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A Study of Cooperative Learning at the High School Level

Lisabeth S. Margulus
Western Michigan University

A STUDY OF COOPERATIVE LEARNING AT THE HIGH SCHOOL LEVEL

by

Lisabeth S. Margulus

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A STUDY OF COOPERATIVE LEARNING AT THE HIGH SCHOOL LEVEL

Lisabeth S. Margulus, Ed.D.

Western Michigan University, 1992

The purpose of this study was to answer the following research questions:

1. Which teacher skills are necessary to implement effective teamwork in a classroom?

2. What kind of learning environment is optimal for implementing effective teamwork in a classroom?

3. In classrooms using teamwork, does greater student achievement occur than in classrooms not using teamwork?

The study outlined the specific teacher skills and described the optimal learning environment for implementing cooperative strategies in high school classrooms. To address the third question, an experimental study was conducted in which sixty-four 10th-, 11th-, and 12th-grade Business Applications and Technology students in two urban high schools with similar demographics were assigned randomly to one of four sections (two at each school). Each group had 16 students, and each treatment class of students was heterogeneously grouped into teams according to ability (high, low, and average) as determined by criterion-referenced pretests. The same two teachers, one at School 1 and one at School 2, taught both the treatment and control classes. Both teachers had the same training

and supervision, and they both taught their jointly-developed lesson plans simultaneously.

The findings of the study were mixed, though the treatment group at School 2 clearly outperformed the control group at School 2. However, there was a positive correlation between attendance and achievement at both schools in the treatment groups.

Possible reasons for these inconsistencies were presented and recommendations were made to improve future studies on this topic. Also, a thorough discussion of all of the benefits to students regarding cooperative skill development that resulted from this research was presented.

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Lisabeth S. Margulus

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CHAPTER I

INTRODUCTION

The workplace is changing, and so also are the skills that employees must have to change with it. Studies in changes in work note the shift of labor and capital out of manufacturing and into high-technology and service industries. This shift is reflected by technological advances that affect workers and the workplace across many industries. Today's workplace demands not only a strong command of the three Rs, but much more. Employers want a new breed of worker with a broad set of workplace skills (Raven, 1986). Employers expect their employees to have basic skills in reading, writing, and mathematics; speaking and listening skills; problem-solving ability; employability skills; reasoning skills; leadership skills; computer literacy skills; interpersonal skills; learning how to learn skills; and collaborative/teamwork skills (Imel, 1989). Several states have conducted thorough employability skills surveys of employers in various occupations to identify the skills which they believe to be vitally important to success in the modern workplace. The Department of Education of the state of Colorado in 1983 (Hulsart & Bauman, 1983) and again in 1990 (Hulsart, 1990) examined the literature on the entry level skill needs of businesses. Their report stressed the need for teaching team collaborative skills. This belief was confirmed by the Employability Skills Task Force for

the state of Michigan in 1989. In Michigan the task force concluded that workers will need both general knowledge and information as well as that necessary for their specific jobs. They also need the ability to apply that information and knowledge to the solution of familiar and new problems. Moreover, future employees need personal management skills that allow them to develop and demonstrate the attitudes, abilities, behaviors, and decision-making processes associated with responsibility and dependability. Finally, the employers believed that a third major category of skills needed would be teamwork skills. These skills would enable employees to function effectively as members of multiple work teams and to contribute to groups in accomplishing work tasks. Specifically named were: (a) identify with the norms, values, customs, and culture of the group; (b) communicate with all members of the group; (c) show sensitivity to the thoughts and opinions of the members of the group; (d) use a team approach to identify problems and devise solutions to get a job done; (e) exercise give and take to achieve group results; (f) function in changing work-settings and in changing groups; (g) determine when to be a leader and when to be a follower depending upon what is necessary to get a job done; (h) show sensitivity to the needs of women and ethnic and racial minorities; and (i) be loyal to a group (Mchrens, 1989). In Minnesota, Fountain (1991), editor of The Minnesota Youth Trust paper, asked the members of the Minneapolis community what they should expect from high school graduates. Virtually all of the responses cited the need for students to be trained in teamwork skills.

In addition to these surveys, Natriello (1989) reviewed 14 recent studies which aimed to designate the qualifications necessary for new employees in entry level jobs. Although the studies varied greatly, all of the results of the studies suggested that teamwork and positive attitudes were valued highly. The research in which teamwork was especially ranked high included the following: a survey of 96 Mississippi employers in the fields of manufacturing, service, public employment, wholesale, and retail (Baxter & Young, 1982); interviews with personnel officers of first-line supervisors in eight San Francisco Bay area companies (Chatham, 1983); a survey of 1,912 employers who employed a national sample of American 22-year-old high school graduates in 1976 and 25-year-old high school or college graduates in 1979 (Crain, 1984); and interviews with 135 managers, owners, and supervisors; 130 entry-level employers; 45 military and 8 civilian instructors; and 57 recruits in Colorado (Hulsart & Bauman, 1983).

What is a team? A team is "a group of people, committed to achieving a common objective, who work well together, enjoy doing so, and who produce high quality results" (Plante & Moran, Inc., 1990, p. 1). Teamwork involves people who work cooperatively to do long- and short-range planning, to creatively solve problems, and to accomplish other tasks that are important to the success of the group (National Center for Research in Vocational Education, 1991). Furthermore, teamwork is a planned and managed coordination of effort by a group with a common goal (Lefton, Buzzota, & Sherberg, cited in Carnevale, Gainer, & Meltzer, 1990). Underlying these

definitions of teamwork is a concept of cooperation in which individuals' interests are subordinated to group unity and efficiency. In the workplace, teams are organized so that individual talents and skills can be directed through group efforts to the accomplishment of vital tasks and goals. This pooling of human resources frequently requires people to display the flexibility and versatility that allows team members to complement each other's skills (Carnevale et al., 1990).

Teamwork is built on five principles: (1) the principle of distributed leadership, where all group members are capable of understanding, learning, and performing leadership tasks; (2) the principle of heterogeneous grouping; (3) the principle of positive interdependence, in which the group members recognize and value their dependence upon one another; (4) the principle of social skills acquisition, whereby the effectiveness of the group is determined by the acquisition of specific social skills; and (5) the principle of group autonomy, whereby a group is more likely to attempt resolution of their problems if they are not "rescued" (National Center for Research in Vocational Education, 1991). Teammates should hold each other accountable; understand the culture of the group; negotiate to arrive at a decision; ask opinions of others; withhold judgment; ask others if they need help; give freely of advice; volunteer and observe; complete work in a timely fashion; pitch in until the job is done, recognizing personal strengths and weaknesses; know when to follow, when to lead, and when to take a stand; adapt to the culture of the group; understand team

definition, team role, team functioning, and team dynamics; possess concern for teammates in the process; express the culture of the group; prepare for group work; share responsibility, decision making, and ownership; pool resources; encourage communication; have the we-versus-me/they philosophy; and be a consensus builder (Michigan Employability Skills Task Force, 1991). The quality of teamwork is governed by the extent team members can execute these skills.

Team members must also learn the skill of leadership. Kolb (cited in Kolb, Rubin, & McIntyre, 1984), of Case Western Reserve University, Cleveland, Ohio, stated the belief that leadership is really a group function in which most members will contribute to the achievement of goals and to the maintenance and growth of a group. From a practical standpoint, delegating the role of leader to only one person is a highly inefficient use of resources. Team participants can learn to be both effective managers and participants (Kolb et al., 1984).

There are worthwhile benefits of teamwork: increased productivity and efficiency; greater stability; achievement of group objectives and personal goals; willingness to take risks; greater comfort level; clarification of goals, roles, procedures, and relationships; increased collaboration and reduced competition; and enhanced ability to handle change (Plante & Moran, Inc., 1990). Because of all these benefits of collaboration, employers have become interested in schools teaching these skills.

Employer interest in improving students' skills is driven by economic concerns. When deficiencies affect the bottom line,

employers respond with training or replacement. The "upskilling" of work in America is driven by technical changes, innovation, and a sense of heightened competition. Business strategies, such as collaboration, exemplary customer service, and an emphasis on quality, demand teamwork, listening skills, the ability to set goals, creativity, and problem-solving skills (Carnevale et al., 1990). Together with the movement toward more participative management and employers encouraging their workers to involve themselves in decision making at the point of production or sale requires that workers have broader collaborative skills. Employers want employees who can get along with customers, suppliers, or co-workers (interpersonal and negotiation skills); who can work with others to achieve a goal (teamwork skills); who have some sense of where the organization is headed and what they must do to make a contribution (organizational effectiveness skills); and who can assume responsibility and motivate co-workers when necessary (leadership skills) (Miller & Pfister, 1988).

In the past two decades there has been a great increase in the use of teams in the workplace. The team approach has been linked conclusively to higher productivity and product quality, as well as to a better quality of worklife. Change strategies are usually dependent upon the ability of employees to pull together and refocus on the new common goal (Carnevale et al., 1990). Interpersonal and negotiation skills are the cornerstones of successful teamwork. Teams need to be organized so that appropriate talents and skills can be directed through group effort to accomplish vital tasks and

goals. This "pooling" of resources requires team members to have broad-based skills that individual or routine jobs do not demand.

Kinzer (1988), Vice President of Honda of America Manufacturing, Inc., emphasized education and training of all of his employees in order to upgrade Honda's product and be competitive on a global scale. In developing his company from the ground up, he has tried to make it a company that would embody the best of the United States and Japanese practices and would encourage growth and personal development of all of its employees. He became an educator and taught his employees how to work as a team. He strongly believes that students need to be prepared for the realities and opportunities of the competitive world environment and must know how to function as a member of a team (Kinzer, 1988).

Young people today need to be well prepared to meet the demands of an increasingly complex world. They need to not only develop skills necessary for obtaining employment but also those skills that will assure success on the job. One educational approach, cooperative learning, has found champions among political and business leaders. The cooperative learning trend in United States education mirrors that which is occurring in other aspects of American life. Doctors engage more and more in group practice and consult with one another on difficult cases. Ministers depend on volunteer committees for much of the work of their churches. Military officers train young men and women to work as a team. If these citizens, like their co-workers in manufacturing and industrial organizations, recognize the role of cooperation in their lives, then American

schools should begin training their students at an early age to be successful adults in our society (Brandt, 1989-1990).

Cooperative learning has increased in popularity because of its impact on student developmental learning and academic achievement. Cooperative learning is generally described as instruction methods in which students work together in small, usually mixed ability groups, with each student contributing to and helping other group members understand and complete an assigned task (Slavin, 1977). Cooperative learning techniques vary, but they all share an interest in finding an alternative to frontal teaching, where the teacher instructs the whole class at once or utilizes individual seatwork by students. Instead, cooperative methods ask students to work in small groups, on the assumptions that cooperative tasks are more likely to motivate students to learn; that they will provide more individual help for students; and will, as a result, improve achievement (F. Newmann & Thompson, 1987). Years of research and many instructors, from kindergarten through college level, support and advocate the use of cooperative small groups. If the principles of cooperative learning and the values of cooperation to empower teachers and students are used and valued, then schools can be created that are truly cooperative for a society in which people really do work together for shared, equitable goals (Sapon-Shevin & Schniedewind, 1989-1990). Cooperation increases productivity at the adult level and achievement at the classroom level.

In the educational community, the notion of "generic skills" has received much attention from school reformers who seek a total

restructuring of schooling. There is a growing concern for the mismatch between the curriculum of American schools and the knowledge requirements of nonschool settings. Reformers are calling for schools that will produce more creative, inventive, flexible, proactive, and problem-solving students (Berryman, 1988; U.S. Congress, Office of Technology Assessment, 1988). While the dominant form of school learning and performance is individual, much activity outside school is socially shared. Schools also place a premium on "pure thought" activities without the benefit of tools (i.e., using calculators and books during tests), whereas most mental activities outside of school are shaped by and dependent upon use of available tools. Finally, schools tend to emphasize abstract symbol manipulation, whereas work and other activities emphasize reasoning and actions connected with physical objects and events. These points suggest the need for skills similar to those identified in workplace research: more emphasis on the development of cooperative learning; less emphasis on learning abstract, domain-specific theories and facts and more on using knowledge to reason about real-life problems; and more attention to how tools shape learning in specific situations (Stacz, McArthur, Lewis, & Ramsey, 1990).

Purpose of the Study

The purpose of this research was to answer the following questions:

1. Which teacher skills are necessary to implement effective teamwork in a classroom?

2. What kind of learning environment is optimal for implementing effective teamwork in a classroom?

3. In classrooms using teamwork, does greater student achievement occur than in classrooms not using teamwork?

The conceptual hypothesis that was tested in this study is: In classrooms using teamwork, greater student achievement will result than in classrooms not using teamwork.

Significance of the Study

This study had value because it extended the body of knowledge about cooperative learning theory and about specific approaches which may or may not be successful at the high school level. There have been very few studies done at the secondary level, and no major studies have been conducted in vocational education classes. Moreover, if in classrooms using teamwork students did increase their achievement levels, then perhaps this study would encourage more high school teachers to use this approach and, therefore, better prepare their students for the American workplace.

CHAPTER II

REVIEW OF LITERATURE

Background on Cooperative Learning

There are a theoretical base, thorough research, and systematic teaching procedures for cooperative learning. There are five key elements involved in cooperative learning: positive interdependence, face-to-face interaction, individual accountability, interpersonal and small group skills, and time and procedures to how well the groups are functioning (Deutch, 1949a). The most important element is positive interdependence. Students must see that it is to their advantage if other students learn well and that it is to their disadvantage if others do poorly. This can be achieved by providing a cooperative task structure and group rewards and by requiring individual accountability.

There are several different cooperative learning models advocated, but they all have the following basic structure: Teachers have students work together in small groups in the classroom to master academic material. The small groups are carefully structured to include high, low, and average ability students who work together to be rewarded for their individual achievement (Krathwohl & Yarger, 1985). A result of this structure is improved social relations among peers who have learned to give and receive help from one another. To implement this approach requires training in new

classroom procedures but relatively little reorientation to school, because the techniques are designed to be compatible with dominant motivations of students in school (F. Newmann & Thompson, 1987).

Descriptions of Cooperative Learning Models

Student Teams Achievement Divisions (STAD, Slavin, 1978a, 1991b): The teacher presents a lesson. Students meet in four to five member teams and help one another master a set of worksheets on the lesson. Each student then takes a quiz on the material. The individual scores, based on the degree of improvement over other previous scores, contribute to a team score. The teams with the highest scores are then recognized in a weekly newsletter.

Teams-Games-Tournament (TGT, DeVries & Slavin, 1978): Instruction is similar to STAD, where individual students try to help one another learn the material. However, instead of taking individual quizzes, students compete with classmates of similar achievement from other teams. Based on their relative success, students earn points for their own team. The teams with the highest scores are then publicly recognized.

Jigsaw (JIG, Aronson, 1978): Each student in a five to six member group is given unique information on a topic that the whole group is studying. After reading their material, the students meet in "expert groups" with their counterparts from other teams to discuss and master the information. They then return to their teams to teach the new material to their teammates.

Jigsaw II (JIG II, Slavin, 1980b): In a variation of Jigsaw, all students are first given common information. Then student "experts" teach more specific topics to the group. Finally, students take tests individually, and team scores are publicized in a class newsletter.

