

## **An Executive Summary of B. Bruce's 1991 Master's Project**

by

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### **Introduction**

The purpose of this project was to better understand the impact that creative problem solving tools play in the personal and professional lives of managers and supervisors of large food chains in the Western New York area. An eight hour training session in creative problem solving occurred where managers and supervisors were to learn tools and techniques to enhance personal and professional changes in their lives. This study evaluated the importance of the training seminar in business and industry.

The research in this project focused on the following questions:

1. As a result of participation in an eight hour training program in creative problem solving, how do managers use creative problem solving techniques on the job?
2. As a result of participation in an eight hour training program in creative problem solving, which technique do managers indicate that they found most useful in the professional lives?
3. As a result of participation in an eight hour training program in creative problem solving, what do managers report are the professional or personal changes that have occurred in their lives?
4. As a result of participation in an eight hour training program in creative problem solving, what future training programs do managers see as helpful to enhance the skills of other employees?

(Bruce, 1991, p 8)

Bruce's Master's project identifies the significance of training in creative problem solving tools and techniques. Bruce questions what tools and techniques were seen as useful throughout the training program. An importance of being trained and exposed to "Creative problem solving techniques are one way of helping persons in all aspects of life learn to adapt to the future and the ever increasing information we are

confronted with” (Isaksen, 1987, and Feldhusen and Treffinger, 1985, as cited in Bruce, p.7).

## **Background**

According to Bruce, in all phases of our life; education, business and industry, personal relationships, politics, technology, there is a need to think critically and creatively. With our world of knowledge increasing at a rapid rate, it is becoming more important to know how to think rather than what to think (Bruce, 1991, p1).

Through this study Creative Problem Solving helps management enhance the environment that products and services are provided in. Creative Problem Solving is essential to any business attempting to survive in our rapidly changing economy. As cited in the project of Barbara Bruce, Lorraine states that:

By inspiring employees to be creative, it is helping them to be more successful and gives them a sense of power in an otherwise powerless situation. There is greater job satisfaction, increased employee retention and generally, it improves the work ambiance. Everyone benefits (1988 p.9).

## **Population and Method**

This study’s participants were 100 managers and supervisors of local large food chains in the Western New York area should. Approximately 20 participants participated in 5 different sessions. These sessions took place at local hotel seminar rooms during two 4 hour sessions and one 8 hour session.

Dr. Roger Firestien led the 5 different sessions that occurred between 9/89 and 3/90. Dr. Firestien presented his material by helping the participants think of new and unusual possibilities. He discussed with the participants the tools of In and Out Thinking (you’re only fully attentive during the first 13 to 18 seconds of any presentation, discussion or conversation) Dr. Firestien also explained the idea system, PPC (evaluating ideas), forced relations, idea generation, brainwriting, brainstorming, 4 to 1 praise to criticism ratio and creativity habits.

Throughout the seminars the purpose was to guide the participants in generating and selecting alternatives for idea generation. “The training, when applied to on-the-job

issues, is beneficial to business and industry to help in enhancing products and services to keep the organization competitive” (Bruce, 1991 p. 9&10).

## **Findings**

Several months following the seminar, Bruce sent a survey to the participants consisting of 15 questions both qualitative and quantitative. Participants were provided with a postage paid envelope to encourage participants to return the survey. The survey also explained that some people might be selected for a more in-depth interview at a later time.

The quantitative survey consisted of 8 questions and was based on an eight point scale. The results were reported by the average amount given to each response (1 not useful, 8 useful). This part of the survey evaluated the tools and techniques of Creative Problem Solving that they learned during the seminar. The results are presented below.

|                                  |      |
|----------------------------------|------|
| In and Out Thinking              | 5.1  |
| Idea System                      | 6.6  |
| Creativity Habits                | 6.02 |
| 4 to 1 Praise to Criticism Ratio | 6.05 |
| Pluses, Potentials, Concerns     | 6.03 |
| Brainstorming                    | 6.04 |
| Brainwriting                     | 4.0  |
| Forced Relationship              | 4.4  |

(Bruce, 1991, pp. 63 & 64)

The findings indicated that the participants found that the tool idea system and 4 to 1 praise to criticism ratio as two most beneficial techniques learned at the seminar. Overall the scores were high with 5 out of the 8 techniques averaging in the 6 range.

