DOCUMENT RESUME

ED 439 124 SP 039 083

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TITLE Effective Staff Development in Cooperative Learning: Training, Transfer, and Long-Term Use.
PUB DATE 1999-04-00
NOTE 36p.; Paper presented at the Annual Meeting of the American Educational Research Association (Montreal, Quebec, Canada, April 19-23, 1999).
PUB TYPE Opinion Papers (120) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Collegiality; *Cooperative Learning; Elementary Secondary Education; *Faculty Development; Inservice Teacher Education; Program Development; Program Effectiveness; Teacher Collaboration; Teacher Improvement; Teachers; Teaching Methods

ABSTRACT

Staff development in cooperative learning must focus on three stages of staff development (pre-training, training, and post-training) to achieve at least five purposes. The five purposes are: creating conditions for successful staff development prior to training; conducting high-quality training sessions that result in mastery of the conceptual framework and procedures for using cooperative learning; providing support for the transfer of what is learned in the sessions to the classroom; providing support for the long-term maintenance of the learned procedures; and institutionalization of cooperative learning as a standard instructional practice supported by the district. To achieve the five purposes, eight principles of staff development must be followed: (1) establish long-term goals; (2) avoid the barriers to effective staff development; (3) create collegial teaching teams as the heart of staff development efforts; (4) plan multi-year staff development programs; (5) follow the guidelines for effective preparation for staff development sessions; (6) practice what one teaches in staff development sessions (use cooperative procedures); (7) support implementation between and after training sessions; and (8) change the school's organizational structure from a mass production structure to a team-based, high-performance structure. (Contains 58 references.) (SM)

Effective Staff Development In Cooperative Learning: Training, Transfer, And Long-Term Use

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April, 1999

AERA Presentation

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Introduction

Staff development in cooperative learning is aimed at improving teachers' expertise in using cooperative learning in a way that maximizes the likelihood teachers will still be using cooperative learning ten, twenty, or even thirty years later. To do so, staff development has to focus on the three stages of staff development to achieve at least five purposes:

1. Pre-Training: Preparing for the training by creating the conditions for successful staff development in cooperative learning.
2. Training: Conducting the staff development sessions in ways that ensure participants master the conceptual framework and actual procedures for using cooperative learning.
3. Post-Training:
    a. Providing support for transfer of what is learned about cooperative learning in the sessions to the actual use of cooperative learning in the classroom.
    b. Providing support for long-term maintenance of the use of cooperative learning with fidelity and appropriate flexibility.
    c. Institutionalizing cooperative learning as a standard instructional practice supported by the district.

In order to achieve these five purposes, eight principles of staff development need to be followed:

1. Establish long-term goals.
2. Avoid the barriers to effective staff development.
3. Create colleagial teaching teams as the heart of staff development efforts.
4. Plan multi-year staff development programs.
5. Follow the guidelines for effective preparation for staff development sessions (preparation sets the parameters of effectiveness).

6. Practice what you teach in staff development sessions (use cooperative procedures).
7. Support implementation between and after training sessions.
8. Change the school's organizational structure from a mass-production structure to a team-based, high-performance structure.

-----Insert Figure 1 About Here-----

Principle One: Establish Long-Term Goals

While a graduate student at Columbia University, I (David) had the privilege of studying with Matthew Miles while he was writing his landmark book, **Innovation in Education** (Miles, 1964). He concluded from his research review that changing instructional practices takes decades, not days and, therefore, serious staff development is based on long-term goals. Staff development on cooperative learning is no exception.

The **long-term staff development goals** for cooperative learning are for (a) teachers to increase continually their expertise in using cooperative learning throughout the rest of their careers with a combination of durable fidelity and appropriate flexibility in adapting to changing conditions and (b) cooperative learning to be institutionalized in the school and district (e.g., majority of teachers using cooperative learning the majority of the time, administrators creating cooperative schools, and staff developers providing ongoing support and assistance for teachers using cooperative learning). The **immediate staff development goals** are to ensure that participating faculty:

1. Are able to structure any lesson in any subject area cooperatively.
2. Practice and practice the use of cooperative learning until it is an automatic habit pattern.
3. Can describe precisely what cooperative learning is and how lessons may be structured cooperatively.
4. Apply the principles of cooperation to other settings, such as colleagial relationships, parent conferences, and faculty meetings.

Achieving these long-term and immediate goals is often blocked by the barriers to effective staff development.

Principle Two: Avoid The Barriers To Effective Staff Development

The assumptions staff developers make can block or enhance high quality staff development. The assumptions are given below.

Barrier	Bridge	Facilitator
Teaching Is A Talent	1	Teaching Is A Craft
Expertise Is A State	2	Expertise Is A Process
Teachers Are Technicians	3	Teachers Are Engineers
Staff Development Changes Individuals	4	Staff Development Changes Teams
Staff Development Targets Heads	5	Staff Development Changes Hearts

Barrier One: Belief That Good Teachers Are Born, Not Made

A barrier to effective staff development is the belief that teaching is mostly or entirely a "gift" bestowed on certain individuals, not a craft to be learned. The belief that teaching ability is an innate talent is remarkably prevalent and it has at least three negative consequences. **First**, if teaching is a talent or "gift," then emphasis should be placed on selection and recruitment, not on staff development. **Second**, limitations in teaching may be seen as a lack of talent rather than a lack of staff development and effort and, therefore, individuals who are teaching well should be left alone and nothing can be done about teachers who are having problems. **Third**, if teaching is a talent, then criticisms of a person's teaching practices are personal attacks on the person's limited potential. Instead of assuming that teaching is a talent, the assumption should be that teaching is a craft developed through staff development.

Barrier Two: Belief That Expertise Is A State, Not A Process

Another barrier to effective staff development is the assumption that expertise in teaching is a state that once achieved, is never lost. The belief that "*Once a good teacher, always a good teacher*!" has at least four negative consequences for staff development programs. **First**, once again there is an emphasis on selection and recruitment rather than on staff development. By hiring individuals with reputations of being excellent teachers, the need for staff development is eliminated. **Second**, staff development is viewed as temporary rather than ongoing. Once a teacher has received cooperative learning training and meets the criteria for competence, then the cooperative learning staff development is finished, and the district can focus staff development efforts on new and different areas. **Third**, because high quality teaching depends on hiring good teachers and providing temporary staff development programs to bring them up to speed, staff developers may try to make staff development more cost effective by reducing the amount of resources (such as staff development days) allocated to any one topic. A consultant, for example, who promises to provide cooperative learning training to all teachers in one day while covering all the different approaches to cooperative learning may be seen as more desirable than a consultant who promises to start teachers on a multiyear journey to gain expertise in cooperative learning. **Fourth**, the view that expertise is a state can result in staff developers creating superficial criteria of expertise, such as the ability to use jigsaw, pair reading, and peer editing. Superficial criteria misdirect staff development efforts, mask the need for true expertise in using cooperative learning, and make minimal standards the staff development goals.