Learning Together (LT, Johnson & Johnson, 1975, 1989): Students work in small groups on assignments to produce a single group product. Teachers use various methods for nurturing a philosophy of cooperation, and students are instructed to seek help from one another before asking for teacher assistance. Students are usually rewarded on a combination of their own individual performance and the overall performance of the group. Rewards include teacher praise, grades, and token privileges, but neither individuals nor groups compete with one another.

Cooperation Unlimited (Dishon & O'Leary-Wilson, 1984): This is a variation of the Learning Together Model which emphasizes social skills.

Structural Approach to Cooperative Learning (Kagan, 1985b): This model is a content free way of organizing the interaction of individuals in a classroom. It is the "how" of a lesson, a series of steps that can be meaningfully repeated in different circumstances. The teachers select the content that they want and the structures that will facilitate the students' learning that content effectively and efficiently.

Group Investigation (GI, Y. Sharan & Sharan, 1976): Students work in small groups, but each group takes on a different task or

project, and within groups students decide what information to gather, how to organize it, and how to present what they have learned to classmates. In evaluation, higher level learning is emphasized.

The first two approaches place more emphasis on individual testing of predefined academic material and upon individual and group competition to improve scores. In contrast, the last five rely more on intrinsic student interest in cooperation and upon teacher praise of the group as a whole. Group Investigation is the most open-ended form and assumes that students take considerable responsibility for their own learning (F. Newmann & Thompson, 1987).

Differences among the methods stem mainly from the extent to which cooperative learning is promoted primarily as a means to individual achievement and accountability versus group productivity and understanding. Reviews of STAD and TGT emphasize ways in which students' competitive motivation can be constructively directed to compete with one's own previous achievement and with one's peers at a similar level. At the same time, one's achievement benefits from and contributes to a group effort, which itself is driven by the excitement of group competition. In contrast, discussions of LT, JIG, Cooperation Unlimited, Structural Approach, and GI advocate cooperative learning as a way to reduce negative forms of individualism and competition, and to enhance skills in cooperative behavior, pride in group productivity, and in students getting along with members of diverse social backgrounds.

Yet another difference among cooperative learning experts concerns the problem of group rewards. Slavin (1990b, 1991a, 1991b)

expressed concern with increasing student achievement, and he stated the belief that the only demonstrably effective cooperative learning strategies are those that use group rewards based on individual achievement. On the other hand, Kohn (1986, 1991) expressed concern with fostering a love of learning among students, and he expressed the belief that external rewards should never be used because they undermine students' intrinsic motivation to learn.

In both cases educators have made conscious efforts to foster intrinsic motivation among students to work hard and to help their teammates by using appealing curriculum materials, by establishing student norms for achievement, by helping others to achieve, and by teaching students the appropriate skills to achieve those norms. Teachers should try to minimize the negative effects of rewards on intrinsic motivation by: (a) not using them for activities which the students would not engage in anyway and (b) not using them if the students perceive that they are being manipulated by them (T. Graves, 1991). Extrinsic rewards have their least damaging effects on motivation (and may actually enhance it) under the following conditions: (a) when the tasks are the ones the students would be unwilling to do on their own; (b) when the rewards are largely symbolic in form, serving more to indicate to the students how well they are doing and their teacher's pride in their accomplishments; (c) when the rewards are social rather than tangible; and (d) when they are unanticipated (T. Graves, 1991). Educators must focus on the variety of forms that group rewards can take and on the conditions under which they may be appropriately used. The

research indicated that most students find the pleasure of working together in cooperative groups a reward in itself. The advantages of working cooperatively in groups probably enhance intrinsic motivation. Moreover, most teachers report that students are using higher level thinking skills in cooperatively structured classrooms (Webb, 1985).

Implementing the collaborative philosophy in American schools requires a commitment away from competitive individualism toward a cooperative way of life. Successful implementation of this method is likely to require retraining in new skills of social interaction as well as possible reconsideration of the purposes of education today.

Teacher Skills Necessary to Implement Teamwork

Teachers need to provide challenging activities which demand high levels of initiative, self-reliance, leadership, specialist knowledge, and exposure to mentors who demonstrate the thoughts, feelings, and behaviors which are characteristic of competent people (Raven, 1986). Moreover, teachers need to use multiple-talent concepts of competence to illustrate the fact that not all individuals contribute in the same way to the group process. They need to enable all students to develop their unique patterns of competence.

Specifically, students need variety, the opportunity to take initiative, the opportunity to progress as far as they can, the opportunity to develop their individual talents, the opportunity to identify and solve problems, and the opportunity to work with

others, to learn leadership skills, and to learn how to think critically.

Some of the teacher skills required to accomplish sound cooperative learning practices are the following (Joyce, Showers, Dalton, & Beaton, 1985): (a) skills that build a cooperative social environment and teach students the skills of negotiation and conflict resolution that lead to democratic problem solving; (b) skills that guide students in methods of data collection and analysis; (c) because groups vary in their need for structure (Hunt, 1970) and in their cohesiveness (Thelan, 1967), skills that enable the teacher to see where the individual student is academically and behaviorally and the skills to provide the assistance to keep that student progressing are necessary; (d) instructional management skills that will enable the teacher to stabilize the instructional environment, to induce students to remain on task, and to monitor their progress; (e) skills that will allow the teacher to use research-based educational environments to increase learning of various kinds; (f) curriculum skills required to implement research-based curricula in schools so that academic substance and instructional process are integrated and have a cumulative effect; (g) learning environment skills which create an educational climate where the social organization generates energy and rewards individual and collective effort; (h) skills needed to acquire and adapt new skills; and (i) skills needed to teach the cultivation of high quality interaction within learning groups among students of different abilities.

Developing these types of skills requires extensive training. In addition to these skills, teachers need to ensure that students see the need for the skill; that they understand what the skill is and when it should be used; that they set up practice situations and encourage the mastery of the skill; that they schedule the class time needed for discussion and feedback on how well individuals are using the skill; that they see that students persevere in practicing the skill until the skill seems a natural action; that they make sure that diversity among pupils in interests, talents, and pace of work will be considered in the creation of the lessons; that they see that a cooperative effort and spirit exists in the group; and that regular teacher and group feedback and student self-monitoring occurs (Davey, 1987).

Significant teacher preparation on how to reorient high school students to those new procedures and to teach the high school student cooperative behaviors is required, and many materials and teaching handbooks are available through Slavin (1986), Kagan (1985b), Johnson and Johnson (1989), and Y. Sharan and Sharan (1976). Teachers often hinder the effective use of cooperative groups by failing to integrate what they teach with how they teach it. For true cooperation to occur, students must realize that they will sink or swim together, and that anything they do individually is just one part of whatever the whole group must learn or produce (Smith, 1987).

All of these skills fall within the following nine steps outlined by Johnson and Johnson (1987a) in Joining Together:

(1) explain the academic task, (2) structure positive goal interdependence, (3) structure individual accountability, (4) structure intergroup cooperation, (5) explain criteria for success, (6) specify desired behaviors, (7) monitor students' behavior, (8) provide task assistance, and (9) intervene to teach collaborative skills.

However, additional teacher skills were found to be necessary by Stacz et al. (1990) in their study on teaching and learning. Teachers need techniques for encouraging student independence and for providing a fail-safe environment where students will not be afraid to make mistakes. Moreover, teachers need to create solutions that will be regarded as intrinsically desirable, to give negative feedback without threatening students, and to provide constructive use of failures by turning them into positive learning experiences. Teachers also require techniques for dealing with students who were not proceeding in unison. Teachers should motivate their students by holding high expectations for them, including student responsibility for their own behavior and work. Moreover, teachers should emphasize that grades are an important tool in keeping students on task. Finally, teachers need excellent diagnostic abilities. Teachers must create a climate in which students are encouraged and permitted to allow for personal agendas to become their school agendas as well (Houser, 1990).

The Learning Environment Necessary to Implement Teamwork

Two major factors affect instruction: teacher autonomy and the teacher's educational philosophy. While school and organizational

policies highly affect the former, they have little direct impact on the attitudes that the teacher brings to the classroom. Research points to three enabling conditions that appear to promote high quality teaching and learning in a cooperative learning environment to the degree that they exist in schools: access to knowledge, press of achievement, and professional teaching conditions (Stacz et al., 1990). Three elements that make up the learning environment are teacher techniques, the physical structure, and the social structure of the classroom. Specific teacher skills that will result in higher student achievement have been discussed. However, the physical and social structures of the classroom need explanation.

Included within this category are the features of the curriculum, the course content, and the classroom itself. Students learn while doing projects that they choose themselves. After they select their projects and understand the basic requirements, they should be given relatively little aid in breaking the large goal down into subgoals. Although this may lead to some foundering on the students' part, they will be forced to manage their own time and make decisions about organizing tasks. Students need not proceed in a lockstep manner; they should have some autonomy. Moreover, teachers should try to resist intervention. Students will perform different tasks and learn different skills, and members of each group can negotiate to determine who will do each task. Finally, students grouped cooperatively should have some freedom from typical classroom rules. Consistent with their belief that school constraints

are often unnatural, teachers should structure their classrooms so that at least some of the conventions of normal classrooms will be abandoned (Stacz et al., 1990).

The manner in which teachers structure their projects is consistent with the goals of cooperative learning and reflects the real world. The freedom given to students to organize their projects reflects the realities of the workplace. Also, it is consistent with teachers' interest in having students make their own decisions and take responsibility for those decisions.

The role of teacher policies is extremely important in this successful cooperative learning model. Teachers should have several broad policies that govern how they will inform and interact with their students. These policies will complement the features of the projects and help to enhance the value of the student projects in supporting their learning. The most successful models of team learning draw upon student socialization for educative purposes.

The teacher and student should be on an equal footing. Teachers should try to interact with students as colleagues. This common level will improve student-teacher relationships and will be consistent with the teacher's attempts to separate the classroom from the usual academic conventions. This approach will also be consistent with the teacher's attempts to reduce his or her authority, at least with respect to providing the sole standard of judgment.

The teacher and student will have more of a master-apprentice relationship than a teacher-student relationship. The teacher will be regarded as an expert practitioner of the skill, and he or she

will also be seen as having more factual knowledge.

The teacher will view the students as mature, reasonably experienced individuals who are motivated to learn. This attitude will promote an egalitarian atmosphere in the classroom and is consistent with the teacher's desire to raise the maturational and academic level of the students. It also permits greater time on task in projects.

Class projects should be conducted as business, and accountability should be built into the learning structure. Throughout the project work, teachers should continually shape students' learning and performance by relating aspects of the project to the workplace.

All of the elements included in this cooperative learning model share some common features with other models such as those of Johnson and Johnson (1987a), Slavin (1991a, 1991b), Y. Sharan and Sharan (1987), Kagan (1985b), and Houser (1990). Those educators who use this cooperative model for the learning environment are looking for one of two results: an improvement in academic achievement and an improvement in moral and social development. Research shows that both will occur. There should be an improvement in race relations, friendship patterns, student self-esteem, and also a growing awareness of, and participation in, democratic processes (Workman, 1990).

Review of Studies of Teamwork and Achievement

Many studies in the past 25 years have found that small cooperative groupwork is better than whole class or individualized

instruction for improving student achievement. All of these studies have taken place in classrooms and not in laboratories. Many researchers believe that cooperative learning should not replace any one method, but that it should be used with other approaches in the classroom (McCabe & Rhodes, 1988). Moreover, most of the research focused on heterogeneous ability groups in mathematics or reading at the elementary level and very little dealt with cooperative learning groups at the high school level. Wilkinson's (1986) study provided a clear overview of research and theory on within-class grouping for instruction, including how groups are formed and managed, how students interact in groups, and how grouping affects students' achievement. In contrast with the sociological, sociolinguistic, and process-product findings, Wilkinson noted that students did not seem to be at a disadvantage when they participated in cooperative learning.

Many studies on the effects of cooperative groups have been conducted which concentrate on skill acquisition and achievement (Aronson, 1978; DeVries & Slavin, 1978; Slavin, 1978a). In 1978, Devries and Slavin found that although the positive achievement effects of team learning were found to be unusually consistent, they were not statistically significant in research involving social studies. However, the technique did motivate the students to exert more academic effort for the sake of the team and the peer supported task structure resulted in more on task behavior (DeVries & Slavin, 1978). Slavin had conducted 46 major studies by 1983, and 29 resulted in significant positive effects (63%). By 1983 he also had

conducted studies regarding group rewards for individual learning. The findings in 24 out of 27 studies were positive (89%). Slavin, moreover, performed studies regarding proacademic norms (6 out of 11 were positive, or 55% positive effects and no negative effects) and increased time on task (7 out of 10, or 70%, showed significant positive effects and no negative effects). Slavin also identified a critical component of cooperative learning techniques which represents an advance over earlier work comparing cooperative and competitive techniques. He observed that students must have important resources (i.e., knowledge and skills) which they can choose to share or withhold. If students' resources are not shared, individual reward structures are more effective than cooperative structures for increasing achievement and the social and attitudinal benefits are largely lost (Slavin, 1983b).

Other cooperative group studies (Johnson & Johnson, 1974; Y. Sharan & Sharan, 1976) focused more on higher level process skills and student behavior and interaction within groups. These studies involved mainly heterogeneous small groups. The researchers believed that a mixture of students and abilities was not only more democratic but also more conducive to life in the real world, at work, and in the community. Johnson and Johnson reviewed 122 investigations in which cooperative and competitive goal structures were compared over a variety of learning activities. Their conclusion was that cooperative goal structures generally increase learning, especially when the learning tasks required coordinated effort. Out of 353 comparisons involving 122 studies, 216 showed significant

positive effects (61%).

DeVries, Lucasse, and Shackman (1979) investigated small group versus individualized instruction using 57 classes of 7th- and 8th-grade students and 19 teachers over a 10-week period. The small group approach resulted in greater achievement on the treatment specific measure of language arts skills and a marginally positive effect on student self-concept regarding peer relationships. They used DeVries and Slavin's (1978) Teams-Games-Tournaments approach, using equal ability levels among groups which were a combination of heterogeneous and homogeneous abilities. Group rewards were usually involved.

Research results of specific cooperative groupings showed that academic achievement, students' attitudes, and even ethnic relations improved when using these methods. In the group investigation and peer tutoring approaches, group processes are activated to achieve different goals, but both methods can be used in the classroom to meet the different needs of different students (S. Sharan, 1980).

F. Newmann and Thompson (1987) reviewed studies of cooperative learning in Grades 7-12 which met the following criteria: (a) used an experimental treatment which involved cooperative tasks and a group product or group reward structure, (b) involved the use of a control group or comparison group, (c) used a sample of at least 20 students, (d) lasted a duration of at least 2 weeks, and (e) required individual testing of student achievements.

The rationale for cooperative learning in these studies emphasized not mainly the learning of isolated information or skills that

might be taught in a few lessons, but the improvement of achievement over the long term. They chose 2 weeks as a minimum on the grounds that shorter interventions are less likely to provide a valid test of the strategy. Twenty-seven studies were reviewed that involved five major techniques: Each assumed a traditional classroom of one teacher and many students organized into heterogeneous ability groups of four to five students working together to learn material. The approaches included Student-Teams-Achievement-Divisions, Teams-Games-Tournaments, Jigsaw, Learning Together, and Group Investigation.