The survey given to the participants measuring qualitative data consisted of seven open ended questions. Below are the findings from the survey.

| Questions   | Theme 1  | Theme 2   | Theme 3   |
|---|--|---|---|
| <b>As a result of attending the Creative Problem Seminar with Dr. Firestien I am better able to...</b>  | Develop new ideas: <ul style="list-style-type: none"> <li>Develop new fresh ideas for projects.</li> <li>Generate wild ideas that sometimes prove useful.</li> </ul>   | Use problem Solving: <ul style="list-style-type: none"> <li>Realize there are alternative ways to go about solving a problem.</li> </ul>  | Open Mindedness: <ul style="list-style-type: none"> <li>Open my mind to the different ways of generating ideas.</li> </ul>  |
| <b>What specific techniques explored in the seminar have you used or applied?</b>   | Persons responded by naming specific techniques. They are reported in order of number of responses listed. <ol style="list-style-type: none"> <li>Idea System</li> <li>4 to 1 Praise to Criticism</li> </ol> | <ol style="list-style-type: none"> <li>Brainstorming</li> <li>Pluses, Potential and Concerns</li> <li>Creativity Habits</li> <li>In and Out Thinking</li> </ol>                                   | <ol style="list-style-type: none"> <li>Forced Relationships</li> <li>Brainwriting</li> </ol>  |
| <b>Specifically, How have you applied the techniques you mentioned above?</b>   | Problem solving in team meetings.  | Enhance Operations in Departments. <ul style="list-style-type: none"> <li>To reduce turnover in many departments.</li> </ul>  | Daily Operations <ul style="list-style-type: none"> <li>To develop new service and improve present service.</li> </ul>  |
| <b>If you have not applied the creative problem solving techniques, what prevented you from applying them?</b>  | Time <ul style="list-style-type: none"> <li>Lack of time.</li> <li>Time...or self created lack of.</li> </ul>  | Self <ul style="list-style-type: none"> <li>Have used but need to practice and apply more consistently.</li> </ul>  | Not applicable <ul style="list-style-type: none"> <li>Persons responded with N/ A or drew straight lines in the space.</li> </ul>   |
| <b>During the Creative Problem Solving seminar, you worked in small groups with several other employees of ABC foods to solve some challenges you were encountering in your life. What have been the outcomes off the plans of action (tangible or intangible) you made in the seminar?</b> | To soon to tell <ul style="list-style-type: none"> <li>Still up in the air.</li> <li>None at this time.</li> </ul>   | General Comments <ul style="list-style-type: none"> <li>Better understanding of options available was gained and some implemented.</li> <li>Different points To the of view and ideas.</li> </ul> | Personal <ul style="list-style-type: none"> <li>At the seminar we discussed my children in our group and dealing with them [sic] realize the importance of family. Brainstorming in the group helped me come up with useful ways of pulling everyone together.</li> </ul> |
| <b>What specific changes have occurred in your life (personal or professional) as a result of the creative problem solving seminar?</b>   | Alternative Problem Solving Methods <ul style="list-style-type: none"> <li>Problems are no longer problems so to speak. By using the program, most areas of</li> </ul>                                       | Personal Improvement <ul style="list-style-type: none"> <li>Level of confidence improved ...creativity is part of my job.</li> </ul>  | Not Applicable <ul style="list-style-type: none"> <li>Persons responded with N/ A or drew straight lines in the space.</li> </ul>   |