Expertise is a dynamic process, not a static state. Teaching effectiveness is either increasing or declining and requires continuous staff development to be maintained (see Figure 2). Elite athletes and musicians know that expertise can disappear quickly through complacency and laziness. Faculty progressively refine their competence in using cooperative learning by (Johnson & Johnson, 1994a): (a) conceptually understanding what cooperative learning is, the five basic elements that make cooperation work, and the teacher's role in using formal and informal cooperative learning and cooperative base groups, (b) using cooperative learning in

their classrooms with their students, (c) assessing how well cooperative learning lessons went and obtaining feedback from others, usually colleagues, (d) reflecting on what they did and how to improve it, and (e) using cooperative learning again in a modified and improved way. Teachers need to persevere in using cooperative learning again and again and again until they can teach a cooperative lesson routinely and automatically. As Aristotle said, *"For things we have to learn before we can do them, we learn by doing them."*

-----Insert Figure 2 About Here-----

Barrier Three: Belief Teachers Are Technicians With A Bag Of Tricks

The third barrier to effective staff development is the assumption that cooperative learning is a set of prepackaged strategies, activities, and lessons that are simple to use and may be mastered quickly. Approaches to using cooperative learning may be ordered on a continuum from direct/prescriptive approaches to conceptual/adaptive approaches (Johnson & Johnson, 1994b). **Direct approaches** train teachers to be technicians who use prepackaged curricula, lessons, strategies, and activities in a lock-step prescribed manner. **Conceptual approaches** train teachers to be engineers who use the five basic elements to (a) tailor cooperative learning lessons specifically for their circumstances, students, and needs and (b) solve any problems their students have in working together cooperatively. Virtually all technological arts and crafts use the conceptual approach. The five basic elements are (Johnson & Johnson, 1989): (a) **positive interdependence** (members believe that they are linked with others in a way that one cannot succeed unless the other members of the group succeed), (b) **individual accountability** (members know that the performance of each team member will be assessed and the results given to the group and the individual and, therefore, they cannot "hitch-hike" on the work of others), (c) **promotive, face-to-face, interaction** (members help, share, assist, encourage, and support each other's efforts to achieve and produce), (d) **interpersonal and small group skills** (members need to use leadership, decision-making, trust-building, communication, and conflict-

management skills appropriately), and (e) **group processing** (members reflect on how well the group is functioning and how its effectiveness may be improved).

Barrier Four: Belief That Staff Development Changes Individuals

The fourth barrier to is the assumption that staff development is aimed at changing individual faculty members. Changing instructional practices is not done by training isolated teachers who do not interact with their colleagues. Instead, new instructional procedures are mastered with the ongoing help and support from colleagues who are sincerely committed to one's success (Johnson & Johnson, 1994a).

Barrier Five: Belief That Staff Development Is Aimed At The Head

The fifth barrier to effective staff development in cooperative learning is the focus on changing teachers' heads, not hearts. Many staff development programs are based on the assumptions that telling teachers about a new instructional procedure will induce commitment to implement it. While intellectual understanding is important, most teachers who persist in the arduous work of continuously improving their expertise in using cooperative learning do so because of what is in their hearts (Johnson & Johnson, 1994a). Staff developers reach teachers' hearts and increase their commitment to use cooperative learning by building positive relationships among participating teachers.

Principle Three: Make Colleagial Teaching Teams The Heart Of Staff Development

Staff developers need to create for teachers the same cooperative culture that teachers are expected to create for students (Johnson & Johnson, 1994a, 1994b). They do so through the use of colleagial teaching teams. **Colleagial teaching teams** are small cooperative groups (from two to five faculty members) whose purpose is to improve continuously teachers' expertise and success in using cooperative learning and other instructional procedures (Johnson & Johnson, 1994a; Johnson, Johnson, & Holubec, 1993). **Colleagial teaching teams are first and foremost**

safe places where (a) members like to be, (b) there is support, caring, camaraderie, laughter, and celebration, and (c) the primary goal of improving each other's competence in using cooperative learning is always central.

Colleagial teams ideally meet daily, or at least once a week and (a) engage in professional discussions about implementing cooperative learning, (b) coplan cooperative lessons, (c) coteach cooperative lessons, and (d) solve implementation problems in order to continuously improve the quality of their use of cooperative learning (Johnson & Johnson, 1994a; Johnson, Johnson, & Holubec, 1993). There are a number of reasons for making colleagial teaching teams the heart of staff development efforts. McLaughlin (1989), in her review of the research on innovation in schools, concludes that high quality teaching depends on productive colleagial relationships and organizational structures that promote open communication and feedback among teachers. Fullan, Bennett, and Rolheiser (1989) conclude that colleagial interaction is the key to effective teaching. Cooperation among teachers breaks the grip of psychological isolation from other adults that presently characterizes the teacher's workplace (Sarason, 1971) and creates a forum for teachers to publicly test their ideas about teaching (Lortie, 1975). Participating in colleagial teaching teams expands teachers' expertise by supplying a source of intellectual provocation and new ideas (Little, 1987; Shulman & Carey, 1984). In addition, there is evidence that (a) for the most part, the teachers participating in a staff development program are the ones who teach each other how to use cooperative learning and sustain each other's interest in doing so, not the trainers conducting the sessions and (b) teachers need to have "on call" help and support when they need it (Berman & McLaughlin, 1978; Johnson, 1970; Lawrence, 1974; McLaughlin & Marsh, 1978).

Isler, Johnson, and Johnson (1995) surveyed 174 educators who had participated in a state-wide cooperative learning staff development program in South Carolina. Three years following training:

1. Age, gender, ethnicity were not related to level of use of cooperative learning.
2. Technical support and a positive view of staff development were only slightly related.

3. The factors most highly related to a high level of long-term use of cooperative learning were (a) involvement in a colleagial teaching team, (b) personal encouragement and support from colleagues, administrators, and students for using cooperative learning, and (c) personal commitment to cooperative learning.

In addition to the staff development literature, there are numerous studies comparing team and individual performance for adults (individuals 18 years and older) on a wide variety of outcomes (see Figure 3). We conducted a meta-analysis on this research (Johnson & Johnson, 1993). The studies were divided into those using individual productivity as the measure of success and those using team productivity as the measure of success. The results for the over 120 studies that compared teams and individuals on individual productivity indicated that working in teams resulted in higher individual productivity than did working competitively or individualistically (effect sizes of 0.54 and 0.51 respectively). These results held true for verbal, mathematical, and procedural tasks. Over 57 studies were found that compared team and individual work on team productivity. Overall, working in teams resulted in higher team productivity than did having team members working competitively or individualistically (effect sizes of 0.63 and 0.94 respectively). These results also held true for verbal, mathematical, and procedural tasks. Working in teams was also found to promote more positive relationships and social support among members as well as greater psychological health, self-esteem, and social competencies.