Twenty-seven reports of high quality were reviewed, involving 37 comparisons of cooperative versus control methods. Twenty-five (68%) of these comparisons favored a cooperative learning method at the .05 level of significance. Twenty-eight of the comparisons of main effects on overall achievement reported information sufficient to compute effect sizes, and these ranged from -0.87 to 5.15.

Most studies have occurred in Grade 7, and the greatest success was found in Grades 8 and 9. Science has attracted the most studies at the secondary level, but mathematics and language arts have the highest success rates. Of the five learning techniques reviewed, Student-Teams-Achievement-Divisions (STAD) has been the most consistently successful (89%), Jigsaw clearly the least successful (17%), Teams-Games-Tournaments (75%), Learning Together (73%), and Group Investigation (67%) all show high success rates (F. Newmann & Thompson, 1987).

Of the 27 studies reviewed, most used intact classes and randomly assigned treatment to classes. Within classes, students were usually randomly assigned to treatments and stratified by ability to control for teacher effects. The studies either randomly assigned teachers to methods, assigned teachers to use more than one method, or used statistical analysis to describe teacher effects. Almost all studies reported pretest comparisons between treatment groups and/or used proper statistical controls for pretest differences.

The overall success rate of comparisons between cooperative learning and control conditions is 68%, higher than Slavin's (1983b) finding for secondary studies (57%), and close to the 70% positive rate he found for elementary studies. The results of all 28 studies confirm Slavin's (1991a, 1991b) belief that success results from a cooperative learning structure which involves group rewards and individual accountability, and that a cooperative task structure is not enough.

The studies include both treatment-specific curriculum tests and standardized tests, with no apparent differences in success rates between the two types. None of the studies used speaking exercises, and only two studies reported the use of higher level cognitive questions. Therefore, the research has little to say about the effect of cooperative learning on students' higher level problem-solving ability. However, a strong case can be made that cooperative group work is particularly useful and necessary in the development of critical thought and in forming productive responses to problems with multiple solutions (F. Newmann & Thompson, 1987).

A question can be asked regarding the lack of studies at Grades 10-12. Perhaps it reflects teachers' judgments that cooperative learning is not likely to work in high school. There are no systematic data to show that high school teachers are less willing than others to use cooperative methods, but F. Newmann and Thompson (1987) guessed that they were. They believed that teachers viewed students ages 15-18 as less responsive to the kinds of rewards (recognition, names published in a newsletter, teacher praise) given in earlier grades. Teenagers may have more instrumental self-interest in school than younger students and may prefer to get knowledge directly from the teacher. As competition for grades increases in high school, many students value individual achievement over group cooperation. Furthermore, high school teachers think they already have too much material to cover in too little time and may consider the cooperative approach inefficient.

All of the research has sought to identify those forms of grouping within classrooms that are most likely to stimulate students to put forth their best efforts and, therefore, to achieve. Webb (1985) has shown that in general an individual's giving and receiving help within groups had no effect on individual achievement, but that the type of help given and received does. For example, giving substantive explanations has a major positive effect, but giving short-answer, terminal responses has none. Moreover, how groups are composed affects the quality of student interaction. Although all of the 28 cases F. Newmann and Thompson (1987) studied used heterogeneous ability grouping, cooperative learning may have

shown greater benefits if all groups spanned the full range of abilities, from high to low. Also, gender composition affected the degree of differential participation by males and females in giving of explanations. When males or females were in the majority, males were more effective in obtaining help. In high-achieving classes, males also showed more effective interaction, but in low-achieving classes these differences did not occur (Webb, 1985).

Moreover, Cohen (1986b) found that students' status within groups affected their interaction with peers, which in turn affected individual achievement. Students perceived as both competent in the subject and most popular talked and worked together more frequently than those students who were not as proficient or popular. Consequently, these students became even more competent. A subsequent intervention that trained all students to participate and that created special roles (i.e., facilitator, checker, reporter) to ensure broader participation decreased the dependence of student achievement of these factors.

The cooperative learning approach has also been studied in a high school art class (Houser, 1990), a high school English class that worked on writing research reports cooperatively (Davey, 1987), and in a college course which assessed the effects of a peer monitoring procedure on student performance (Fraser, Diener, Beaman, & Kelem, 1977). In all three situations, students achieved significantly higher than their competitive counterparts.

Johnson, Johnson, Maruyama, Nelson, and Skon (1981), in their meta-analysis, confirmed the following learning outcomes promoted by

cooperative learning: (a) higher achievement and increased retention; (b) greater use of high level reasoning strategies and increased critical reasoning competencies; (c) greater ability to view situations from others' perspectives; (d) higher achievement and greater intrinsic motivation; (e) more positive accepting and supportive relationships with peers regardless of ethnicity, sex, ability, social class differences, or handicapping conditions; (f) more positive attitudes toward subject areas, learning, and schools; (g) more positive attitudes toward teachers, administrators, and other school personnel; (h) higher self-esteem based on self-acceptance; (i) greater social support; (j) more positive psychological adjustment and health; (k) less disruptive and more on-task behavior; and (l) greater collaborative skills and attitudes necessary for working effectively with others.

All of the literature reviewed confirmed that cooperative learning results in increased academic achievement and, therefore, supports the conceptual hypothesis of this study (in classrooms using teamwork, greater student achievement will result than in classrooms not using teamwork). It also reveals the need for a cooperative task structure, group rewards, and individual accountability if significant academic growth is to occur. More research is needed, especially in Grades 10-12, in most subjects, and with most techniques.

CHAPTER III

DESIGN AND METHODOLOGY

Introduction

In this study the conceptual hypothesis was operationalized as follows: In classrooms with 10th-, 11th-, and 12th-grade students using teamwork, individual student achievement will be greater than the achievement levels of students who are not working in teams.

Population, Subjects, and Design

Sixty-four 10th-, 11th-, and 12th-grade students in the Business Applications and Technology (BAT) classes at two urban comprehensive high schools with similar demographics were assigned by a computer to one of four sections (two at each school). Each class contained 16 students and was heterogeneously grouped according to ability (high, low, and average) as determined by both criterion-referenced and performance-based pretests. Moreover, the teams were created so that each team was approximately equal in overall achievement levels. The business and technology classes were selected for this study for several reasons. First, to date very little major research had been done in vocational education classes with 10th, 11th, and 12th grade students; and second, these classes experienced little to no student mobility. Therefore, it was likely that the subjects would be participating throughout the duration of

the study.

The same two teachers, one at School 1 and one at School 2, taught both the experimental groups and the control groups. The two teachers had taken two courses in Johnson and Johnson's (1987b) Learning Together Model and Kagan's (1985b) Structural Model of Cooperative Learning taught by the Grand Rapids Public Schools Staff Development Department and received further in-servicing and support from that department, from the director of vocational education, and from the researcher. These models were selected because they emphasize social skills and students processing together, which are two skills that are required in the workplace today. They also enable more uniformity during group processing and they do not emphasize competition and extrinsic rewards. The teachers created identical lesson plans using standardized curriculum materials selected and developed by the Grand Rapids Public Schools' Vocational Education Department. Furthermore, they communicated frequently with each other, with the Grand Rapids Public Schools' Vocational Education Director, and with the researcher in charge of this study. They also met weekly specifically to discuss the methodology, students' responses, and the general progress of the research. Staff from both the Staff Development Center and the Vocational Education Department helped the researcher monitor all classrooms to see that the treatment and control situations were operationalized properly.

It should be noted that both teachers were given the following instructions at the beginning of this study:

1. Maintain the same ethical standards that you would maintain in your routine class preparation and implementation.

2. Teach the unit on teambuilding skills during the first marking period to all of your students as taught to you in your cooperative learning classes by the Grand Rapids Public Schools' Staff Development instructors, as reviewed with the researcher, and as designated by the Grand Rapids Public Schools' Vocational Education Department's curriculum.

3. Be sure that you present the purpose of the research as a study in cooperative learning and assure students that participation is voluntary.

4. Designate all students as Numbers 1-32 at School 1 (Group A: 1-16, Group B: 17-32) and students 33-64 at School 2 (Group C: 33-48, Group D: 49-64). When giving the researcher your data, at no time identify students' names with the numbers. All reporting of data will be done by groups, not by individuals.

5. Administer the pretests and posttests for each unit in both your treatment and control classrooms.

It should also be noted here that all of the equipment the students used was not identical. School 1 had IBM PC30s and 50s and School 2 had Tandy 2500 XL computers. However, all of the equipment did have the same capability and word processing programs.

As stated previously, during the first quarter of the school year the teachers taught a unit on teambuilding skills to all 64 students, so that all 64 knew specific skills before the study began. The actual research was conducted during the second quarter

and lasted 10 weeks. Throughout the 10-week period, each team in each of the two treatment groups remained intact for the most part.

The teachers pretested the students in the treatment classes during the first quarter to determine the assignment to different teams. The instruments used for pretests were criterion-referenced tests and performance-based assessments developed by the vocational education staff. Criterion-referenced tests were selected because they emphasize learner performance. Their objective is to verify the learner's mastery of tasks identified in the performance objectives. Moreover, criterion-referenced posttests were given to all students at the conclusion of each unit. The posttests were nearly identical to the pretests in length and format, except that questions were changed to prevent memorization of pretest material and covered only the material contained in the specific unit.

To form the four teams in each treatment classroom, the teachers determined the high, average, and low ability students, and they randomly selected (i.e., from a hat) one high, two average, and one low achiever for each of the groups in their classes.

In the experimental classes, students worked in small groups on assignments to produce a single group product as well as to help each other master various curricula presented by the teachers. The teachers used all of the techniques previously described to nurture a philosophy of cooperation, and the students were instructed to seek help from one another before asking the teacher for assistance. Students were rewarded on a combination of their own individual

performance and the overall performance of the group. Rewards included teacher praise and individual and group grades.

Data Analysis Method

Analysis of Quantitative Data

At the conclusion of the 10-week period, a variety of data analysis methods for each kind of data were conducted to compare the levels of achievement in both the cooperative and traditional classrooms. Specifically, the researcher studied the differences between means in achievement and used a one-tailed *t* test to look for changes in test scores that were significant. She also investigated whether or not there were correlations between attendance and achievement scores and student work habit scores and achievement scores.

Analysis of Subjective Data

The instrument used to evaluate student work habits was created by the Grand Rapids Public Schools' Vocational Educational Department and was thought to be both valid and reliable by that department for its teachers' use. The teachers' comments and evaluations were kept in their narrative journals, which they wrote in daily while their experiences were fresh in their minds. The students also completed individual assessments and team assessments (Appendix B) at the conclusion of each unit to monitor how well they were progressing in their teamwork skills. To analyze both the teachers'

and the students' comments, the researcher searched for statements that were repeated throughout their evaluations. Those patterns of behavior are reported in Chapter IV.

CHAPTER IV

ANALYSIS OF DATA

Introduction

The conceptual hypothesis that was tested in this study was the following: In classrooms using teamwork, greater student achievement will result than in classrooms not using teamwork. The primary purpose of this study was to determine whether or not individual student achievement would be greater for students who worked cooperatively in teams than for students who worked individually. The secondary purposes of this study were to discover whether or not there were meaningful correlations between rate of attendance and achievement and work habit grades and achievement, and to learn whether or not high school students benefited from and enjoyed working with collaborative instructional strategies.

Schools 1 and 2, both representing urban populations with similar demographics, randomly assigned 16 students each to two introductory Business Applications and Technology classes. One class at each school was designated as the treatment class and incorporated cooperative learning methodology, and one class was designated the control class and utilized traditional, competitive approaches. Both classes were taught by the same teacher at each school, and both teachers had been in-serviced in depth in Johnson and Johnson's (1987b) Learning Together Model and Kagan's (1985b) Structural Model

of Cooperative Learning by the Grand Rapids Public Schools Staff Development Department, the Grand Rapids Public Schools' Vocational Education Director, and by the researcher in charge of this study. Both teachers designed their lesson plans together and implemented those plans simultaneously. The teachers and the researcher met at least weekly to monitor the progress and to assess the difficulties they faced in this project.

The teachers presented five units during the second marking period to both of their classes: Economics of Work, Computerized Farm Records (accounting and recordkeeping), Vocational Math, Security First Bank (resource management), and Pro-Grammar/Pro-Sentence (applied communication). At the beginning of each unit, the teachers gave a pretest to each of their students; and at the end of each unit, they administered a posttest to each student. The purpose of the pretests and posttests was to measure achievement gain for each class. In addition, the teachers assigned a grade for student work habits (Appendix C) and monitored attendance closely.

Findings

Analysis of Quantitative Data

Several factors became apparent by the conclusion of the third unit in both schools which appear to have affected the results of the study. First, Schools 1 and 2 were selected for this study because of their similar demographics. However, after two units were completed and three pretests were given, it was clear that the

students in the treatment group from School 2 had significantly stronger reading and mathematics skills than students in the treatment group in School 1. Moreover, School 1 lost one student in each group and School 2 lost three students in the control group, which left School 1 with only 30 students (15 in each group) and School 2 with only 29 students (16 students in the treatment group and 13 in the control group). Because of these significant events, the researcher combined the pretest scores of both groups to get a mean for all pretest scores that was representative of the entire population.

Another factor that surfaced in the first unit, Economics of Work, was the very low gain in achievement in the treatment groups at both schools between the pretests and the posttests (see Table 1).

Table 1

Mean Score Gains by Group--Economics of Work

Group	Pretest	Posttest	Gains
School 1, Treatment	52.5000	53.7500	1.2500
School 1, Control	58.1250	59.1250	1.0000
School 2, Treatment	60.3125	61.5625	1.2500
School 2, Control	56.9231	64.4615	7.5384

The original plan of study was to utilize preinstruction and postinstruction tests supported by instruction unit publishers. As the study progressed, it was empirically discovered that equating

evidence was lacking, and that indeed, the beginning and ending unit results could not be meaningfully compared. With this being the case, the same posttest was given at the beginning of the third marking period to a third group of comparable students to obtain some measure of the posttest score value had it been given to the control and treatment groups at the onset of the research. Through this approach, the researcher hoped to obtain a score value which could serve as a comparable preinstruction baseline.

Other possible reasons for the low gains in achievement for both treatment groups in the Economics of Work unit were the following:

1. It was the first unit taught cooperatively by both of the teachers, and the students and the teachers were new to both the textbook and to cooperative learning strategies.

2. The students did not know each other well, and they had to learn how to work together.

3. Prior to this study, the students were accustomed to asking the teacher for help when they needed it instead of relying on each other for assistance.

4. Students were not conditioned to having homework in this class because they previously had completed their work in class under close supervision of the teacher and with considerable involvement with computers. Therefore, it took several days of positive verbal reinforcement by the teachers to encourage all team members to complete their homework thoroughly and in a timely fashion.

In analyzing the data for each unit, the researcher's intent was to compare the group mean for pretest scores to both the treatment and control group means for posttest scores. However, when it was discovered that the pretests and posttests were not equated, the researcher broadened the focus to include examining posttest results between groups and comparing these with the same test given before instruction to a comparable group of students.