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|   | concern can be handled quite effectively.   |  |   |
| <b>We are interested in developing future training programs to enhance the skills of employees. What would you like to see in these programs?</b> | Training for department managers <ul style="list-style-type: none"> <li>• More seminars for assistant and department managers.</li> </ul> | Job Related Training <ul style="list-style-type: none"> <li>• More actual problems related to our business.</li> </ul> | Motivation <ul style="list-style-type: none"> <li>• Better ways of motivating staff.</li> <li>• How to motivate.</li> </ul> |

(Bruce, 1991 p. 64-70)

Responses to the qualitative open ended questions indicated that Creative Problem Solving helped the managers and supervisors to:

- Develop new ideas
- use problem solving tools
- become more open minded
- they use the tools in various settings and degrees in both department operations and daily operations

Forty one participants out of 100 returned the survey. Twenty of those participants were then selected for one on one personal interview (Bruce, 1991 p. 63). The personal interview consisted of 13 qualitative questions and gave more in depth answers to the data already collected from the survey. Below are the questions and the top three themes and answers to the questions asked.

| Questions  | Theme 1  | Theme 2  | Theme 3 |
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|  |  |  |         |
| <b>I'd Like to begin by asking how you feel about creativity in organizations?</b> | Creativity is important in organizations. <ul style="list-style-type: none"> <li>• "I think it's very important, because I think if everybody did things by the status quo nothing would ever change and life would become very dull and boring."</li> </ul> | Creativity has a place in organizations. <ul style="list-style-type: none"> <li>• "Most definitely, creativity has a place in organizations. Without it you're just kinda sitting there doing the same thing everyday."</li> </ul> |         |
| <b>How do you think creativity might be useful at ABC?</b>                         | Creativity gives ABC Foods the edge. <ul style="list-style-type: none"> <li>• "We're all out there to get our price of the market and creativity is what gives us</li> </ul>   | Difficult to get persons to express their creativity. <ul style="list-style-type: none"> <li>• "It's difficult for me to make my people creative because they have so</li> </ul>   |         |

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|   | <p>an edge. We've got to be just a bit more creative than the guy down the street."</p>  | <p>many strict tasks and things like that so it's difficult for me to get them to open up a little bit."</p>  |   |
| <p><b>Can you talk to me about the ratings you gave to these questions? (this question was designed to help participants give an explanation of the tools and techniques they identified)</b></p> | <p><b><i>Four to one praise to criticism ratio</i></b></p> <ul style="list-style-type: none"> <li>"I don't know if I really do it four to one, but I am more conscious of giving people a pat on the back."</li> </ul> <p><b><i>Idea system</i></b></p> <ul style="list-style-type: none"> <li>"I now keep a pad in my vehicle. I do a lot of driving and now I have some place to write down my ideas before I forget them. It used to drive me crazy because I'd have all these great ideas and then forget them. I even keep a pen in my bathroom now."</li> </ul> <p><b><i>Brainstorming</i></b></p> <ul style="list-style-type: none"> <li>"The brainstorming idea was very, very interesting. I enjoyed that and have done it a couple of times and it brings out a lot of things.. much more than any other method I have ever found."</li> </ul> <p><b><i>In/ Out thinking</i></b></p> <ul style="list-style-type: none"> <li>"Let me think, I have used that writing notes to myself (in/out thinking) while I'm listening to speeches. It's funny, I used to kind of do that and feel guilty about it, now I can do it and not feel bad."</li> </ul> | <p><b><i>Creativity habits</i></b></p> <ul style="list-style-type: none"> <li>"If we can get more people involved with the "how else?" or "what do you think?" or "what if's?", it seems to work well. In fact I keep questioning them always what if?... how else can you do things? I think it's done well for me."</li> </ul> <p><b><i>Pluses, Potentials and Concerns</i></b></p> <ul style="list-style-type: none"> <li>"PPC is another one I integrated right away. I always try to look at the positive side but I think I didn't do justice to the concerns and making sure I considered all three equally {sic} so that one was probably real important."</li> </ul> <p><b><i>Forced relationships</i></b></p> <ul style="list-style-type: none"> <li>"I think the other thing that we used along with the brainstorming was the unrelated idea theory (forced relationships) where we would bring in something that was totally unrelated and related it to a theory or a thought process that we were thinking about to bring out totally new things that we wouldn't even come up with before if we hadn't done that and we were very successful."</li> </ul> | <p><b><i>Brainwriting</i></b></p> <ul style="list-style-type: none"> <li>"I looked at most of these as to how they would apply to our jobs here and I didn't see how that (brainwriting) would help what we are trying to accomplish here."</li> </ul> <p><b><i>Idea system</i></b></p> <ul style="list-style-type: none"> <li>"Yeah, the system for recording ideas I don't use. Dr. Firestien was right when he said you think of your best ideas in the most unusual places but for some reason to write them down at that point or while I'm sleeping or at the side of the bed whatever it doesn't seem to work."</li> </ul> <p><b><i>Forced relationships</i></b></p> <ul style="list-style-type: none"> <li>"The other one I didn't see any real use for is using something to think about ideas, yeah that forced relationship thing, I don't see myself using that at all."</li> </ul> |
| <p><b>What are some of the things that helped you apply these principles?</b></p>   | <p>Being open to new ideas.</p> <ul style="list-style-type: none"> <li>"I think I'm probably more open to listen to somebody's ideas more now."</li> </ul>   | <p>Change in attitude</p> <ul style="list-style-type: none"> <li>"Probably, definitely a change in attitude with creativity. That's been a big thing for me as I'm</li> </ul>   | <p>New tools to promote creative thinking.</p> <ul style="list-style-type: none"> <li>"I learned a few more tools and techniques and was able to incorporate larger</li> </ul>  |