-----Insert Figure 3 About Here-----

Principle Four: Plan Multi-Year Staff Development Programs

I (David) had the privilege of working with Max Goodson as part of a national project known as the Cooperative Project for Educational Development (COPED) in the 1960s. Its intent was to implement systematically school-based decision making throughout schools in the

United States. The results of COPED made it very clear that changing schools requires a multi-year effort. Staff developers need to plan long-term programs that go on for years, not days.

There are numerous reasons why staff developers should plan a multi-year, long-term staff development program rather than a number of short-term, varied staff development sessions (see Figure 4). **First**, in order for teachers to implement cooperative learning procedures to a routine-use level, teachers need time to gain experience in an incremental step-by-step manner. **Second**, adopting a new teaching practice requires substantial shifts in habits and routines. These shifts take time. With only a moderately difficult teaching strategy, for example, teachers may require (a) 20 to 30 hours of instruction in its theory, (b) experience in using the teaching strategy 15 to 20 times in actual lessons, and (c) an additional 10 to 15 coaching sessions to attain higher-level skills (Joyce, Weil, & Showers, 1992). For a more difficult teaching strategy like cooperative learning, teachers need considerably more time, experience, and support. **Third**, role overload and feelings of helplessness may result when teachers are expected to gain expertise in cooperative learning in too short a period of time with too little staff development. When given limited training, teachers can feel overwhelmed and unable to cope. Two to three years may be the average amount of time required to become a skilled user of cooperative learning procedures.

-----Insert Figure 4 About Here-----

Our Staff Development Plan

We prefer three years to train teachers (Johnson & Johnson, 1994a). During the past thirty years we have worked with hundreds of school districts to implement cooperative learning. Our cooperative learning network extends throughout North, Central, and South America, Europe, Africa, the Middle East, and Asia. An overview of our teacher staff development program in cooperative learning is as follows. **The staff development begins with an awareness session for all teachers and staff members so that everyone shares a common understanding of cooperative learning**. The awareness session gives faculty and staff a common understanding of what cooperative learning is, how to use it, and why they need it. As a result of the awareness

session, interested teachers are asked to volunteer to participate in a multi-year, long-term staff development program. In the initial staff development program, only the best teachers who volunteer should be included and they should be given considerable support and assistance to ensure their implementation is successful. If the initial implementation efforts fail, the entire faculty may be inoculated against using cooperative learning in the future. The teachers trained may be demonstration sites for other faculty who wish to see cooperative learning in action.

The first year, teachers who volunteered receive six days of training in the fundamentals of cooperative learning and meet weekly in colleagial teaching teams to help each other implement what they have learned (Johnson, Johnson, & Holubec, 1993). The staff development sessions are distributed throughout the year. The staff development focuses on the nature of cooperative learning, the teacher's role in using cooperative learning, the basic elements that make cooperation work, and the research supporting the use of cooperative learning. Weekly colleagial teaching team meetings help each group member to implement cooperative learning. The participating teachers become an in-house demonstration project for other teachers.

The second year, the same group of teachers receive six days of training in the advanced use of cooperative learning and meet weekly in their colleagial teaching teams to help each other implement what they have learned (Johnson, Johnson, & Holubec, 1992a). The staff development sessions are distributed throughout the year. The sessions focus on (a) using all three types of cooperative learning (formal, informal, and base groups) in an integrated way, (b) using cooperative, competitive, and individualistic learning in an integrated way, (c) teaching students small group skills, and (d) using cooperative learning procedures to teach generic lessons such as writing a theme or learning vocabulary words. Weekly colleagial teaching team meetings help each group member to continue to implement cooperative learning. The participating teachers continue as an in-house demonstration project..

Also in the second year, a new cadre of teachers begin the training in the fundamentals of cooperative learning and administrators receive six days of training in how to lead the

cooperative school (Johnson & Johnson, 1994a). The staff development sessions are distributed throughout the year. The administrators learn to (a) organize faculty and staff into cooperative teams, (b) use cooperative procedures effectively in meetings, (c) encourage and supervise teacher use of cooperative learning, and (d) be part of an administrator colleagial support group focused on helping each other implement cooperative procedures in their schools and district.

The third year the same teachers receive six days of training in conflict management and meet weekly in their colleagial teaching teams (Johnson & Johnson, 1995a, 1995b). In staff development sessions distributed throughout the year the training focuses on how to (a) use structured academic controversies to increase creativity, achievement, higher-level reasoning, perspective-taking ability, and motivation, and (b) train students to negotiate constructive resolutions to conflicts of interest and mediate their schoolmates' conflicts (e.g., Teaching Students To Be Peacemakers Program). **Resolving conflicts constructively becomes a central issue in maintaining long-term cooperative efforts.** Weekly colleagial teaching team meetings focus on implementing academic controversy and the Peacemaker Program. The participating teachers serve as an in-house demonstration project. The second cadre of teachers takes the advanced cooperative learning training and a new cadre of teachers can begin on the fundamentals of cooperative learning.

Superstar teachers and other interested district personnel enter a leadership training program and receive six days of training in how to conduct the cooperative learning staff development sessions and facilitate the implementation of cooperative learning. Eventually, the school district has teachers and staff development personnel who conduct the above sequence of training. The leadership training program focuses on how to (a) conduct the cooperative learning sessions, (b) give inclassroom help and support to teachers being trained, and (c) organize and facilitate the functioning of colleagial teaching teams.

In order to conduct this three years of staff development, there are pre-training, training, and post-training factors that need to be attended to if teachers are going to learn how to use cooperative learning effectively.

Principle Five: Pretraining Preparation Sets The Parameters Of Staff Development Effectiveness

The fable of the ant and the grasshopper (the ant worked hard all summer preparing for the winter while the grasshopper played and danced) makes the point that success depends on preparation. Generally, the harder you work preparing, the more assured is your success. The same principle holds true for staff development programs (see Table 1). Much of the success of staff development programs depends on what happens before the training begins (Johnson & Johnson, 1994a). Effective staff development can be ensured by the following practices.

-----Insert Table 1 About Here-----

1. Recruit teaching teams, not individual teachers, to participate in the training. A traditional error in staff development programs is to take individual teachers out of the school, give them staff development, and then return them to their classrooms assuming that they will implement what they have learned, separate and apart from all other faculty. Usually, the school norms and the role expectations of colleagues, administrators, and students pressure the teachers to revert to previous instructional practices. A more effective practice is to have teachers participate in teams so they can provide each other with support and assistance in implementing cooperative learning.