In the second unit taught, Computerized Farm, serious data collection began. The first unit's implementation allowed students and staff to become acclimated to the team approach. In the second unit, absenteeism became a factor, particularly at School 1, as there were outbreaks of the flu during that time. This caused great frustration for both the teachers, who were under tight time constraints, and student team members, who had to wait for their team members to return to school with their work completed before they could progress in their group projects. Absenteeism seemed not to be as significant a factor in the control groups, as students could make up their work and progress or catch up independently of other students. The problem of absenteeism was reflected in the data for this unit (see Table 2): The mean gain in achievement for the treatment group was 23.7333, while the mean gain for the control group was 31.000 at School 1. However, at School 2, the mean gain in achievement for the treatment group was 8.975, while the mean gain for the control group was 2.5385.

In the Vocational Math unit, it became clear very soon that many of the students in all four classes had weak mathematical

Table 2

Mean Score Gains by Group--Computerized Farm

Group	Pretest	Posttest	Gains
School 1, Treatment	23.6000	47.3300	23.7300
School 1, Control	26.7500	58.0667	31.3160
School 2, Treatment	37.9375	46.8750	8.9750
School 2, Control	35.5379	38.0769	2.5390

skills, and that many of the students did not like mathematics. As a result of these two factors, students did not complete their assignments on time and some frustrations among team members arose. Moreover, absenteeism was still a problem due to the flu outbreak. These deficiencies were reflected in the data for this unit also: In School 1 the mean gain for the treatment group was 55.8667, while the mean gain for the control group was 62.4667. In School 2 the mean gain for the treatment group was 11.8125, while the mean gain for the control group was 11.6923 (see Table 3). A possible explanation for this great difference might be the lower ability of the students at School 1; the net effect of the course selection process by students with counselors; and more than likely, other factors that cannot be explored here.

In the fourth unit, First Security Bank, absenteeism was reduced at both schools and the teams functioned cooperatively, as viewed through subjective judgment of staff members. This improvement in teaming skills was apparent in the data for both schools'

Table 3

Mean Score Gains by Group--Vocational Math

Group	Pretest	Posttest	Gains
School 1, Treatment	7.1333	63.0000	55.8670
School 1, Control	9.1875	71.3330	62.4470
School 2, Treatment	30.9375	42.7500	11.8130
School 2, Control	25.0000	36.6923	11.6920

treatment groups: At School 1, the mean gain in achievement in the treatment group was 58.1333, while the mean gain in the control group was 52.6875. At School 2, the mean gain in achievement in the treatment class was 31.7143, while the mean gain in the control group was 18.4615 (see Table 4).

Table 4

Mean Score Gains by Group--First Security Bank

Group	Pretest	Posttest	Gains
School 1, Treatment	15.0000	73.1333	58.1333
School 1, Control	27.6250	80.3125	52.6880
School 2, Treatment	31.0710	62.7857	31.7143
School 2, Control	30.8462	49.3077	18.4615

Finally, in the fifth unit, Pro-Grammar/Pro-Sentence, the students in both treatment classes shared answers readily. However,

the treatment group at School 1 showed a greater gain in achievement than did the treatment group at School 2 (see Table 5). At School 1, the mean gain in achievement for the treatment group was 80.1333, while the mean gain for the control group was 63.8125. At School 2, where the treatment group expressed its dislike of reading and the general subject matter covered in the unit, the mean gain in achievement for the treatment group was 14.0000, while the mean gain for the control group was 24.9231.

Table 5

Mean Score Gains by Group--Pro-Grammar/Pro-Sentence

Group	Pretest	Posttest	Gains
School 1, Treatment	9.3267	89.4600	80.1333
School 1, Control	17.5000	86.3125	68.8125
School 2, Treatment	75.6670	89.6670	14.0000
School 2, Control	52.6919	77.6150	24.9231

A *t* test was applied and was found to be significant for only Pro-Grammar/Pro-Sentence at School 1 and for only Computerized Farm and First Security Bank at School 2. However, this reflects only 3 of 10 *t* tests, and the others did not show significant improvement for the treatment groups.

The researcher also combined posttest scores for each group in each unit for both School 1 and School 2, and then applied another *t* test to determine significance between groups. However, there were

no significant differences (see Table 6).

Table 6

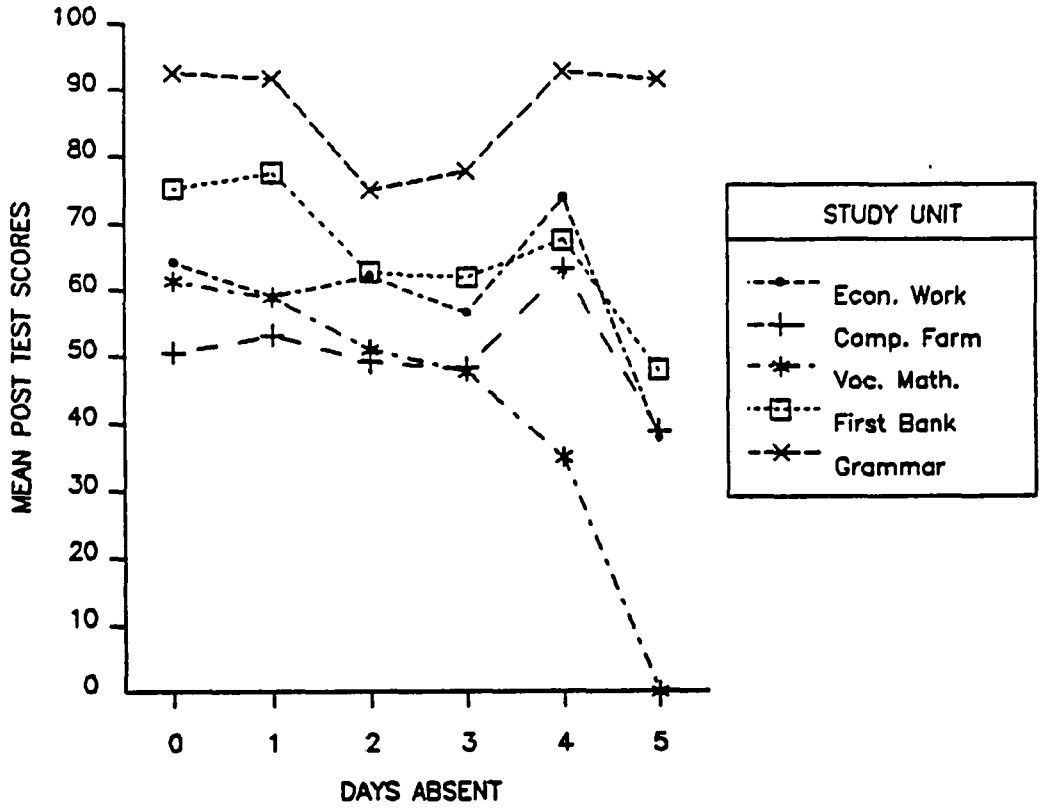
Comparison of Posttest Scores for Treatment and Control Groups

Subject	Mean Difference	SD	t Value	2-Tail Prob.
Economics of Work	4.0345	23.409	.930	.361
Computerized Farm	2.0370	27.828	.380	.707
Vocational Math	1.4815	31.998	.240	.812
First Security Bank	3.1923	32.776	.500	.624
Pro-Grammar/Pro-Sentence	7.0741	23.676	.155	.133

*$p < .01$.

The relationship between work habits and posttest scores was examined using crosstabs and correlation procedures. Positive correlations significant at .01 or better were found with three of the five study unit posttest scores.

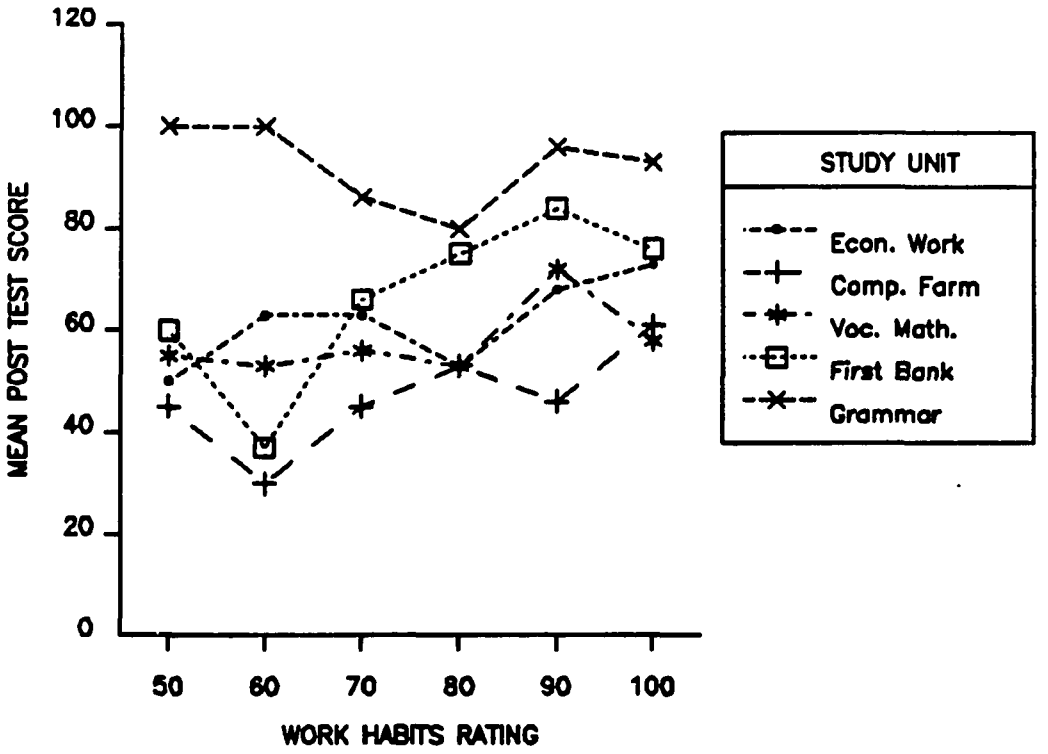
Although the gains in levels of achievement were inconsistent, there appears to be a relationship between work habits and posttest scores and a positive correlation between attendance and posttest scores. It would seem that these data would demonstrate that more than 3 days of student absence had a negative impact on test scores. The students who attended regularly achieved at a higher rate than the students who had several absences, and students who displayed consistently positive work habits also achieved at a higher rate. These data are charted in Figures 1 and 2.



Pearson's R Values

Test	Value	Sig.
Economics of Work	.3716	.010
Computerized Farm	.2181	No
Vocational Math	.3381	.010
First Security Bank	.4187	.001
Pro-Grammar/Pro-Sentence	.1812	No

Figure 1. Attendance and Posttest Scores--Combined Groups.



Pearson's R Values

Test	Value	Sig.
Economics of Work	.3158	.0070
Computerized Farm	.4546	.0002
Vocational Math	.1708	.1000
First Security Bank	.3345	.0055
Pro-Grammar/Pro-Sentence	.0696	.3019

Figure 2. Work Habits and Posttest Scores--Combined Groups.

Analysis of Subjective Data

Particular attitudes and feelings toward the cooperative learning methodology emerged from the analysis of the teachers' narrative journals and from the students' individual and team assessments. The teachers were very frustrated with the high absenteeism due to illness, class trips, shortened class periods for monthly class meetings, club meetings, assemblies, and counselor appointments. Getting all team members to be present and prepared in class to share their answers and to collaborate on projects was very difficult. The teachers were also dismayed and surprised by the low reading and mathematics skills of the students. They both commented that their students were slow in their physical movements, and that this deficiency hampered reasonable quick progression from one activity to another. Both instructors also commented that the curriculum and format in each textbook was not designed for cooperative learning strategies. Therefore, they had to make adaptations to most of the tasks, which required much more time and effort than either had anticipated at the onset of the project. They also stated that their students had a difficult time meeting deadlines, and that they had to work very hard to encourage their students to complete written exercises for their homework.

The students' individual and team assessments corroborated their teachers' impressions. They identified high absenteeism and failure to complete homework assignments as the greatest problems of this project. They also evaluated the level of their communication

for each unit. In the first unit, Economics of Work, they stated that some team members worked very hard and spoke a great deal, while other team members sat back and said very little. However, they all reported that by the end of the 10-week study, all of the team members had learned the various roles and everyone was involved in the learning process. Apparently the individual students learned how to better communicate and to make their points and suggestions with greater specificity and in a less threatening manner. They were able to reach consensus on decisions more quickly. Moreover, they learned to seek help from one another when they needed it, rather than wait until the teacher became available to help them. In this way they all learned to be teachers as well.

One problem that continued to plague the teams (especially the teams at School 1), however, was the lack of basic skills. They said that their teams did not consistently meet their learning goals, because they often did not understand the assigned tasks or problems as individuals or in their group work. They reported that individual team members were not consistently successful in solving their challenges as a group if none of the four team members had specific skills or an understanding of the problems to be solved.

CHAPTER V

FINDINGS AND GENERAL RECOMMENDATIONS

Introduction

The research questions that were answered in this study were the following:

1. Which teacher skills are necessary to implement effective teamwork in a classroom?

2. What kind of learning environment is optimal for implementing effective teamwork in a classroom?

3A. In classrooms using teamwork, will individual student achievement be greater than the achievement levels of students who did not work in teams?

3B. Is there a correlation between work habit grades and achievement?

3C. Is there a correlation between attendance and achievement?

Discussion of the Findings

Despite the inconsistent gains in achievement for both School 1 and School 2 treatment groups, cooperative learning proved to be a positive alternative to tracking and ability grouping. It provided peer assistance for students who were functioning below grade level and opportunities for increased social acceptance among students from different ethnic and socioeconomic groups. Because both

teachers created multi-ability classrooms in both treatment groups, all students were able to make contributions to their groupwork on tasks that required higher-order thinking skills. The teachers in both schools' treatment groups considered their students' range of intellectual abilities in their lesson plans. They recognized that students have different strengths and weaknesses, but that all students should be encouraged to make beneficial contributions to their particular teams.

For the treatment groups, the teachers focused on the curriculum to be taught and carefully selected the instructional strategies that they believed would be successful with all of their students. More specifically, at various times throughout the 10-week period the teachers utilized specific team structures--Heads Together, Jigsaw, Pair Share, Group Discussion, Independent Practice, Round Robin, and Group Project--with each of the five units they taught (Economics of Work, Computerized Farm, Vocational Math, First Security Bank, and Pro-Grammar/Pro-Sentence). The structures are defined as follows:

Heads Together: Students work together to arrive at one answer and they make certain that all team members contribute to and understand their group's answer.

Jigsaw: Each student from a team works independently to master a bit of new subject material. Students take turns sharing the new knowledge with their teammates.

Pair-Share: Partners are formed within teams. (Teachers often select high and low achievers as partners.) The class divides and

all Topic 1 partners sit on one side of the room and all Topic 2 partners sit on the other side of the room. Materials are distributed and the partners consult on their similar topics, while preparing, presenting, and tutoring one another. Then the original teams reunite, and the partners share, tutor each other, and check for understanding for both Topics 1 and 2.

In Independent Practice, students worked individually on specific assignments; and in Group Project, all team members worked together on a common task.

Because both teachers had taught all of their students the teambuilding unit during the first 9-week marking period, the students had some familiarity with teamwork before the second marking period began. By the middle of the marking period, the teams were well-managed and the students' roles in their teams were assigned by the students themselves. In both schools, the team roles (facilitator, recorder, reporter, and gatekeeper) rotated among the students naturally, and there was never a problem as to who had which responsibility. As every student in the treatment groups did have an opportunity to experience all of the specific roles, each was able to learn the specific skills that corresponded to each role. Especially important was the role of facilitator, as all students had to learn how to encourage group members to work together and to get the job done.

