so markedly different from previous studies. This study explores the experiences paired ideation session participants to fill those gaps. A richer understanding of participant experiences could contribute to a better understanding of Murphy and Khazanchi's results and potentially lead to better designs for GSS ideation systems.

To meet these goals, the paper is organized as follows. First, relevant research on ideation and GSS-supported ideation is reviewed. Then the design of this study is detailed, followed by a presentation of the study's results along with a discussion of what those results might mean.

IDEATION

Osborn's conception of group ideation was simple: people take turns sharing ideas one-at-a-time in a group setting, all ideas are recorded, and throughout this iterative "speak and listen" process a no-judging rule is enforced (Osborn, 1957). Osborn believed that each new idea could trigger additional ideas, and that this synergistic process would boost the number and quality of ideas (Osborn, 1957). Practitioners subsequently conducted ideation sessions with what they perceived as acceptable results, but academic study revealed problems with the practice. A landmark study by Diehl and Stroebe (1987) showed that group ideation could actually inhibit creative thinking.

Two problems that drew particular attention during early GSS design efforts were production blocking and evaluation apprehension. Production blocking occurs when participants must wait for their turn while another participant shares her idea (Gallupe et al., 1992). This "forced waiting" can cause people to forget their own ideas and/or miss intermediate discussions while waiting their turn. Evaluation apprehension occurs when a participant elects not to share an idea for fear of negative evaluations (Diehl & Stroebe, 1991). For example, one may choose not to critique a proposed solution for fear of being seen

as “not being a team player.” Research showed that both of these problems could be overcome through the parallel entry and anonymity features found in GSS (Gallupe et al., 1992).

Social loafing, a reduction in effort that occurs when people working in groups are not directly accountable for their individual performance, is another effect that can impede group ideation (Latané, Williams, & Harkins, 1979). Early research confirmed social loafing effects in physical tasks, and later studies found them in cognitive tasks too (Brickner, Harkins, & Ostrom, 1986). GSS could be expected to evoke loafing because anonymity is commonly used for ideation sessions. However, Harkins (1987) later postulated that people working closely together may feel pressure from being compared to others that could overcome any social loafing effects.

Previous Research Related to Paired Ideation

Paulus and Dzindolet (1993) studied multiple participant ideation without GSS support and found that members of interactive groups were influenced by the performance of other group members. Specifically, they found that competition between partners seemed to compensate for social loafing effects. A conceptual proposal by Brown and Paulus (2002) then suggested that groups using GSS might alternate between individual and group settings to leverage the advantages of a GSS while also exposing participants to more ideas through open group discussion. They speculated that this pattern could increase the overall quality of the ideation session. Their suggestion was aimed at overcoming the lack of verbal interaction between participants that had been noted in other research into the traditional GSS configuration (i.e., one person per workstation) (Lebie, Rhoades, & McGrath, 1996). Dennis and Reinicke later suggested that this reduced interaction may also lower participant satisfaction because the silence potentially neglected the group’s social needs (2004).

RESEARCH DESIGN

This study follows up on an earlier paired ideation study (i.e., Murphy & Khazanchi, 2008) to qualitatively examine the mechanisms of the paired-participant ideation process. The basic research question is *how do paired participants describe their experience in GSS ideation sessions?* By examining their descriptions, insight could be gained into *how* paired participants generate higher quality results and *why* they report perceptions different from previous studies.

Session Design

Ten participants were randomly assigned to 2-person teams using Group Systems I on networked laptops with a projector that displayed all user input. The participants were 19-26 year old students at a Midwestern metropolitan university representing a mix of grade-levels and academic disciplines. The script from the original sessions was reused for this study to help ensure that this study’s results reflected similar conditions, thereby increasing the validity of this study’s conclusions. The ideation questions were “common interest” to everyone at the university and required no specific knowledge. The participants were told that any new ideas would be shared with the university’s administration, and they received extra credit after they completed the post-session interview.

Data Sources

Individual interviews were conducted with each of the study’s participants. The interview questions explored participant perceptions of key phenomena related to the ideation process. Participants were also asked to describe their partner’s behaviors as a means of cross-checking descriptions of team interactions. The interviews lasted about 30 minutes and were held in a small conference room within three days of the ideation session. Most interviews were recorded and full verbatim transcripts were prepared. In three unrecorded interviews, notes were taken and summaries were reviewed by the interviewees to substantiate their accuracy. The author also observed participant interactions during the GSS session and prepared written field notes to document those observations as another means of verifying participant descriptions.

Data Analysis

The unit of analysis for this study is the individual participant as represented by their interview transcripts. Because this was a follow-up to a previous study, key concepts identified in that earlier study were available as *a priori* themes. Nevertheless, interview transcripts were reviewed to identify new themes. Themes were then compiled and examined to eliminate overlaps. Each transcript was re-read and coded per the revised scheme, as were the researcher’s field notes.