2. Ask teachers to volunteer for the staff development program. Mandatory attendance in staff development programs tends to demoralize teachers who then often resist in both passive and active ways. Volunteering to participate results in higher motivation to learn, greater learning, and more positive trainee reactions than does mandatory attendance (Cohen, 1990; Hicks & Klimoski, 1987; Mathieu, Tannebaum, & Salas, 1990).

3. Create the expectation that problems will naturally occur in implementing cooperative learning and mistakes and failures are an accepted part of gaining expertise. Implementing cooperative learning requires faculty members to take risks. They will make mistakes. Some of their cooperative lessons will fail. Most teachers are "risk aversive," so it is more important to reduce the negative consequences of implementation problems than to

enhance the positive incentives for implementation (Johnson & F. Johnson, 1996). Administrative support especially reduces the costs of failure and make it easier for teachers to implement cooperative learning.

4. Allow only the best and most committed teachers attend the initial staff development program. Staff developers should guard the gate and monitor carefully who participates in the initial training. Disgruntled, nonconstructive, alienated, and incompetent teachers should **not** participate. Cooperative learning training is not remediation. Initially, a small group of volunteer, outstanding teachers and administrators should be chosen to participate in the staff development program. Change should proceed over a period of years from the most competent and interested teachers to the least competent and most resistant teachers.

5. Hold teachers accountable for demonstrating what they learn to their colleagues. In many staff development programs teachers are recruited to attend with no responsibility for implementation. Individuals who enter training expecting some form of follow-up or assessment tend to have stronger intentions to transfer what they learn to their jobs (Baldwin & Magjurka, 1991). Even giving a short summary in a faculty meeting of what participants learned may result in more actual use of cooperative learning.

6. Reduce any constraints on using cooperative learning. Indicating that no change will occur in teaching circumstances after the staff development sessions are over sabotages their effectiveness. Mathieu, Tannenbaum, and Salas (1990) found that trainees who reported many situational constraints in their job (e.g., lack of time, equipment, and resources) entered training with lower motivation to learn. There is little incentive to learn new instructional procedures in an environment where teachers can not apply the skills. Anything in the school environment that discourages the use of cooperative learning will affect how seriously teachers will take the training. The more a principal emphasizes a quiet classroom and lecturing, for example, the less seriously teachers will respond to cooperative learning training.

7. Make it clear that the post-training school environment will encourage rather than discourage the use of cooperative learning. A positive transfer climate is created when trained

teachers are expected to use of cooperative learning and participate in colleagial teaching teams. What is discussed in faculty meetings, the displays on the school's walls, newsletter articles on what is taking place in the school, and even the way faculty meetings are organized can all communicate that teachers should use cooperative learning (Johnson & Johnson, 1994a).

Principle Six: Practice What You Teach (Use Cooperative Learning During Training!)

During training sessions staff developers should follow the practices validated by the research on retention, transfer, and long-term maintenance of new practices (see Table 2).

-----Insert Table 2 About Here-----

1. Focus staff development on teams. As discussed previously, training teams provides a number of other advantages over individual training (Johnson & F. Johnson, 1996), including greater learning, a mutual redefinition of role responsibilities and instructional practices, greater social support for implementing cooperative learning, clearer norms and role definitions, and greater alteration of teachers' attitudes and behavior patterns. Positive attitudes toward cooperative learning and commitment to implement cooperative learning are more easily built through team experiences than from individual experiences. Despite the research, however, many staff development programs are based on an extraordinary faith in the value of individual training.

2. Use cooperative learning procedures the majority of the time in the staff development sessions. Avoid making teachers passive observers by lecturing about, describing, and modeling cooperative procedures. In mastering procedural skills, listening and watching are ineffective compared with doing (Johnson, Johnson, & Smith, 1991; Schneider, 1985).

3. Distribute staff development in cooperative learning across a number of sessions. It is quite common to mass staff development sessions all together, perhaps because massed training sessions appear to be more effective during the training, tend to be less expensive and easier to conduct, and take less time to conduct than do spaced staff development sessions.

Practice sessions spaced in time, however, tend to promote greater long-term retention than do massed practice sessions (Dempster, 1990; Lee & Genovese, 1988). Typically, massed training sessions tend to result in higher performance during and immediately following training than will the spacing of practice, but much poorer performance in the long term. The spacing effect of training is one of the most reliable phenomena in psychology.

4. Emphasize conceptual understanding of the nature of cooperative learning and the basic elements that make it work. While many teachers like take-and-use sessions, developing a mental model of the cause-and-effect relationships inherent in the use of cooperative learning increases retention of what is learned, transfer to the classroom, and long-term maintenance of the use of cooperative learning (Farr, 1987). Conceptual understanding provides teachers with a framework to organize what they know about cooperative learning, guides their practice, and integrates their new knowledge. Seeing the internal cohesion of cooperative learning procedures, where each step in conducting a cooperative lesson cues the next, increases the likelihood of teachers using it with high fidelity year after year (Horton & Mills, 1984). In other words, training teachers in how to use a cooperative technique by executing a series of actions may seem the effective thing to do during a training session, but is counterproductive when teachers face different more complex situations in their own classrooms. Emphasizing conceptual understanding of cooperative learning may slow mastery in a staff development session, but increase retention, transfer, and long-term implementation.

5. Have teachers overlearn the procedures for implementing the five basic elements of cooperative learning into each lesson. Avoid the cafeteria approach to staff development which exposes teachers to a variety of cooperative learning techniques in one session. Instead, have teachers apply the five basic elements of cooperative learning in several different ways. Staff developers often underestimate the importance of **overlearning** (post-mastery learning that results in automatic use). Teachers need to practice and practice the same cooperative learning procedures over and over again during the staff development sessions and in their classrooms

between training sessions and after the training is over. Retention and long-term use are greater for overlearned procedures (Schendel & Hagman, 1982; Slamecka & McElree, 1983).

6. **Make the training challenging**. Do not simplify cooperative learning so that teachers can easily master a number of techniques in a short period of time with very little effort. Staff development is made more challenging by increasing the cognitive demands required for understanding cooperative learning (Battig, 1979; Magill & Hall, 1990). Generally, the more cognitive processing required, the greater the retention and transfer. Cognitive processing is increased by **contextual variety**--changing tasks, procedures, and practice conditions. When teachers practice cooperative learning under varied conditions and sequences, teachers have to develop a more elaborated mental representation of cooperative learning. This more generalized knowledge prepares teachers to use cooperative learning in more flexible and varied ways in different settings and under different conditions. Contextual variety typically results in poorer performance in training, but superior performance in post-training situations.