This was perhaps one of the greatest challenges of this study--instilling in the students that using each other as resources was legitimate and even desirable. At the beginning of the research, the

students told the teachers that they felt they were cheating when they helped each other. By the end of the study they realized that every team member was valuable to their team's efforts. At the end of each unit the students completed a self-assessment and a team-assessment (Appendix B) of how well they thought their cooperative teamwork was progressing. They all thought that they improved in the areas of responsibility, leadership, and cooperation with other team members.

In spite of the inconsistent gains in achievement for both treatment groups, the collaborative strategies were clearly successful in experimental class at School 2. The cooperative learning model used in this research was successful because every student in the treatment groups learned the subject matter in a variety of ways and each had the opportunity to be creative. The teachers emphasized learning rather than teaching in the experimental groups, and they worked hard to create lessons which encouraged every student's participation. They built into the treatment classes the five principles of cooperative learning (positive interdependence, individual accountability, heterogeneous grouping, shared leadership, and group autonomy). Also, for each student's unit grade average, the teachers included both independent and group grades, and they never emphasized extrinsic rewards in this process. The teachers continually demonstrated to their students that when the group succeeds, the entire group succeeds, and when the group fails, the entire group fails. This interdependence proved to be exciting for all of the students in the treatment classes. They came to value the

feelings of ownership and responsibility and to value individual differences to a greater degree than they did before this experience.

General Recommendations

Although the gains in social skills were very apparent, the academic gains did not occur consistently. First, the study should have involved students with higher reading and mathematics abilities to more accurately assess the independent work segment of the team projects. The students in both the control and the treatment groups were weak in those skills, and they had a difficult time with their independent assignments. Moreover, the teacher in School 1 reported that the majority of her students had an inability to focus on their work for sustained periods of time. Therefore, team learning, if not extremely structured, might actually have been a hindrance to a lower achieving student. It is suggested that higher ability students be involved in future studies of this type. Second, the study might better have been conducted in the spring after the conclusion of the flu season, as high absenteeism led to frustration for both students and teachers. For several weeks the teams in the treatment groups could not progress as efficiently as individual students who may have been absent in the control groups. (Students who were absent from the treatment groups and did not return the following day to their groups with their homework completed disappointed their fellow teammates and those students felt cheated. The entire team had to backtrack and catch everybody up to where they should have

been at that point. Also, the teachers became frustrated with high absenteeism because of the tight timelines they were under regarding instruction for each unit.) It was clear that group work is not successful with high absenteeism. Third, the cooperative approach was a tremendous amount of work on the teachers' parts to implement. The teachers should have had some released time to better plan and coordinate their efforts. Fourth, this particular marking period was the first time that both students and teachers attempted teaching and learning cooperatively via this approach. It is recommended that teachers experiment with this methodology several times before a study is conducted. Many of the problems encountered by both students and teachers would likely not be as severe during the next marking period of implementation. For the most part, the treatment groups in both schools achieved at greater rates as the marking period progressed, as they felt more comfortable with the collaborative activities as they moved from Economics of Work to Computerized Farm, to Vocational Math, to First Security Bank, and to Pro-Grammar/Pro-Sentence. The teachers, too, gained confidence in their ability to facilitate this process by the end of the marking period.

Conclusion

The value of this study is undeniable. All of the students who participated in the treatment classes now know the value of working cooperatively as members of a team. The gains in social skills may have overshadowed the academic gains, because all of the treatment students learned the cooperative social skills during this

experience. All students showed improvement in their ability to work collaboratively as was indicated by the positive self- and team-assessments (Appendix B) that they completed at the end of each unit. Moreover, in the narrative evaluations at the end of the marking period all but one of the students in the treatment groups liked the interdependence of the class and the opportunity to teach each other new information. They also appreciated learning collaborative skills for their preparation for the world of work when they graduated from school. (The one student who did not prefer working in a team to working on his own in a traditional classroom wrote that he was too controlling a personality and always wanted his ideas to be implemented his way. He did state, however, that he found this experience very worthwhile.)

If schools are continually to improve, educators must be willing to take risks. This study was a pilot program for the Grand Rapids Public Schools' Vocational Education Department. Because of the findings in this research, the Vocational Education staff has since revised some of its strategies for a more effective implementation of its curriculum. The Vocational Education Department overall was very pleased with this first attempt to change the culture of its classrooms and was appreciative of the opportunity to be part of this study.

More research needs to be conducted on the potential value of teaching cooperative learning strategies to high school students. This study might have shown more gain in achievement had the treatment groups been further motivated by extrinsic rewards and more

competition, but the emphasis of the treatment in this study was teaching the value of working in teams collaboratively to attain a collective goal. This approach mirrored those skills that will be required in the American workplace in the 21st century. However, further studies might concentrate on different cooperative learning methods which may be more focused on increasing gains in achievement at the high school level.

APPENDICES

Appendix A

Approval Letter From the Human Subjects Institutional Review Board

Human Subjects Institutional Review Board

Kalamazoo, Michigan 49008-3899

WESTERN MICHIGAN UNIVERSITY

Date: December 2, 1991

To: Liz Margulus

From: Mary Anne Bunda, Chair Mary Anne Bunda

Re: HSIRB Project Number: 91-10-11

This letter will serve as confirmation that your research protocol, "Cooperative vs. traditional independent learning: Which approach results in greater student achievement at the high school level?" has been approved under the exempt category of review by the HSIRB. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

xc: Cowden, Ed. Leadership

Approval Termination: December 2, 1992

Appendix B

Teambuilding in the Classroom

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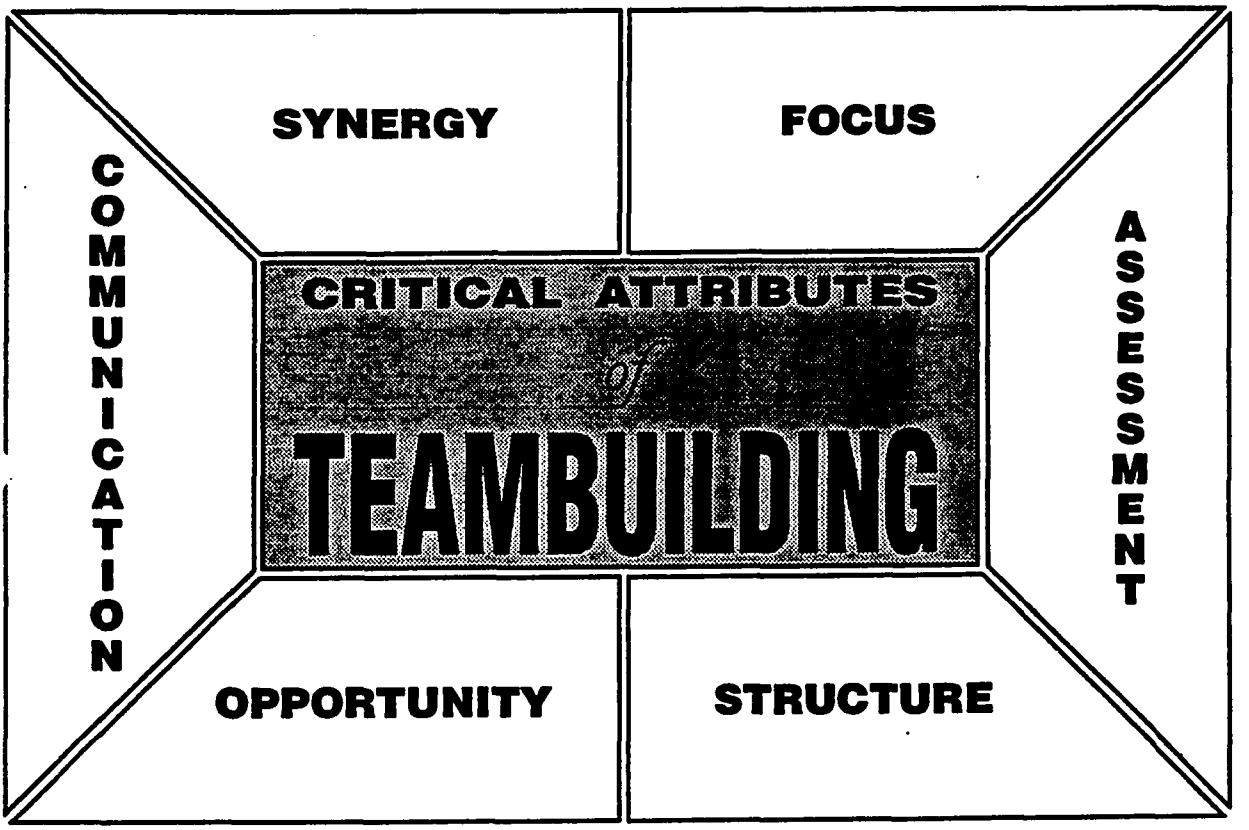
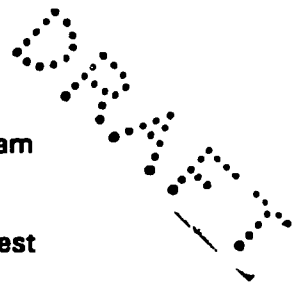


Prepared by: Jennifer Shell
Barry Boyer
Grand Rapids Public Schools

TEAMBUILDING

BUSINESS PLAN



GOAL

- Effective team functioning...becoming a high performance team

MISSION

- The creation of a culture that encourages and supports our best performance

VALUES

- Learning
- Common Purpose
- WE-NESS
- Continuous Improvement
- Quality Driven
- Transferability
- Success for all
- Common Sense
- If It Isn't Right, It Isn't Done
- Desired Result: A happy productive and stimulating environment where we make good use of our time and learn from each other

OBJECTIVES

- To enhance learning ability and ensure learning outcome
- To learn and practice teambuilding skills...become a high performance team

ORGANIZATION

- The internalization, practice and assessment of the six CRITICAL ATTRIBUTES of teambuilding

1. communication
2. synergy
3. opportunity
4. focus
5. structure
6. assessment

EXPECTATIONS

- enhanced learning
- increased productivity
- improved decision making
- complete, correct, on-time
- 100% good stuff
- effective team functioning
- success for all

MEASURABLE RESULTS

- Demonstrated practice and assessment of the six CRITICAL ATTRIBUTES

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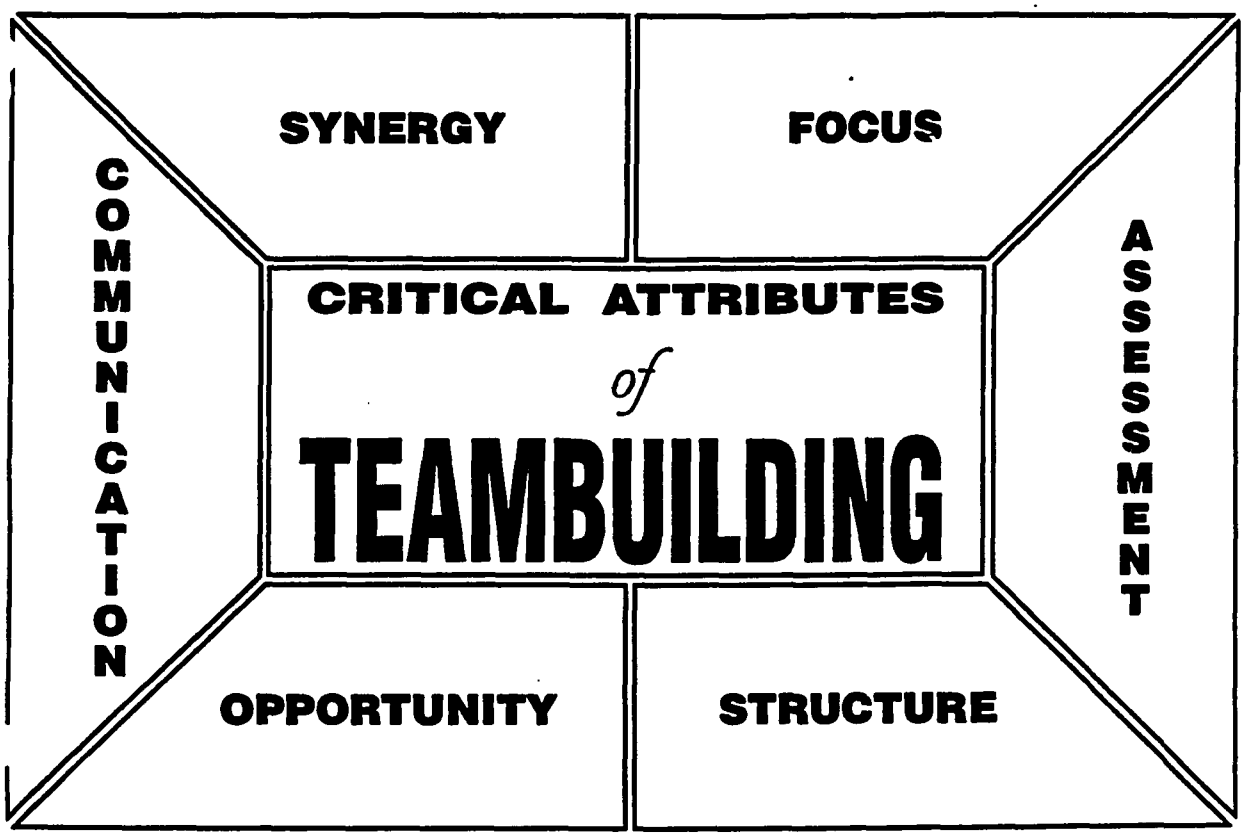

DEFINITION....

A team is the power of people working together for a common goal, learning from each other, creating a culture that encourages and supports its best performance.

Teambuilding is a process of getting a team started and keeping a team going . . .

- **driven by communication**
- **including all members**
- **characterized by teaching and learning**
- **having a common purpose**
- **guided by goals, roles and procedures**
- **being continuously assessed for feedback and effectiveness**

Teambuilding sets up people to contribute meaningfully and productively.