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|  |  | concerned.”  | groups on a more daily basis.”  |
| <b>What if any, were the obstacles that kept you from applying these principles?</b>   | Time <ul style="list-style-type: none"> <li>• “The biggest thing like everything else is time. Well its my time is stretched so thin and the people ion the departments they just don’t have the time to grab everyone to sit down it a meeting and brainstorm.”</li> </ul>  | Nothing kept them from applying the principles. <ul style="list-style-type: none"> <li>• “I don’t think so...not that I can recall...no.”</li> </ul>   | Myself <ul style="list-style-type: none"> <li>• Yeah, myself. I think we’re our biggest obstacle.”</li> </ul>   |
| <b>Did you learn anything in the creative problem solving seminar that might have changed your management style?</b>               | Listen to ideas rather than having all the answers. <ul style="list-style-type: none"> <li>• “I found that before that I wasn’t a good listener. If there was some kind of problem I’d try, before they were finished with their whole problem, I’d kind of read into what they wee going to say and answer back real quick. I think I learned to listed a bit more.”</li> </ul> | Becoming more open minded <ul style="list-style-type: none"> <li>• “Yeah, I’ve become a little more open and I think things through slower than I used to. I used to react more that develop an idea and a solution.”</li> </ul> | Allowing others to come up with creative ideas and solutions. <ul style="list-style-type: none"> <li>• “Yeah, I think it gave me the opportunity to let my people be a little more creative and do some off the wall type things too, you know not only trying to do it myself.”</li> </ul> |
| <b>Has the modification in our management style impacted upon anyone else?</b>   | Positive responses <ul style="list-style-type: none"> <li>• “I think everybody’s a little bit more open minded.”</li> </ul>  |  |   |
| <b>Has this training impacted upon your store’s bottom line in any way? If so, would you say more about how this has occurred?</b> | Yes in some way. <ul style="list-style-type: none"> <li>• “Probably yes because if you keep doing things the same way eventually your bottom line regresses. I don’t think I have any quantitative on that, but it definitely has to have helped with spark, pizzazz and change and doing away with the resistance to change.”</li> </ul>  | Hard to judge <ul style="list-style-type: none"> <li>• “That’s really hard to say. Probably it does, but I can’t give you anything concrete.”</li> </ul>   | No impact on bottom line <ul style="list-style-type: none"> <li>• “Not that I can see. Possibly indirectly, long term. I’m sure that as far as immediately I don’t think so.”</li> </ul>  |
| <b>What could the ABC organization do to help you utilize the things that you learned in the seminar?</b>                          | Practiced throughout the organization <ul style="list-style-type: none"> <li>• “I think if the people above us really believed it and used it that would make us use it, but when it gets thrown out the window then you have a</li> </ul>   | Continue to offer courses <ul style="list-style-type: none"> <li>• “They could continue with courses such as this.”</li> </ul>   | Need for evaluation <ul style="list-style-type: none"> <li>• “I think the one thing we have to do is we have a lot of these programs and a lot of them are excellent like this one was, but we have to come back at a later date and say here’s what we did with it</li> </ul>              |