Staff-developers face a conflict between (a) presenting staff development sessions that teachers like and perceive as effective and (b) ensuring retention, transfer to the classroom, and long-term maintenance of the use of cooperative learning. Quite often, these two goals are in direct opposition to each other. **While the research on effective training is not new, it is often forgotten in the politics of promoting staff development sessions.** If staff developers wish to focus on the long-term implementation of cooperative learning, they will follow the guidelines given above.

Principle Seven: Support Implementation Between And After Training Sessions

Attending entertaining staff development sessions that teachers enjoy does not mean that teachers will in fact use cooperative learning when they return to their school. Most worthwhile changes require time for adaptation, adjustment, and refinement. Teachers, therefore, need to be supported over a long period of time to make changes in their instructional practices. Gusky

(1994) notes that teachers implementing a new instructional practice almost always achieve better results the second year than the first. The first year is a time of experimentation while in the second year teachers' efforts are typically more refined and efficient. If continued support is not offered during the second and third years, teachers may not get the kind of results that are really possible. The impact of cooperative learning, in other words, may be underestimated until the second or third year of use. To promote the long-term use of cooperative learning staff developers may wish to do the following (see Table 3).

-----Insert Table 3 About Here-----

1. **Focus on team implementation of cooperative learning**. As has been discussed earlier, post-training activities are best carried out in colleagial teaching teams. Colleagial teaching teams facilitate the implementation of cooperative learning in a number of ways. **First**, the more a team is used to implement new practices, the greater the innovation and restructuring of work that takes place, even when team members have quite diverse perspectives (Tjosvold, 1990; Tjosvold & McNeely, 1988). **Second**, team members can ensure that opportunities are available to use what was learned and immediately practice cooperative learning procedures. Pentland (1989) conducted a study involving IRS managers and found that attempts to practice trained computer skills immediately on returning to the job had a major impact on long-term retention of the skills. Ford, Quinones, Sego, and Speer (1991), in a study of Air Force technical trainees, noted that there were (a) significant differences in opportunity to apply the training and (b) wide variations in the length of time before trainees first performed the tasks for which they had been trained. Supervisor and peer support were found to be related to the extent to which airmen had opportunities to perform the trained tasks.

Third, team members can hold each other accountable for using cooperative learning, which increases their intentions to implement cooperative learning (Baldwin & Magjuka, 1991), increases their actual implementation (Marx & Karren, 1990), ensures that faculty members "*go public*" with their efforts to implement cooperative learning, and makes their implementation efforts visible and observable. A testimonial in Weight Watchers, for example, makes a person's

level of commitment quite visible to others. **Fourth**, team members can coteach cooperative lessons together. Frequently coteaching enables teachers to (a) provide each other with useful, continual feedback as to the accuracy of their implementation and (b) encourage each other to persevere in implementation attempts long enough to integrate cooperative learning into their ongoing instructional practice.

Fifth, team members can provide each other with both professional and personal support for improving continuously their use of cooperative learning regularly, appropriately, and with fidelity. To persist in preparing and delivering high-quality cooperative lessons day after day, teachers need support, encouragement, and assistance. In their review of the literature, Baldwin and Ford (1988) found that social support was the most important influence on transfer. Social support is required for (a) increasing members' self-efficacy, (b) motivating members to create great lessons daily, (c) reducing members' stress, (d) reducing members' evaluation apprehension, and (e) increasing members' instructional success. **Sixth**, team members provide each other with a positive transfer climate. **Transfer-climate** consists of goal, social, task, and structural reminders for trainees to use their training. Rouillier and Goldstein (1991) studied assistant managers who completed a week-long training program. The managers were randomly assigned to one of 102 organization units. Trainees demonstrated significantly more trained behaviors in units with a more positive transfer climate, even after controlling for learning and for unit performance. Teams are an ideal structure for providing members with a positive transfer climate.

Finally, in team meetings, members provide each other with feedback about their implementation efforts and celebrate the success they are having in using cooperative learning. Fleming and Sulzer-Azaroff (1990) studied paraprofessionals at a facility for the handicapped. They found that implementation and maintenance of the procedures and skills learned during training was increased when paraprofessionals were assigned to pairs and provided their partners with feedback and reinforcement. They concluded that stable and enduring performance of newly

learned skills in application settings is very much impacted by the social support and rewards provided by other implementers.

2. Provide participating teachers with the resources they need to implement cooperative learning effectively. It takes far more than the training sessions to create a successful staff development program. The most important resource is colleagues with whom teachers can frequently plan, design, prepare, and evaluate lesson plans together. Integrated curriculum and thematic teaching depend on such coplanning and codesigning. Transfer, furthermore, is facilitated when teachers are given such resources as (a) time during the work day to meet in their colleagial teaching teams, (b) procedures that make it easy to co-teach and visit each other's classrooms, (c) multiple copies of materials they wish to jigsaw or otherwise use in a cooperative lesson, and (d) direct encouragement to use cooperative learning from the principal. Even providing some food for team meetings may make a difference in teachers' efforts to implement cooperative learning. There is evidence that if the organization has clear goals, incentives, and job aids for using what was learned, transfer is encouraged (Tjosvold, 1990a, 1990b, 1990c; Tjosvold & McNeely, 1988). Transfer is discouraged if peers who did not take the training ridicule the use of the new skills, if job responsibilities have not been modified to require the use of the new competencies, or if the equipment or materials necessary to do so is lacking.

3. Provide considerable clarification of what cooperative learning is and how it may be used over a period of months after the staff development sessions have ended. Clarification takes place in professional discussions in colleagial teaching teams. Professional discussions among colleagues are essential for building collaborative cultures in schools (Fullan & Hargreaves, 1991; Little, 1990), supplying a source of intellectual provocation and new ideas (Little, 1982), creating a forum for teachers to publicly tests their ideas about teaching (Lortie, 1975), providing the social support that is critical for the ongoing professional development of teachers (Nias, 1984), helping teachers develop a common vocabulary with which to discuss their implementation of cooperative learning (Little, 1982), and increasing commitment to continuously improve the use of cooperative learning (Johnson & F. Johnson, 1996).

4. Expect teachers to adapt cooperative learning procedures to their unique circumstances. Every class is unique. The mixture of students' academic skills, work habits, and interest in the material not only changes from class to class but may also change in a class over the course of the year. Teachers need to be able to adapt flexibly their use of cooperative learning throughout the year and from year to year.

5. Require each teaching team to gather concrete data on the frequency and fidelity of members' implementation of cooperative learning. Concrete data about the quantity and quality of the implementation of cooperative promotes both self-assessment of one's use of cooperative learning and problem-solving discussions with colleagues on how to improve. In Japan, the mutual dedication to continuously improvement is called kaizen, a society wide covenant of mutual help in the process of getting better and better, day by day.