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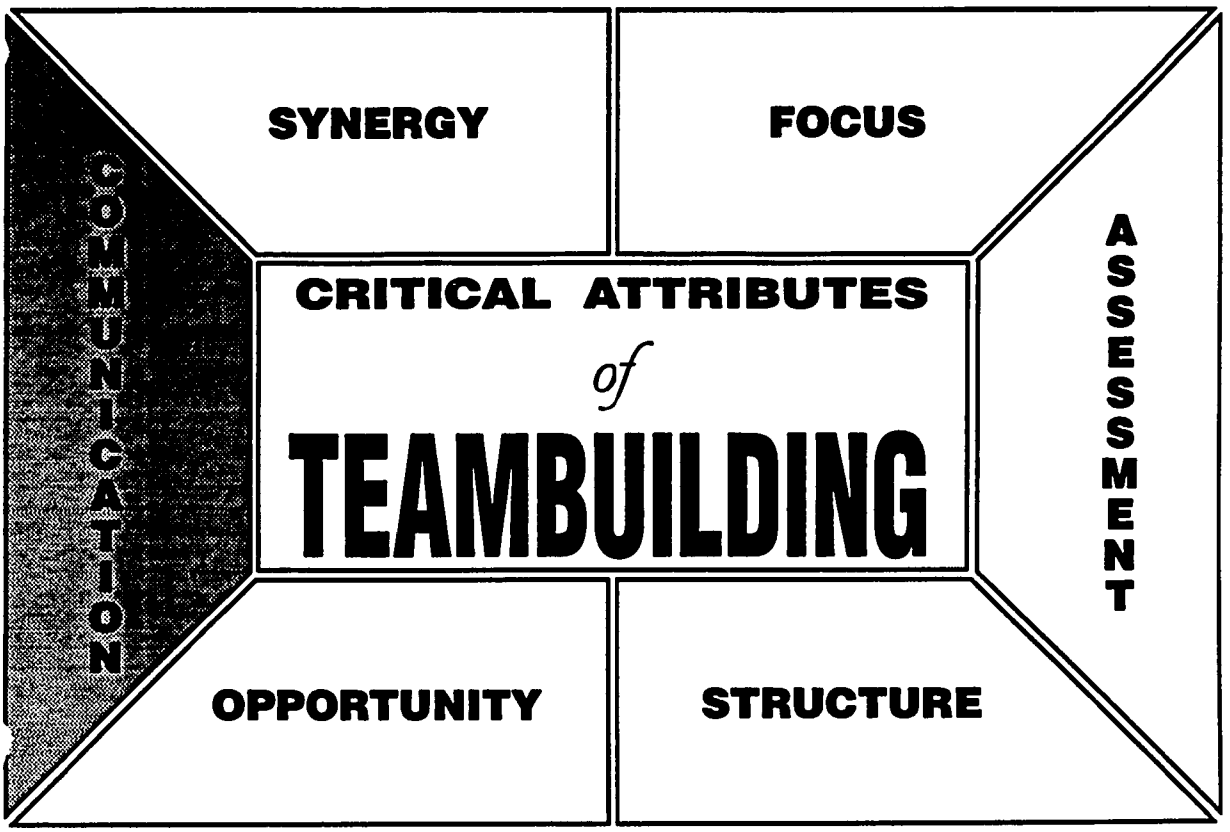


COMMUNICATION MEANS. . .

- Taking time to talk together professionally
  - › planning
  - › focusing
  - › assessing

- Speaking
- Listening
- Writing
- Clarifying

  } Understanding
  - › seeking first to understand
  - › then to be understood

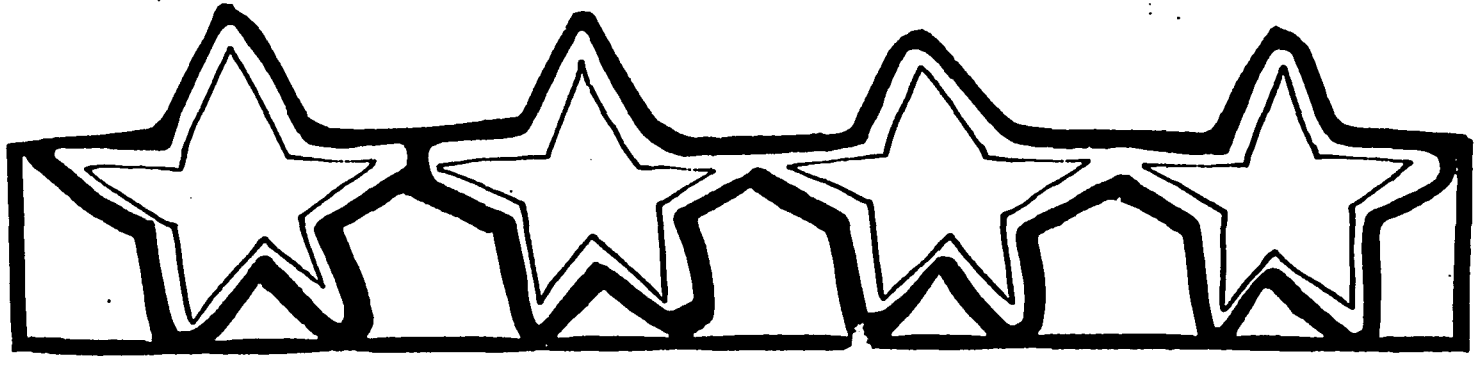
- Teaching, learning, coaching
- Problem Solving
  - › shaping ideas
  - › critical thinking
  - › conflict resolution
- Consensus

FOCUS ON...

THINKING
- PROBLEM SOLVING, INVENTING, REASONING, DECISION MAKING, CONFLICT RESOLUTION, NEGOTIATING, DIVERSE PERSPECTIVES

COMMUNICATION
- ACTIVE LISTENING, PARAPHRASING, CLARIFYING, COACHING

COLLABORATION
- TEAM BUILDING



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Poor Listening Habits

Below are listed 32 irritating listening habits which can create communication problems. Some of these habits seem unconscious, some purposeful, some trivial, some important; some are remediable, but some are deeply rooted in the style of some people. Please do the following:

1) Place an X before the habits listed which presently irritate you;

2) Place an I after the habits which you believe yourself to be guilty;

	1. Dominates conversations.	
	2. Interrupts	
	3. No eye contact.	
	4. Doodles and draws pictures when I talk.	
	5. Fidgets with something while I talk.	
	6. Impatiently paces the floor.	
	7. Blank expression.	
	8. Takes phone calls while we are in a meeting.	
	9. Never smiles.	
	10. Questions everything I say.	
	11. Goes off on unrelated tangents.	
	12. Downgrades every suggestion.	
	13. Finishes sentences for me.	
	14. Rephrases what I say in such a way that puts words into my mouth that I didn't mean.	
	15. Refuses to provide direct answers to questions.	
	16. Asks questions about what I have just said and shows he or she wasn't listening.	
	17. Takes notes all the time I am talking.	
	18. Rummages through the papers on the desk or the desk drawer instead of listening.	
	19. Twitches and turns constantly just waiting for me to stop so he or she can take over.	
	20. Whenever I talk, the other person I'm talking to turns around and looks out the window.	
	21. Smiles all the time, even when I'm talking about a serious problem of mine.	

DRAFT

22. Stares at me as if trying to outstare me.
23. Looks at me as if appraising me; I begin to wonder if I have a smudge on my face or a tear in my coat.
24. Looks me in the eye too much...unnaturally long at a time.
25. Overdoes trying to show me he or she understands what I'm saying, too many nods of his or her head or mm-hms and uh-huh's.
26. Frequently looks at his or her watch or the clock while I am talking.
27. Closes eyes and rests head on hand.
28. Doesn't put down what he or she is doing when I come in.
29. Seems withdrawn and distant.
30. Won't sit still.
31. Walks away when I'm talking and often stands not facing me.
32. If several people are in the room, tends to look at someone other than the person who is talking.

Now, how would you rate yourself as a listener?_____

7 - Superior
6 - Excellent
5 - Above Average
4 - Average
3 - Below Average
2 - Poor
1 - Terrible

How do you think the following people would rate you as a listener? (Use the rating scale above.)

Your best friend _____
Your boss _____
Your business colleague _____
A job subordinate _____
Your spouse _____

C • O • N • S • E • N • S • U • S

CONSENSUS MEANS

All group members contribute

Everyone's opinions are heard and encouraged

Differences are viewed as helpful

Everyone can paraphrase the issue

Everyone has a chance to express feelings about the issue

Those who disagree indicate a willingness to experiment for a certain period of time

All members share the final decision

All members agree to take responsibility for impending the final decision

C • O • N • S • E • N • S • U • S

CONSENSUS DOES NOT MEAN

A unanimous vote

The result is everyone's first choice

Everyone agrees (there may be only enough support for the decision to be carried out)

Conflict or resistance will be overcome immediately

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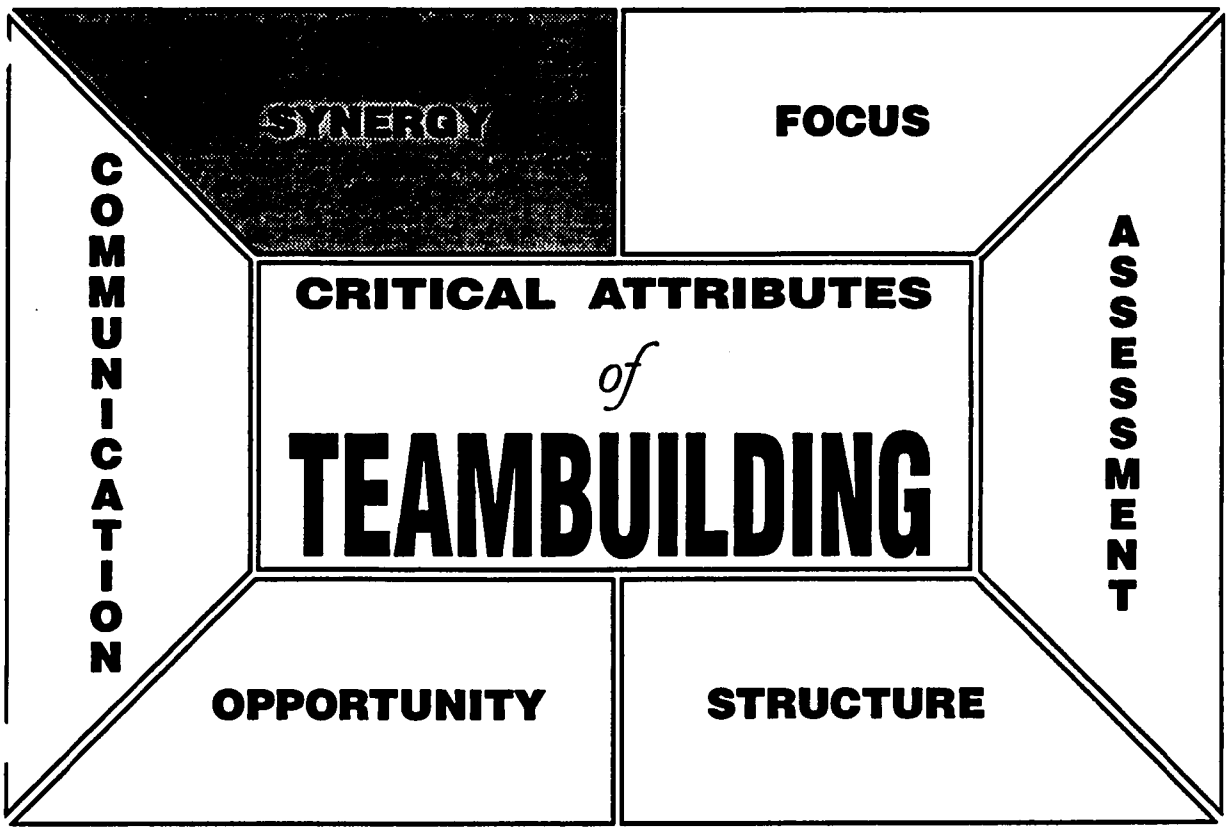
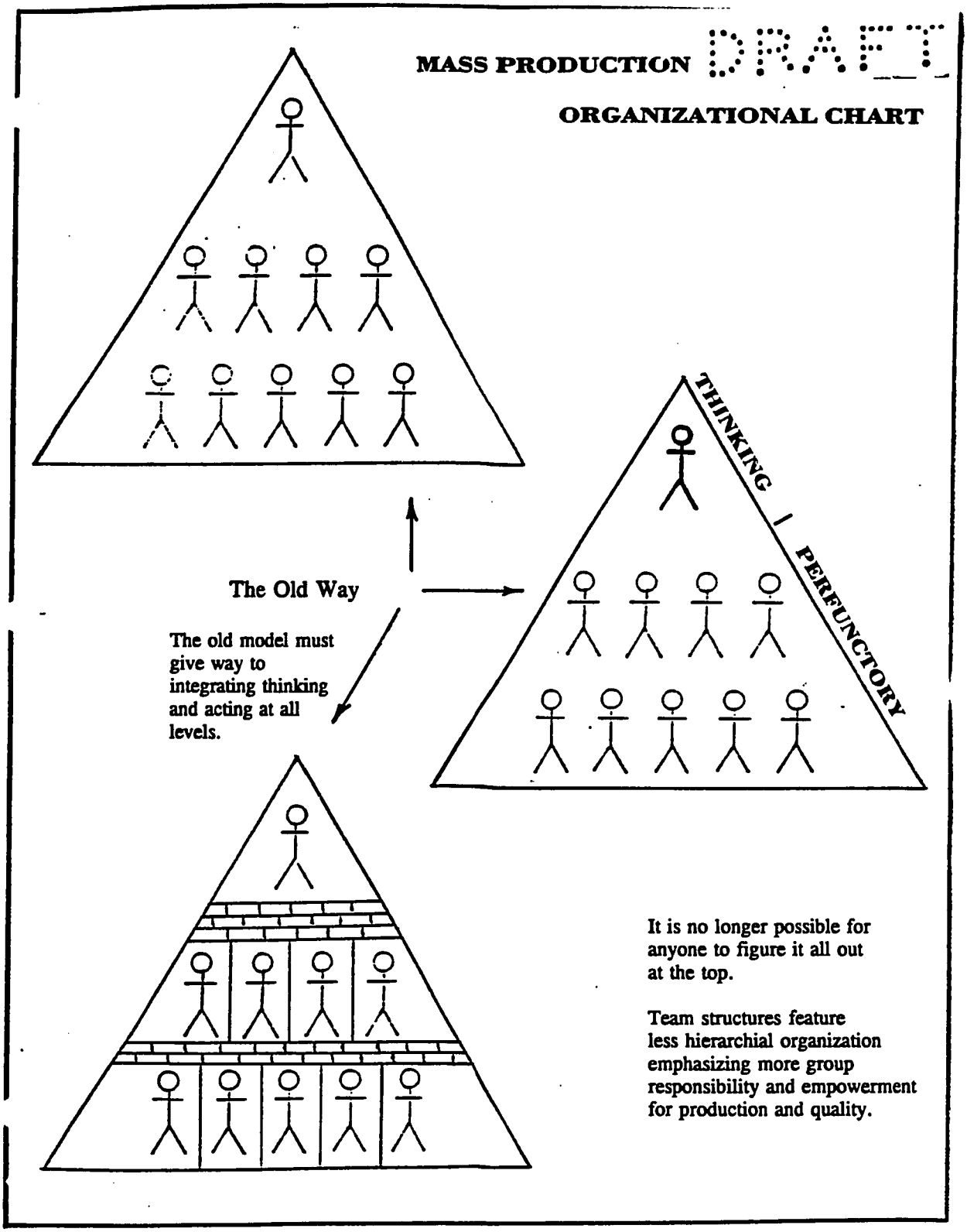


SYNERGY means . . .

- the whole is greater than the sum of its parts
- everyone has a part to play
- no one is as smart as all of us
- together we are better
- interdependence
- empowerment*
- win/win (no losers)

"People aren't somebody because of what they produce . . . they produce because they are somebody"

*the latitude to invent better ways to get there (based on a common mission (focus)).



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"Our prevailing system of management has destroyed our people," writes W. Edwards Deming, leader in the quality movement.* "People are born with intrinsic motivation, self-esteem, dignity, curiosity to learn, joy in learning. The forces of destruction begin with toddlers - a prize for the best Halloween costume, grades in school, gold stars, and on up through the university. On the job, people, teams, divisions, are ranked - reward for the one at the top, punishment at the bottom. MBO, quotas, incentive pay, business plans, put together separately, division by division, cause further loss, unknown and unknowable."