The transcripts were then examined using the direct interpretation method to spotlight consistencies/inconsistencies in how events and behaviors were described (Stake, 1995). This analysis was augmented by comparing the descriptions of partners’ behaviors and the researcher’s field notes to the interview transcripts.

RESULTS

Murphy and Khazanchi (2008) used three criteria to compare paired and unpaired ideation: idea quality, satisfaction, and production blocking. These three phenomena are now examined using the themes that emerged in qualitative analysis.

Idea Quality

Idea quality is a measurement of the relative value of an idea in terms of its originality and feasibility. Participants described a dynamic interaction process between partners that enhanced the quality of their ideas with statements like these:

“We could talk about ideas and that was fast, and then we could type them in and that was easy too. We really helped move the train of thought.”

“You talk to your partner, he says do this, then we add that, and after a minute or two we submit it so others can see it. It makes ideas better because it really adds to it while you’re talking.”

Different people used slightly different wording to describe this “polishing” activity, but nearly every participant commented on this Partner Dialogue, making it the dominant theme that emerged from their descriptions. Participants noted that partner dialogue also ensured that your ideas would be noticed, saying “*You were guaranteed that someone else heard your idea – it didn’t get lost in the stack*” and “*... they have someone there to hear all of their ideas.*”

A strong sense of Engagement also permeated the team interactions, as illustrated by the following quotes:

“I could relax and let the ideas flow. It was fun!” [visibly excited]

“And then we were just clicking with the ideas flowing, talking and making them better, and having fun”

These perceptions of getting into a flow of ideas and having fun with the process seemed to motivate participants to focus on the quality of their inputs. As one participant said, “*we wanted to submit the best ideas that prompted everyone else to respond to what we were saying.*” These two ideas of partner dialogue and engagement seemed to come together in a mutually-reinforcing fashion. One participant commented that

“It’s like we were in a spiral. We’d talk and come up with a good idea. That would make us feel good. Then we’d put it into the system and see others respond which would make us feel better, and we’d feel like we could come up with another even better idea.”

This comment points to a positive dimension of social comparison, and another participant noted that “*Having a person beside you makes you feel like you better come up with a good idea.*” Together these statements lend credence to social comparison effects anticipated by Harkins (1987) and Paulus and Dzindolet (1993).

Lastly, participants commented that having a partner opened Multiple Channels for ideation, as this quote illustrates.

“Having ideas firing at you from all of the different things. Like your brain was working, and your partner was talking, and having the different pages. If you got stuck you could switch and find a new thread to contribute to.”

These multiple channels provided frequent prompts for new ideas and also seemed to allow participants to combine these ideas in new and interesting ways. For example, one participant said, “*I’d see a page with something I would have never thought of, so that would trigger completely different ideas.*”

Satisfaction

Satisfaction is a personal sense of accomplishment from participating in a GSS session and a willingness to recommend the process to others. Participants described how their sense of Engagement boosted their satisfaction.

“It was fun having a partner & coming up with new ideas.”

“That social dimension, it’s just more fun working with somebody rather than alone. We were laughing and talking while we were working, but we put a lot of ideas into the system too. It was like that.”

“But when you take the technology level and you put in a great idea, you know someone can type “hah hah that was a great idea let’s do that smiley face smiley face.” And you might get a little chuckle but that’s not the same as seeing the genuine reaction of the person”

“There’s that human interaction there when you come up with an idea and you partner lights up and says “hey that’s awesome” you get you get a personal satisfaction just to see someone else’s face light up you know. And that’s not a technology thing that’s purely a personal thing.”

These comments show that the increased interaction of the paired configuration seemed to fulfill more of the participants’ social needs, as suggested by Dennis and Reinicke (2004). Similarly, participant comments reflected a sense of excitement about the task.

“There’s lots of talking and it really gets you involved in the activity. People won’t fall asleep in these meetings”

“I mean we were really engaged in the process, the lines of communication were open and relaxed and I think that’s the most important thing.”

Production Blocking

Production blocking is that delay that occurs while someone waits for another participant to finish contributing her idea (Lamm & Trommsdorff, 1973). Because this paired configuration reintroduces a verbal dynamic to the ideation process, it increases the opportunity for production blocking. What’s more, with two people sharing the single keyboard in the paired configuration, there was potential a new form of production blocking. However, participant responses showed quite the opposite perception of production blocking.

“There wasn’t any. I felt like it was my turn the entire time because I could type or talk.”

“I can’t see how they would [report production blocking].”

When pressed on why they did not perceive stronger production blocking effects, the dominant reason participants identified was the availability of Multiple Channels for their communications.

“I did not feel blocked at all. I could say anything I wanted even if I didn’t have the keyboard.”