6. Have teams celebrate members' success in implementing cooperative learning. Team celebration involves having others knowledgeable about one's implementation efforts and thereby able to communicate respect and admiration for the results of one's work.

7. Remind teachers that refining and increasing expertise in using cooperative learning is a life-long process. The time it takes to gain the expertise to implement cooperative learning with fidelity and flexibility is often underestimated.

Cooperative learning is far more than an instructional procedure. It is at heart a change in organizational structure that should occur at all levels of the school district.

Principle Eight: Change The Organizational Structure Of The School

Staff development programs may be facilitated or demolished by the organizational structure of the school. W. Edwards Deming and others have argued that more than 85 percent of an individual's actions in an organization are directly attributable to the organization's structure, not to the nature of the individual (Johnson & Johnson, 1994a). For nearly a century, schools have functioned as mass-production organizations. The **mass-production organizational structure**

divides work into small component parts performed by individuals who work separately from and, in many cases, in competition with peers. Teachers have worked alone, in their own room, with their own set of students, and with their own set of curriculum materials. In this view, students can be assigned to any teacher because teachers are all equivalent, interchangeable parts and, conversely, teachers can be given any student to teach because all students are considered to be interchangeable. This organizational structure promotes competitive and individualistic learning and obstructs the long-term implementation of cooperative learning.

In order for schools to focus on improving instruction, they need to adopt the team-based, high-performance organizational structure, generally known as the cooperative school (see Johnson & Johnson, 1994a). The **team-based, high-performance organizational structure** organizes members into teams (often self-managing) that are responsible for continuously improving work processes. The assumption is that if the quality of the process through which work is done is continuously improved, the final outcome will take care of itself. Thus, in a **cooperative school** students work primarily in cooperative learning groups, teachers and building staff work in colleagial teaching teams, and district administrators work in colleagial administrative teams (Johnson & Johnson, 1994a). Such a team-based organizational structure determines the pattern of day-to-day behavior of students, teachers, and administrators and significantly increases their productivity. Students work together to improve the quality of their own and each other's efforts to learn. Teachers work together to improve the quality of their own and each other's teaching. Administrators work together to improve the quality of their own and each other's efforts to facilitate instruction and manage the school and school district.

Summary

Staff development in cooperative learning is a process aimed at improving teachers' expertise in using cooperative learning effectively. To be effective, staff development has to focus on (a) creating the conditions for successful staff development prior to training, (b) conducting high quality training sessions that result in mastery of the conceptual framework and

procedures for using cooperative learning, (c) providing support for the transfer of what is learned in the sessions to the classroom, (d) providing support for long-term maintenance of the learned procedures for years afterwards, and (e) institutionalization of cooperative learning as a standard instructional practice supported by the district.

To accomplish these purposes staff developers need to establish and strive to achieve long-term as well as immediate goals, avoid the barriers to effective staff development, create colleagial teaching teams as the heart of staff development efforts, plan multi-year staff development programs, follow the guidelines for effective preparation for staff development sessions (preparation sets the parameters of effectiveness), practice what you teach in staff development sessions (use cooperative procedures), support implementation between and after training sessions, and change the school's organizational structure from a mass-production structure to a team-based, high-performance structure.

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Table 1

Pre-Training Factors Affecting Success Of Staff Development

Effective Staff Development Programs	Ineffective Staff Development Programs
Teams Are Sent To Training	Individuals Are Sent To Training
Free Choice To Be Trained	Compulsory Training
Low Cost Of Implementation Errors	High Cost Of Implementation Errors
Monitoring Of Who Participates	Anyone Can Participate
No Constraints For Using CL	Difficult To Use CL After Training
Demonstrating To Colleagues Expected	No Accountability To Learn
Goals And Roles Encourage CL	Goals And Roles Discourage CL

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Table 2

Training Session Factors Affecting Success Of Staff Development

Effective Staff Development Programs	Ineffective Staff Development Programs
Training Is Aimed At Teams	Training Is Aimed At Individuals
Cooperative Procedures Dominate	Lecturing/Describing/Modeling Dominate
Training Sessions Are Distributed	Training Sessions Are Massed Together
Conceptual Understanding Emphasized	Take And Use Structures And Lessons
Overlearning Of One Approach	Cafeteria Of Approaches And Procedures
Challenge Cognitively And Procedurally	Simple And Easy Procedures Taught

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Table 3

Post-Training Factors Affecting Success Of Staff Development

Effective Staff Development Programs	Ineffective Staff Development Programs
Focus On Team Implementation	Focus On Individual Implementation
Provide Resources Needed To Succeed	No New Resources Provided
Learning About CL Continues	Learning Is Assumed To Be Complete
Flexible Adaptation Of CL Procedures	Using CL Procedures "As Is"
Team Assessment Of Success	Individual Assessment
Positive Feedback And Celebrations	Self-Congratulation Only
Implementation Of CL Goes On Forever	Implementation Efforts Are Temporary