T Q C** ***Total Quality Control...

a method of achieving total customer satisfaction that allows decision making to spread to the lowest levels of the organization.

DRAFT

LEARNING ORGANIZATIONS PROMOTE...

- THINKING
- COMMUNICATION
- COLLABORATION

DRAFT

WORKFORCE 2000

Positive Attitude - Be Part Of The Vision

- Learn to Learn
- Communicate Effectively
- Think Critically & Solve Problems
- Work Cooperatively
- Adapt to Change
- Influence

SYNERGY

- it takes people to make the dream come true
- each member contributes to the overall group
- every member is responsible for the team's SUCCESS
- the uncertainty of the task creates the need for interdependence

DRAFT

The OUTCOME of teambuilding is Effective Team Functioning

Effective Team Functioning means . . .

PEOPLE

- synergy
- communication
- empowerment
- greater comfort level
- broader knowledge base
- win/win
- improved quaity of work life

PLANNING

- proactivity
- common focus/purpose
- combined resources
- reduced risk
- accurate decisions
- continuous improvement
- ability to respond quickly to change

PRODUCTION

- accelerated completion of complex tasks
- increased productivity
- reduced waste
- no defects
- more cost effective result
- high quality product

SUCCESS FOR ALL

DRAFT

Writing Program Assessment Survey

JOHN COLLINS, ED.D., THE CENTER FOR EFFECTIVE COMMUNICATION, The NETWORK, Inc.
300 BRICKSTONE SQUARE, SUITE 900, ANDOVER, MASSACHUSETTS 01810; (508) 470-1080

INSTRUCTIONS

For each activity (1-18), assign the rating that most accurately reflects how often you do the activity during the course of the year. If you are not sure how to respond to an item, make your best possible guess. Be careful not to over-estimate; rather, try to think of actual times when you did the activities.

0 – Do not do this activity
1 – Infrequently, a few times during the school year
2 – Occasionally, fewer than ten times a year
3 – Regularly, once or twice a month
4 – Frequently, three to six times a month
5 – Very frequently, more than six times a month

Grade level(s) you teach: _____

Prewriting Activities

RATING

1. Provide opportunities for students to discuss and clarify writing assignments before writing begins. (Consider a writing assignment as any assignment that requires students to do more than one draft.) ☐

2. Provide opportunities for students to get more information about a topic before they begin writing (brainstorming, reading, discussing, interviewing, etc.). ☐

3. Give writing assignments based on the personal experiences of the students. ☐

Drafting Activities

4. Provide specific information about the criteria I will use to evaluate each assignment. ☐

5. Provide opportunities to write during class time. ☐

6. Give writing assignments of a minimum of a paragraph in length. ☐

7. Provide students with specific suggestions for improvement. ☐

0 – Do not do this activity 1 – Infrequently, a few times during the school year 2 – Occasionally, fewer than ten times a year	3 – Regularly, once or twice a month 4 – Frequently, three to six times a month 5 – Very frequently, more than six times a month

Revision and Proofreading Activities

RATING

8. Provide opportunities for students to review and revise written work completed earlier in the year. ☐

9. Encourage students to edit each other's papers before they are handed in. ☐

10. Teach grammar, usage, and mechanics in relation to the students' current writing problems. ☐

11. Teach editing skills (sentence combining, eliminating unnecessary words and phrases, checking for variety of language, organization, etc.). ☐

12. Teach proofreading skills (punctuation, editing symbols, manuscript form). ☐

Sharing Activities

13. Provide opportunities for students to read their written work out loud to individuals or to small groups of students. ☐

14. Give writing assignments that are meant to be read by readers other than myself. ☐

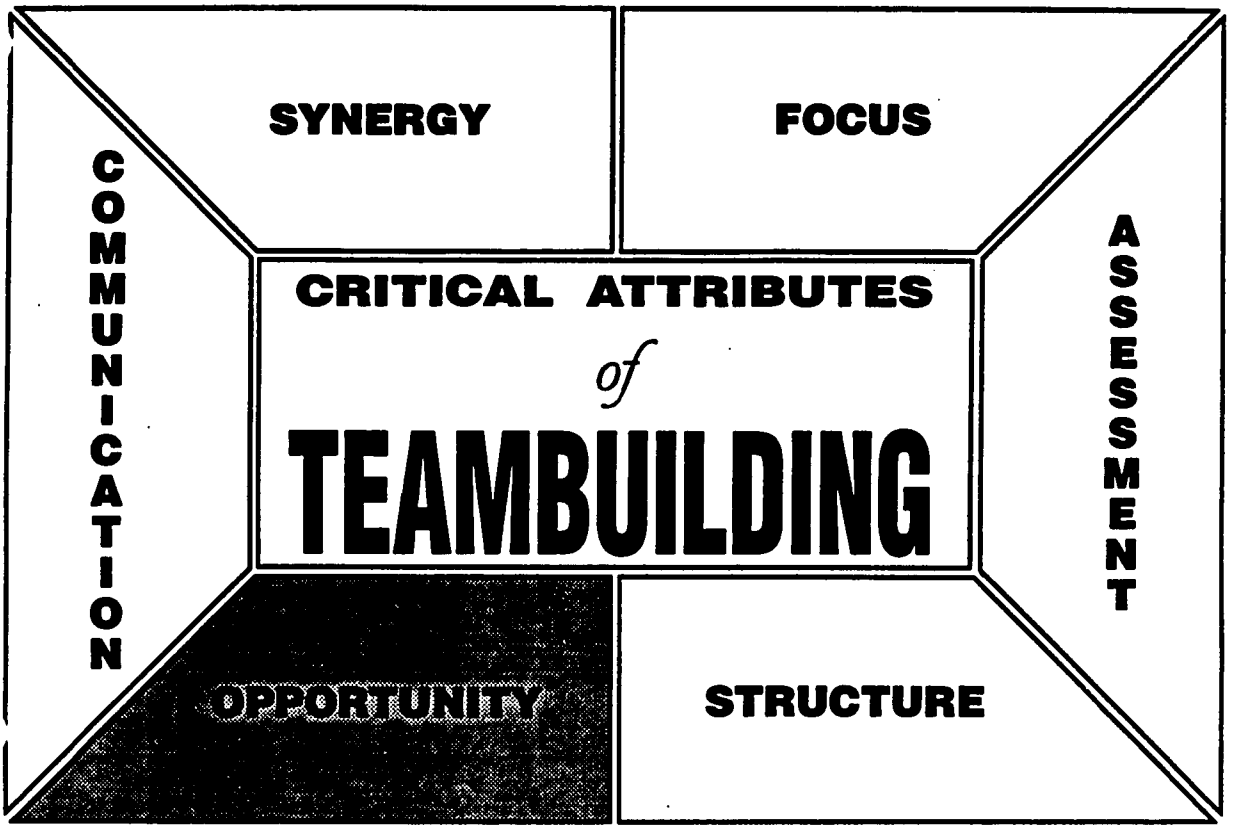
15. Display or "publish" examples of high quality work. ☐

16. Write along with students during class time on the same writing assignment that they are working on. ☐

17. Write positive comments on students' work. ☐

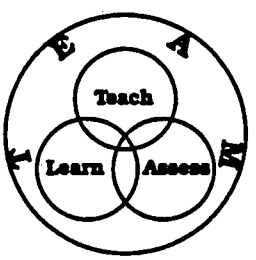
18. Conduct individual writing conferences with students. ☐

For a detailed description of how to implement the eighteen activities listed above, see *The Effective Writing Teacher* by John Collins, available through The NETWORK.



OPPORTUNITY means . . .

- Learning
- Teaching
- Coaching



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LEARNING

- **the POWER to be what you aren't**
- **the POWER to do what you can't**

"Learning to Learn is the skill of the future"

"We aren't going to make it if we aren't ALL learners"

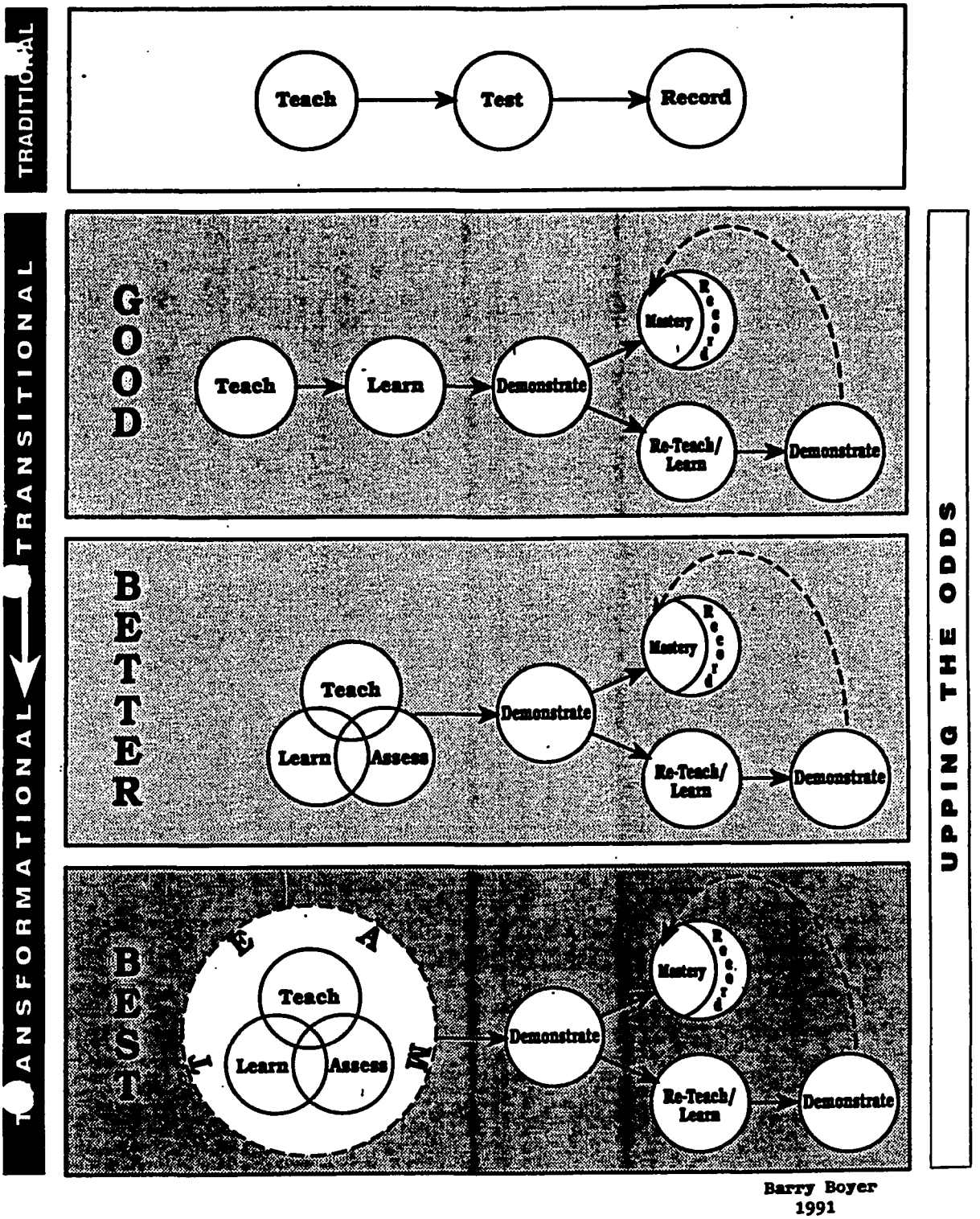
OVER →

Learning Deficits Easiest To Remediate
Are Those That Never Occur In The First Place

Remediate Errors before they become Permanent

"Practice Makes Permanent"

It's the teacher's job to help students be right



Barry Boyer
1991

DRAFT

We learn and retain:

- 10% of what we read
- 20% of what we hear
- 30% of what we see
- 50% of what we both see and hear
- 70% of what is discussed with others
- 80% of what we experience personally
- 95% of what we TEACH to someone else

William Glasser

DRAFT

WORKFORCE 2000

Positive Attitude - Be Part Of The Vision

- **Learn to Learn**
- **Communicate Effectively**
- **Think Critically & Solve Problems**
- **Work Cooperatively**
- **Adapt to Change**
- **Influence**

What we teach & test does not do this

Learning content does not do this

Nothing we do in school has anything to do with one's adult years*

What % of kids graduate with the ability to do all this Excellently?

* Willard Daggett

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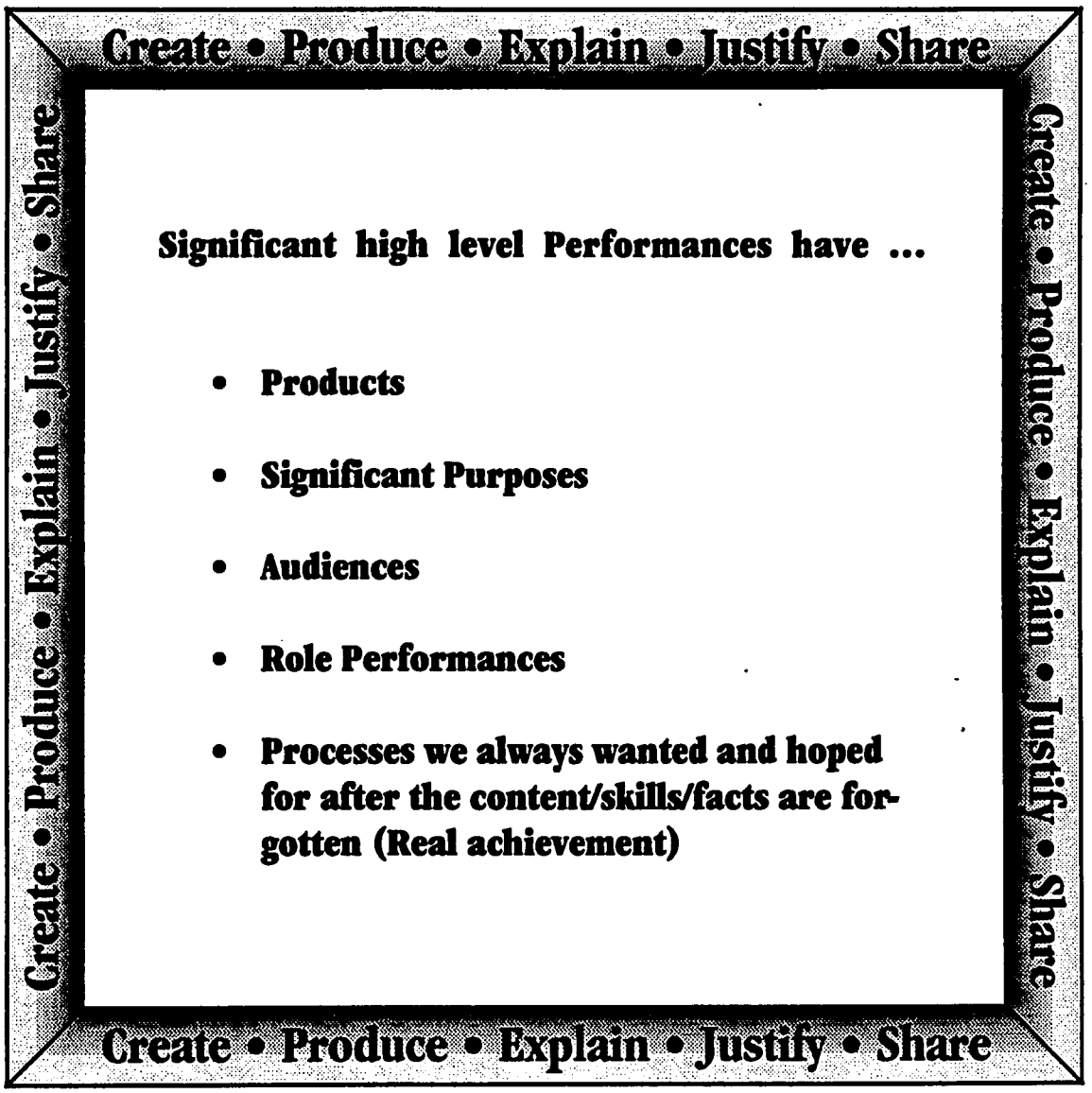

COACHING . . .

