

CPS and Productivity: An Executive Summary of Saner's 1990 Master's Project.

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Overview:

This master's project was designed to investigate whether collaborative skills increased group productivity and satisfaction with the CPS process (Saner, 1990). The study also reported whether interaction patterns between student participants were improved as a result of collaborative skills training. Two reviewers evaluated the effects of training; reviewer one was trained in CPS and reviewer two was trained in collaborative skills. The reviewers evaluated videotaped sessions of groups of students participating in the CPS process. Fluency, flexibility and originality of group responses were used as criteria to assess group productivity. Students' self-rating scales determined satisfaction with the CPS process.

Three groups of students were involved in this project. Two of the groups were trained in collaborative skills of the Cooperative Learning Model (Johnson and Johnson, 1975). This Cooperative Learning Model focused on three types of interactions: cooperative, competitive and individualistic. A cooperative goal structure promotes characteristics such as increased interaction, mutual liking, effective communication, high trust, high mutual influence and high utilization of resources. Competitive goal structures promote just the opposite characteristics during group interactions.

Saner proposed that, "cooperative group skills may enhance students' productivity and effectiveness" (1990, p.1). According to Torrance (as cited by Saner, 1990), "much of the research on the creative problem solving process indicates that the process can be

taught effectively to children.” (1990, p.1). Therefore, the study was based on the premise that students trained in Cooperative Learning along with CPS would demonstrate greater productivity and effectiveness during CPS sessions.

Population

Students who participated in the study were fifth graders who had been identified as gifted and talented at the end of second grade. Students were selected from a pool of 29 students based on their availability for sessions and homeroom assignment. The students were broken down into 3 groups: Group A which consisted of 4 girls and 4 boys, Group B, which also consisted of 4 girls and 4 boys; and Group C which served as the control group. All students had received initial training in CPS the semester before the study was conducted. At the beginning of the study, the groups were videotaped working on a practice problem using the CPS process. Video taping was done by an audiovisual person unknown to the students and employed by the Newark School District. At the end of the session, students were asked to rate their level of satisfaction with the activity on a scale of 1 to 10.

Method

Student Groups A and B were trained in Cooperative Learning two days a week for ten weeks. Lesson content involved CPS and the lessons were structured to promote positive interdependence. Saner stated, “ the positive interdependence was created by limiting the amount of materials each group worked with, assigning roles, rewards for group performance and structuring task interdependence” (1990, p.20). Specific social skills such as using quiet voices, quiet movement, using names, expressing support and encouraging others were also modeled at the beginning of each lesson by the teacher.

Students were asked to demonstrate these social skills throughout the lesson and the teacher walked around the room and made observations regarding the frequency of display of these skills. At the end of each lesson, students would assess their group performance and the teacher provided feedback to the students regarding her observations.

Following the ten weeks of training, students participated in another hour long, video-taped CPS session involving a practice problem. Each group selected a student to act as the client and the teacher filled the role of facilitator. Two independent reviewers viewed both sets of videotapes (pre and post collaborative skills training). Both reviewers used an observation sheet and marked their observations every five minutes. They were looking at the following behaviors: contributing ideas, expressing support verbally and nonverbal, expression of warmth and liking, energizing ability of group by humor, suggestion of new ideas and enthusiasm, encouragement of others to contribute ideas, seeking elaboration from others, actively integrating a number of different ideas into a single position, motivating a group toward advancement and paraphrasing and clarifying ideas. Both reviewers were asked to give their impressions on the level and quality of group interaction (Saner, 1990, p.26).

Analysis of data involved counting the number of ideas produced during the Problem-Finding and Idea-Finding stages of CPS to determine the degree of fluency for Group A, Group B and the control group. Flexibility was determined by sorting group responses into different categories. Levels of originality were calculated for each group by determining the frequency at which each idea appeared for the Problem-Finding and Idea-Finding stages of CPS. Chi-Square

analysis was used to calculate the differences in fluency, flexibility and originality among the three groups.

Results

Evaluation of data revealed that training in Cooperative Learning does increase the number of ideas generated in the Idea-Finding stage of CPS, but did not increase idea production in the Problem-Finding stage. Saner reports, "Group A's level of fluency was 25% greater than the control group in Idea Finding. Group B's level of fluency was 44% greater than the control group in Idea-Finding" (1990, p.31). Groups A and B showed a significant increase in the level of flexibility when compared to the control group for the Idea-Finding stage, but not in the Problem-Finding stage of CPS.

Groups A and B showed a much higher level of originality when compared to the control group during the Idea-Finding stage, but not during the Problem-Finding stage.

Based on the results of this study, those groups (A and B) trained in Cooperative Learning and CPS did express greater satisfaction with the CPS process when compared to the group only trained in CPS (control). Lastly, the results of the two reviewers' observations of increased levels of group interaction of Group A and Group B when compared to the control group were unclear. "The differing perceptions of the reviewers may be attributed to their differing training backgrounds" (Saner, 1990, p.47).

There were several implications derived from Saner's study. First, productivity in the area of originality of the student groups involved in Cooperative Learning training and CPS training was significantly enhanced. Saner (1990) stated "training in collaborative skills may have resulted in the significant increase in originality because it is more complex than fluency and flexibility"(p. 49).

Collaborative skills training may provide people the opportunity to develop their originality in a safe environment in which social interdependence, cooperative learning and enthusiasm are encouraged. When people feel safe and comfortable in their environment, they are more willing to take risks and share original ideas.

Saner recommends that further areas of study may be needed to determine whether collaborative skills training impacts other stages of the CPS process. Also, whether the effect would be the same with an adult group, and if a group well trained in CPS and then trained in Cooperative Learning would demonstrate the same levels of increased productivity in originality.

References

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