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Figure 1

Overview of Chapter

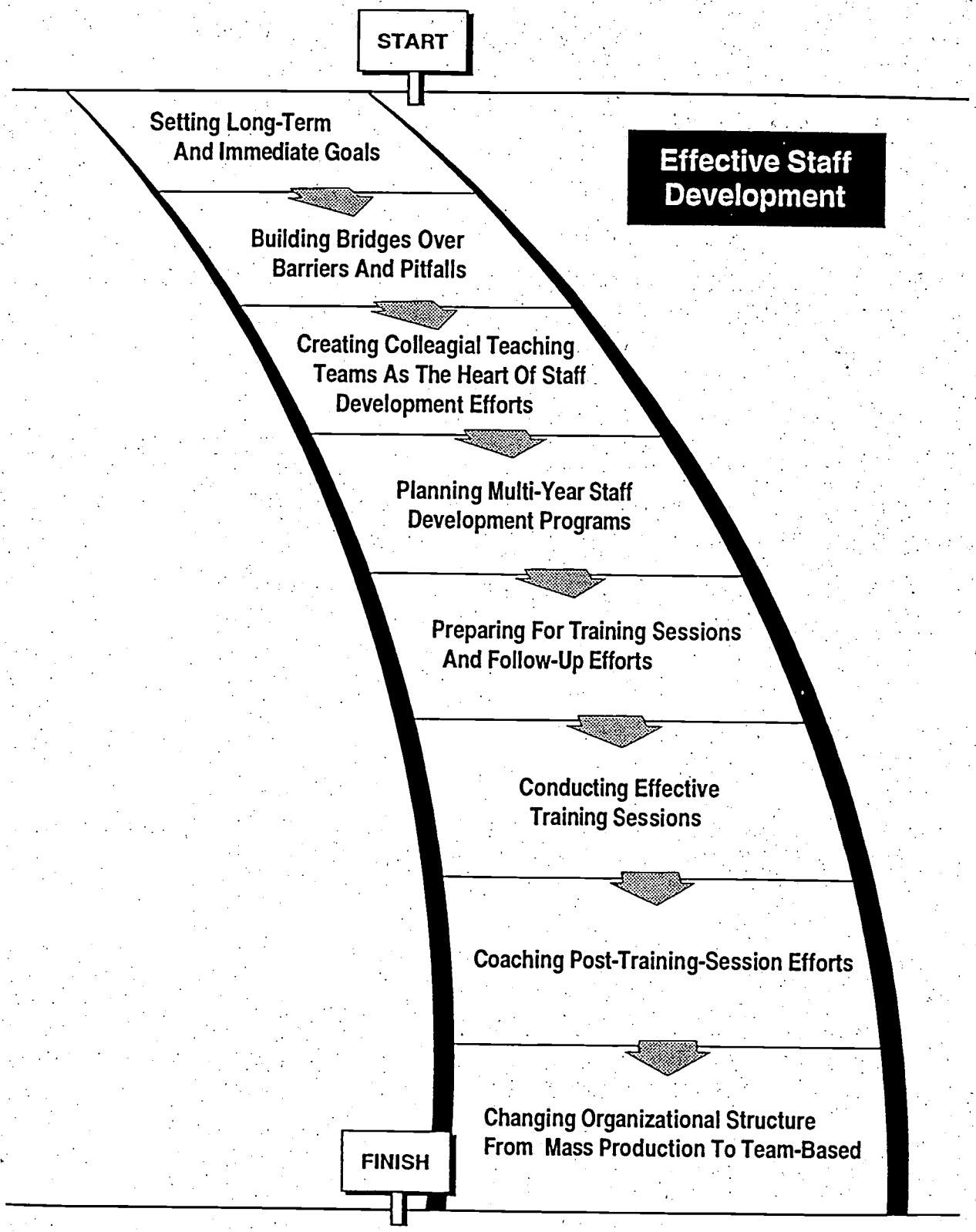


Figure 2

Progressive Refinement Of Expertise

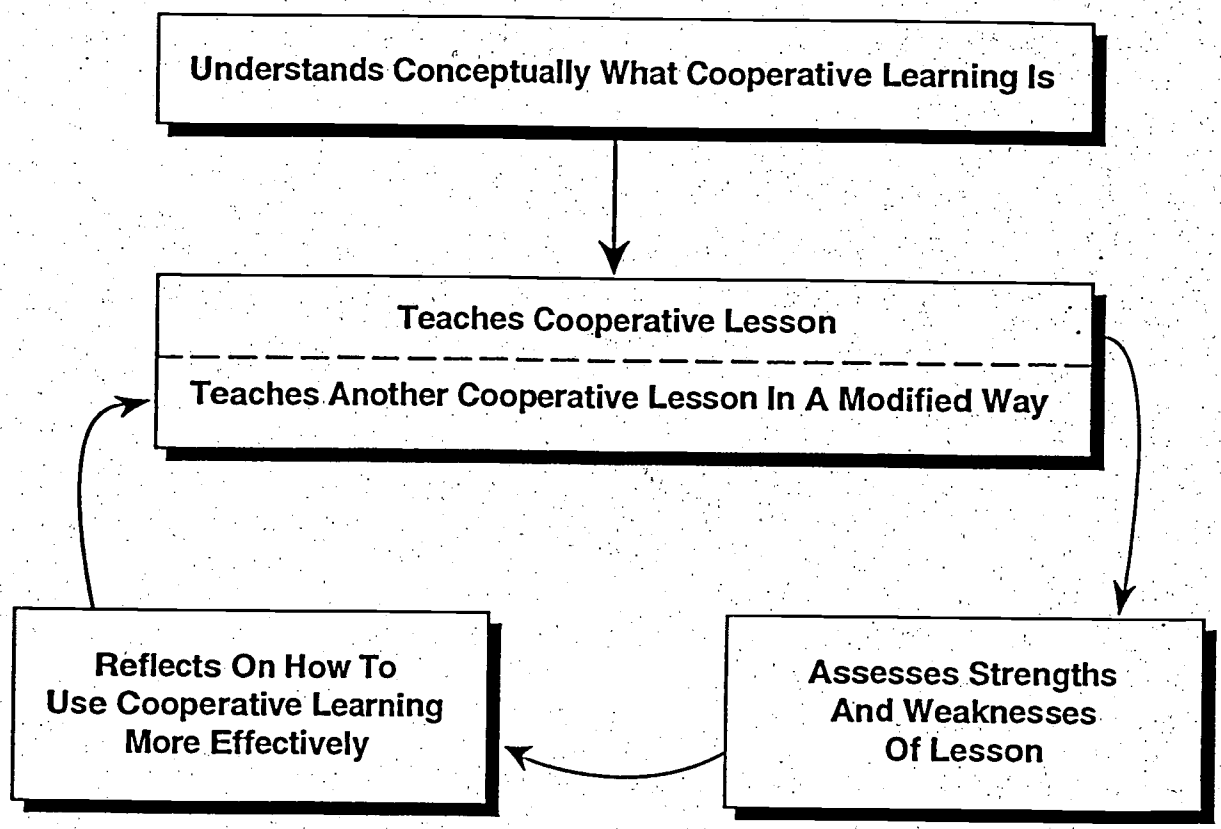


Figure 3