“In reality there were a couple of outlets I could go to [to] talk about that idea, not just the page.”

CONCLUSIONS

Previous research found statistically significant positive effects in pairing participants in GSS ideation sessions (Murphy & Khazanchi, 2008). A qualitative examination of that paired ideation process has revealed numerous factors that participants believe contributed to those results.

Participants described how their Partner Dialogue built higher quality ideas. They reported that they engaged in rapid-fire verbal exchanges that quickly refined ideas until they were sufficiently “good” to submit to the group, effectively describing how pairing people seemed to invoke useful social comparison effects. They described how their dialogue seemed to foster a sense of Engagement where participants felt more personally connected to their individual ideas and to the overall group process with heightened senses of “flow” and “relaxation” that made the sessions “fun.”

Satisfaction was also boosted through Engagement; participants described a dynamic activity that left them feeling deeply involved in an enjoyable activity and noted the value of “genuine feedback” from their partners.

Lastly, participants described how the paired configuration opened Multiple Channels of communications that reduced production blocking, saying that it was faster to simply talk with their partner about an idea before they typed anything into

the GSS. Participants further reported feeling that they always had an outlet for their ideas, noting that even when they keyboard was taken they could voice ideas knowing that at least their partner would hear it.

In sum, the positive effects from pairing participants described here show that counter to established practices, two heads really can be better than one in GSS-supported ideation.

Strengths/Limitations

Each participant in this study represents a separate case of experiencing paired ideation, so the large number of cases in this study is a major strength, and each case is supported by three data sources. Together, these facets of the study provide a rich data set for exploring perspectives and behaviors. However, the participants were students, which could be seen by some as limiting the generalizability of the study's findings.

Implications

The results of this study could contribute to a theoretical explanation for how a paired configuration improved participant perceptions of key aspects of GSS-supported ideation, and the noteworthy boost in social interaction could constitute a breakthrough in GSS research that warrants follow-on studies. Lastly, these findings could be leveraged to change how GSS ideation sessions are conducted.

REFERENCES

- Brickner, M., Harkins, S. G., & Ostrom, T. (1986). Personal involvement: Thought provoking implications for social loafing. *Journal of Personality and Social Psychology, 51*, 763-769.
- Brown, V. R., & Paulus, P. B. (2002). Making group brainstorming more effective: Recommendations from an associative memory perspective. *Current Directions in Psychological Science, 11*(6), 208-212.
- Dennis, A. R., & Reinicke, B. A. (2004). Beta versus VHS and the acceptance of electronic brainstorming technology. *MIS Quarterly, 28*(1), 1-20.
- Diehl, M., & Stroebe, W. (1987). Productivity loss in brainstorming groups: Toward the solution of a riddle. *Journal of Personality and Social Psychology, 53*(3), 497-509.
- Diehl, M., & Stroebe, W. (1991). Productivity loss in idea-generating groups: tracking down the blocking effect. *Journal of Personality and Social Psychology, 61*(3), 392-403.
- Fjermestad, J., & Hiltz, S. R. (1998/1999). An assessment of group support systems experimental research: Methodology and results. *Journal of Management Information Systems, 15*(3), 7-149.
- Gallupe, R. B., Dennis, A. R., Cooper, W. H., Valacich, J. S., Bastianutti, L. M., & Nunamaker, J. F. J. (1992). Electronic brainstorming and group size. *Academy of Management Journal, 35*(2), 350-369.
- Harkins, S. G. (1987). Social loafing and social facilitation. *Journal of Experimental Social Psychology, 23*(1), 1-18.
- Lamm, H., & Trommsdorff, G. (1973). Group versus individual performance on tasks requiring ideational proficiency (brainstorming): A review. *European Journal of Social Psychology, 3*(4), 361-388.
- Latané, B., Williams, K., & Harkins, S. G. (1979). Many hands make light the work: The causes and consequences of social loafing. *Journal of Experimental Social Psychology, 37*(6), 822-832.
- Lebie, L., Rhoades, J. A., & McGrath, J. E. (1996). Interaction process in computer-mediated and face-to-face groups. *Computer Supported Cooperative Work, 4*, 127-152.
- Murphy, J. D., & Khazanchi, D. (2008). Synergistic ideation through pairing participants in facilitated group support systems sessions. *American Journal of Business, 23*(2), 27-35.
- Osborn, A. F. (1957). *Applied imagination: principles and procedures for creative thinking* (2nd ed.). New York: Charles Scribner & Sons.
- Paulus, P. B., & Dzindolet, M. T. (1993). Social influence in group brainstorming. *Journal of Personality and Social Psychology, 64*(4), 575-586.
- Stake, R. E. (1995). *The Art of Case Study Research*. Thousand Oaks, CA: Sage Publications.