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|  | tendency to do the same.”   |  | or if we did nothing why?”   |
| <b>Looking back on this experience, what changes would you make in this training to make it more valuable in the future for ABC employees?</b> | No need for change <ul style="list-style-type: none"> <li>• “I don’t see anything that I would change a whole heck of a lot.”</li> </ul>  | Enjoyed seminar <ul style="list-style-type: none"> <li>• “Truthfully I think Roger did a great job.”</li> </ul>  | Shorter <ul style="list-style-type: none"> <li>• “I think it was to long. I think the morning was really good, but the afternoon dragged because I was getting really tired and it was too much to absorb.”</li> </ul> |
| <b>Who else in your organization do you see as benefiting from creative problem solving training?</b>  | Department managers/ department heads <ul style="list-style-type: none"> <li>• “I think it should go to the next level down which would be the department managers. I don’t think that we do enough in regards to this type of seminar for the department managers. We give the store managers an awful lot of things and we don’t spread it around enough.”</li> </ul> | Supervisors, assistant store managers <ul style="list-style-type: none"> <li>• “I think all our subordinates should go through this in one way or another.”</li> </ul>   | Anyone who took this training <ul style="list-style-type: none"> <li>• I’m sure that anyone, every associate up could go through this in one way or another.”</li> </ul>   |
| <b>How do you see this training in creative problem solving being made available?</b>  | Half day training by the district <ul style="list-style-type: none"> <li>• “I think the best way would be maybe a group of department managers at a time, probably by the districts.”</li> </ul>  | Training for everyone in Creative Problem Solving <ul style="list-style-type: none"> <li>• “I’d almost make it part of their training.”</li> </ul>   |  |
| <b>What other kinds of training do you see as useful for yourself and/ or employees?</b>   | On site skill training <ul style="list-style-type: none"> <li>• “The more things we can do along the lines of giving us different ways to be able to survive in our jobs, and that’s really what it is, survival.”</li> </ul>   | Practice what they have learned <ul style="list-style-type: none"> <li>• “I’ve been through all of them at least once, you know the stress related, the motivation and the communication, written communication, verbal communication, you name it. You know it comes down to a point where we have to come back and put these practically into use in our operations.”</li> </ul> |  |

(Bruce, 1991 p. 71-92)

## Summary

Data from all sources indicated that the training was successful in achieving what it set out to do. The tools and techniques were found to be very helpful in the participant's organizational setting. Managers reported that they were now more open to ideas and had personal improvements in their listening skills. "The participants also realized that creative change needs to be modeled from above (management) as well as their attitudes filters down" (Bruce, 1991 p. 100).

The participants suggested for further training that there should be:

1. Training for department managers
2. Job related training
3. Motivational training

(Bruce, 1991 p.94).

Overall the seminar was a success. The training benefited those who attended because it focused on those who work closest to the public, they can see problems happening and occurring now and they work as a team implementing new attitudes and expression of ideas (Bruce, 1991 p. 101).

## Bruce's References

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