Research Outcomes Of Cooperative Efforts

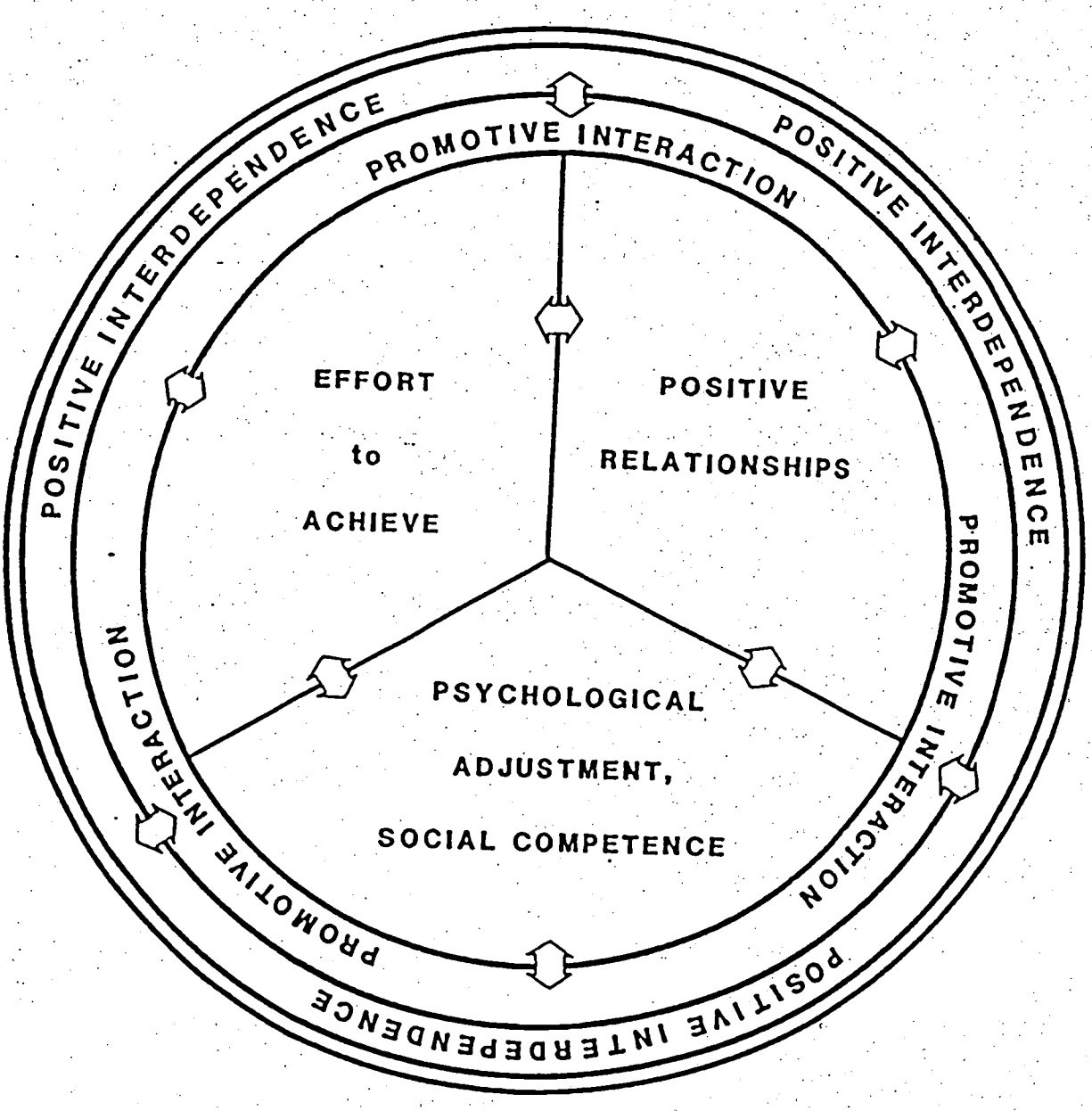
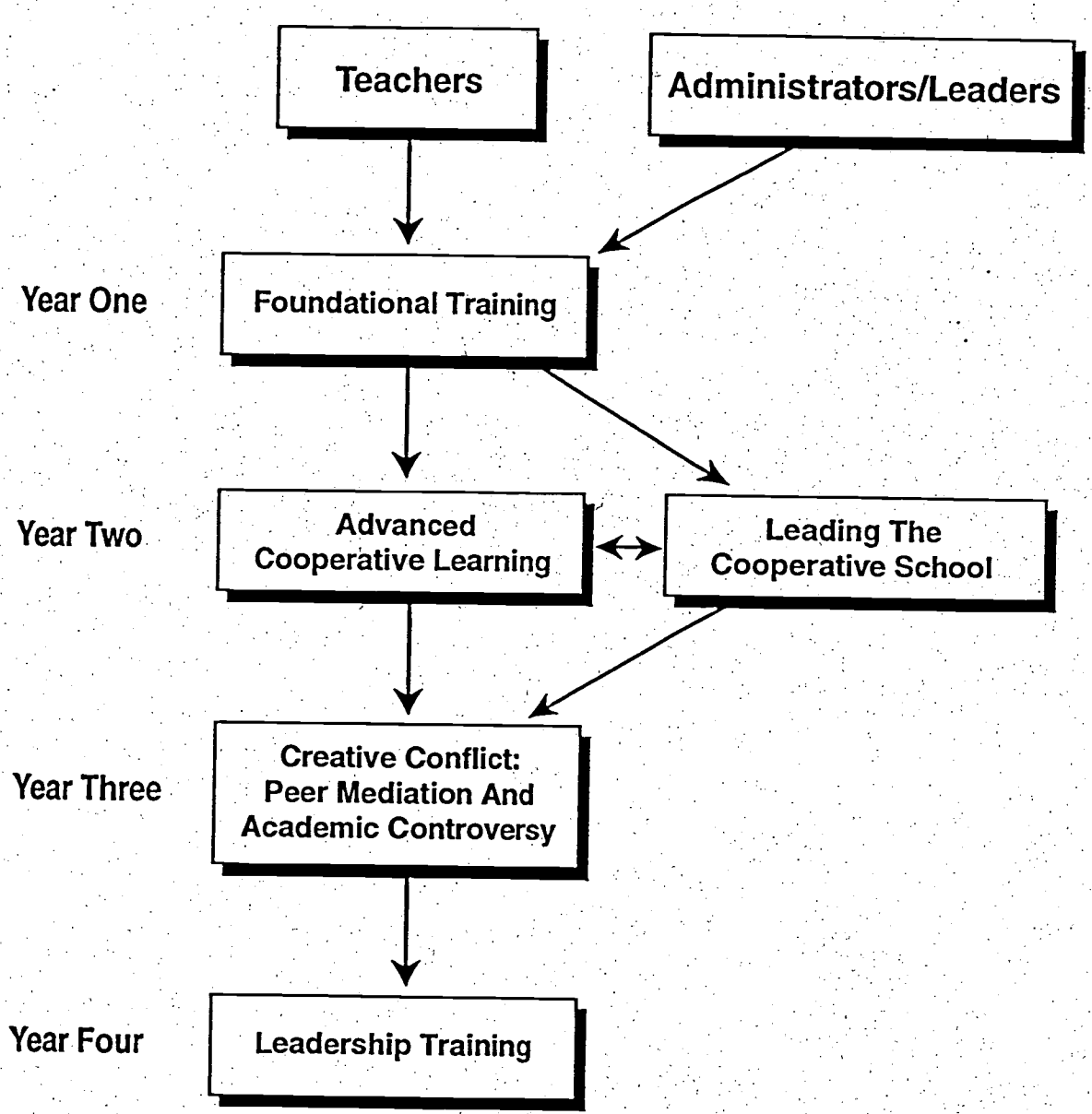


Figure 4

Multi-Year Training Program



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