1. Begin with direct supervision

- **instruction:** each group should have team instructions for the task.
- **orientation:** students should have heard a good brief orientation on the objectives of the task and on the criteria for evaluation.

*2. Let go**

- **delegating:** delegate authority to groups allowing them to make mistakes (practice) while holding them accountable for group and individual products.
- **no "hovering":** it is of critical importance to let students make decisions on their own. If the teacher is available to solve all the problems, students will not rely on themselves or their groups.

3. Support

- **supervising:** giving feedback, redirecting with questions, supplying resources, complimenting, reflecting (progress and success).
- **intervening:** "practice makes permanent" ... It's the teachers/coaches job to help students be right.

*When groups are underway, the teachers authority has been delegated. In teamwork students are now doing many of the things the teacher ordinarily did.

A Desired Result

A <u>happy</u>, <u>productive</u> and <u>stimulating</u> environment where we (students and coach) make good use of our time and LEARN from each other.

None of us in a classroom can produce as good a learning environment as all of us can.

Because we all have different personalities, styles, energy levels, experiences & priorities, classroom operations will look different.

While collectively striving for the desired results, we can enjoy each others individual methods of achieving them.

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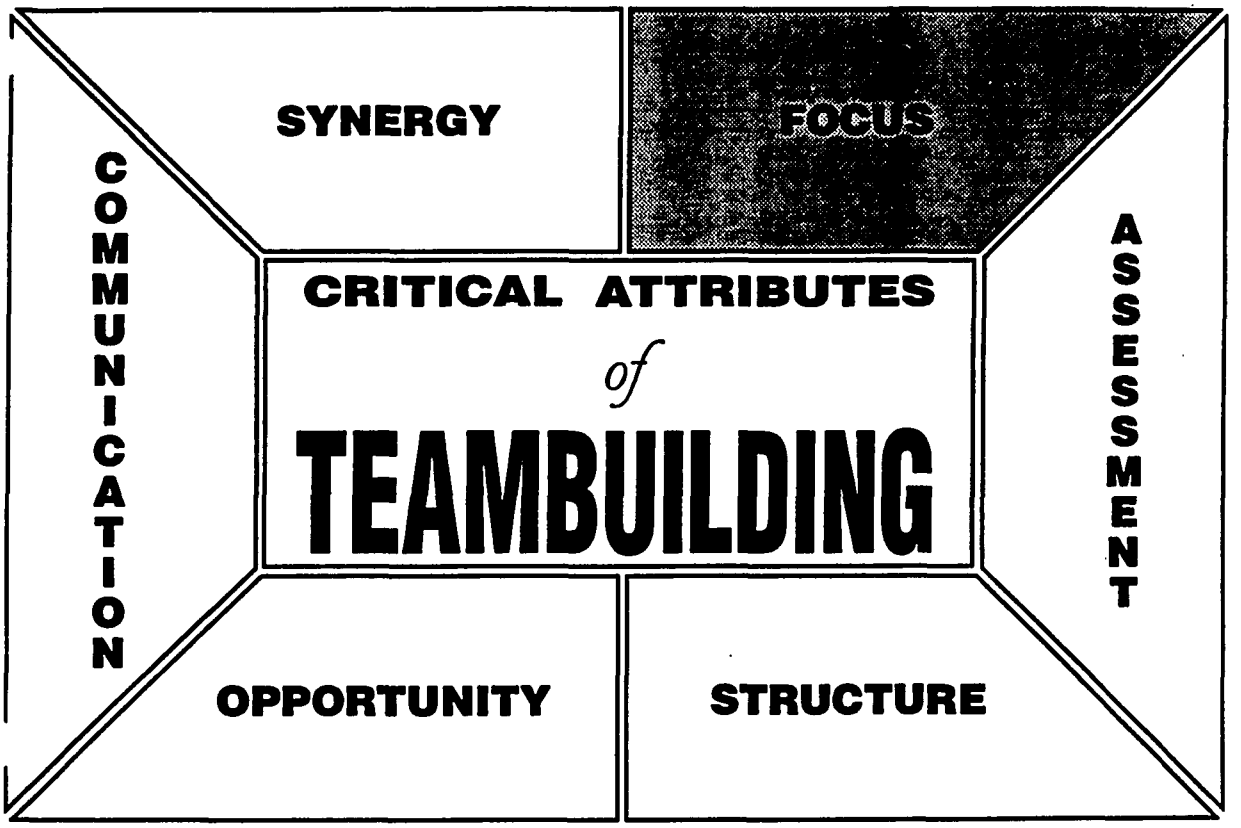
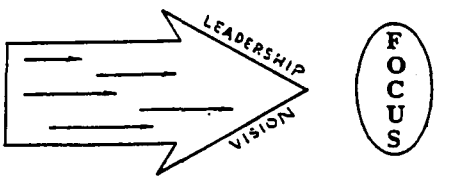
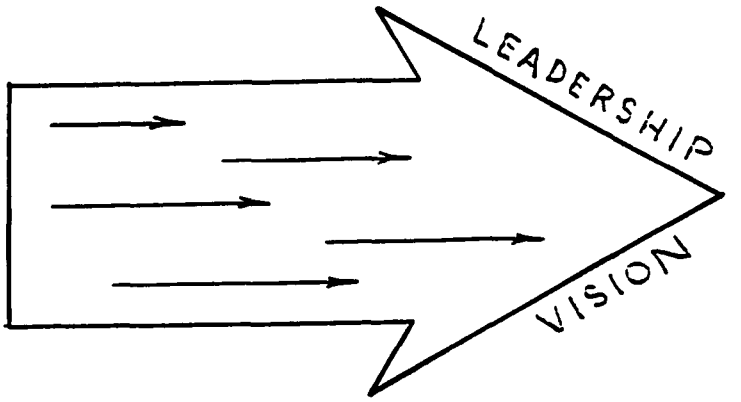


FOCUS means

- Knowing what's at the end (Big Picture)
- Beginning with the end in mind
- Everyone headed in the same direction
- Common purpose and goal
- Knowing criteria
- Planning your work
- Being proactive*



* not waiting for or allowing an irritant or external threat to pull a team together (think first, act second).

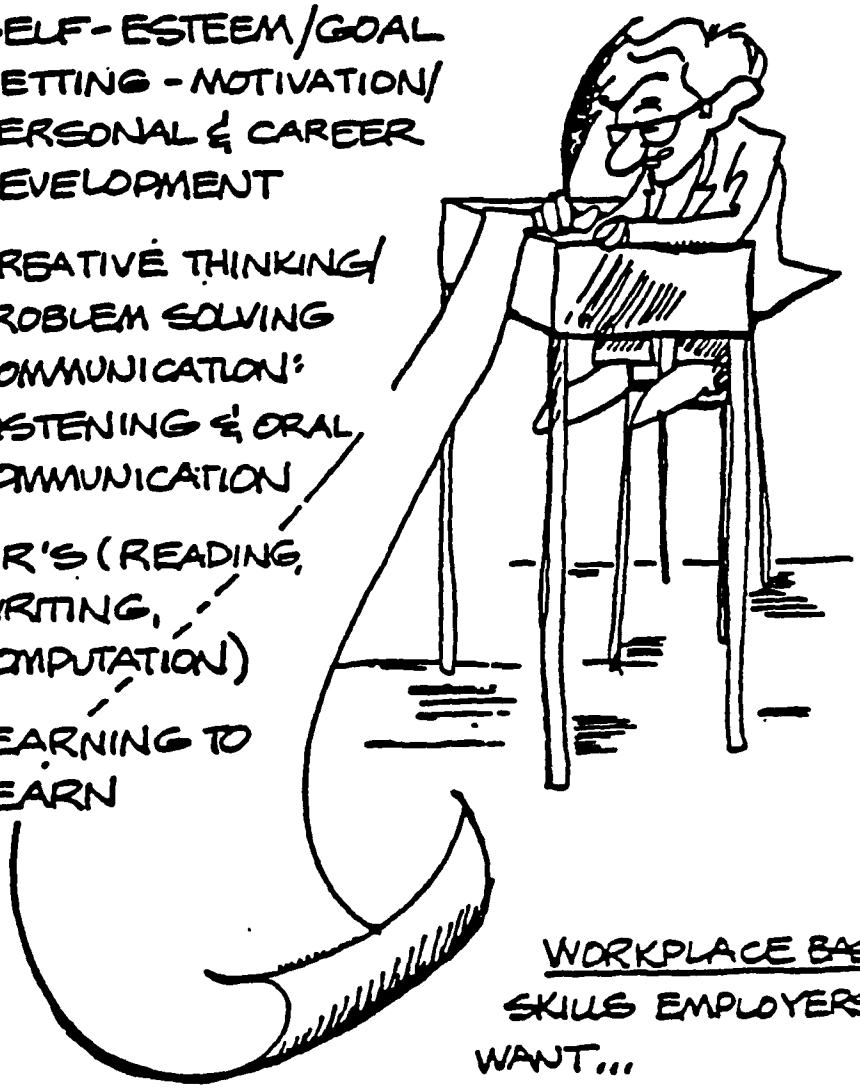


FOCUS

Getting a group of people that one does not control to march in some needed direction is rarely easy, yet this is precisely the skill that many jobs demand.

BASIC SKILLS FOR THE '90s

- ☐ ORGANIZATIONAL EFFECTIVENESS/ LEADERSHIP
- ☐ INTERPERSONAL / NEGOTIATION/ TEAMWORK
- ☐ SELF-ESTEEM/GOAL SETTING - MOTIVATION/ PERSONAL & CAREER DEVELOPMENT
- ☐ CREATIVE THINKING/ PROBLEM SOLVING
- ☐ COMMUNICATION: LISTENING & ORAL COMMUNICATION
- ☐ 3R'S (READING, WRITING, COMPUTATION)
- ☐ LEARNING TO LEARN



WORKPLACE BASICS: SKILLS EMPLOYERS WANT...

ASTD & US. DEPT. OF LABOR 1989

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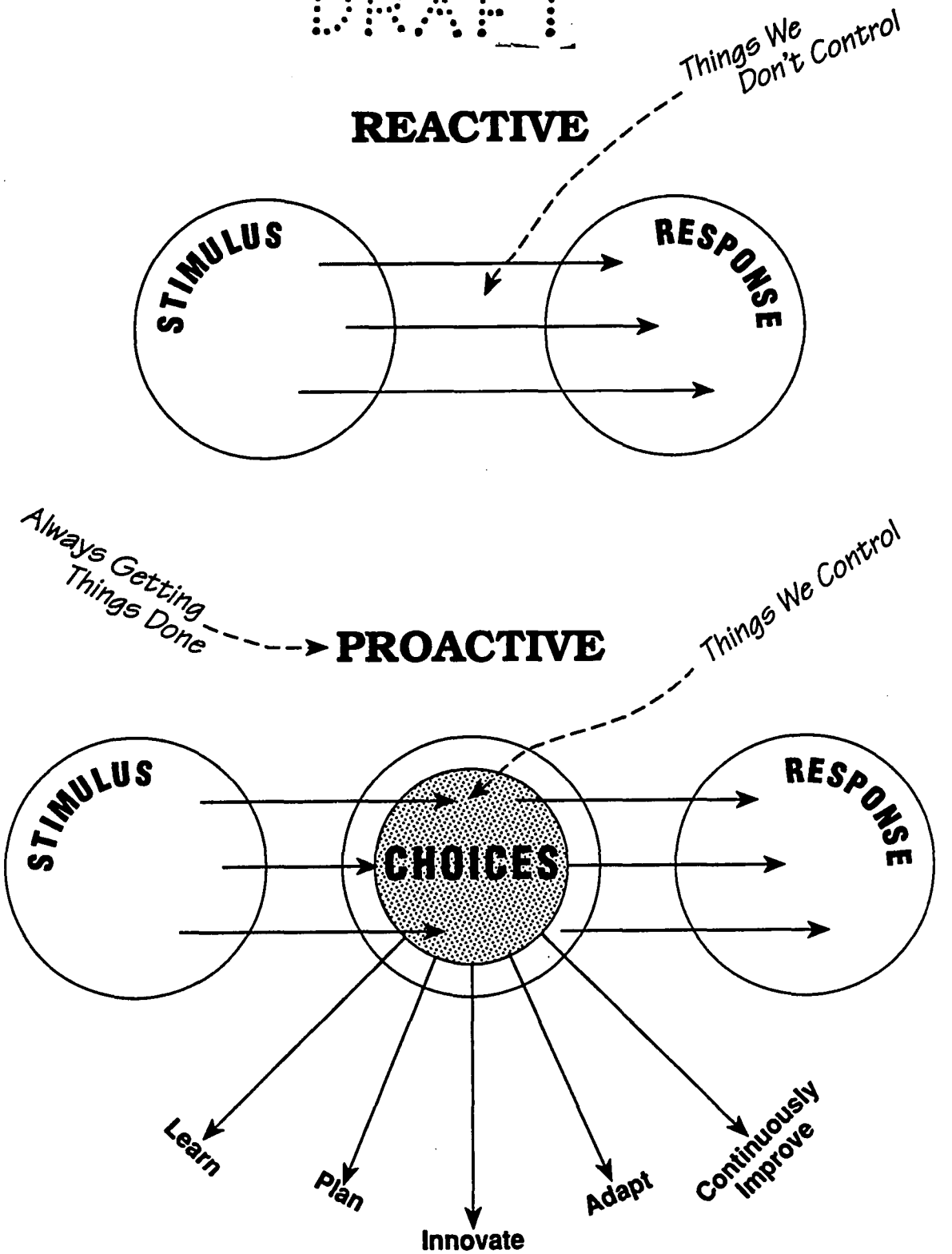

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Some thoughts on CHANGE . . .

- **Change makes us incompetent and needy**
- **Change produces anxiety**
- **Change creates conflict**
- **People need to see a need for change and to understand their place in the change**
- **Everybody's nervous about the unknown, especially when it comes to their livelihood**

- **The uncertainty of change creates the need for interdependence**

- **Change from a position of proactivity . . . the best way to manage change is to create it**
- **Challenge the givens**
- **When changing, let go before you grab on**
  - **› stop doing what doesn't work**
  - **› stop doing old things so you can do new things**

- **Change is a process, not an event**
- **Roles and responsibilities have to be clearly defined**
- **Professional development is critical for implementation**

- **The most powerful tool for implementing change is TEAMWORK**

- **IF YOU WANT TO GET BETTER, YOU HAVE TO RISK FAILURE**

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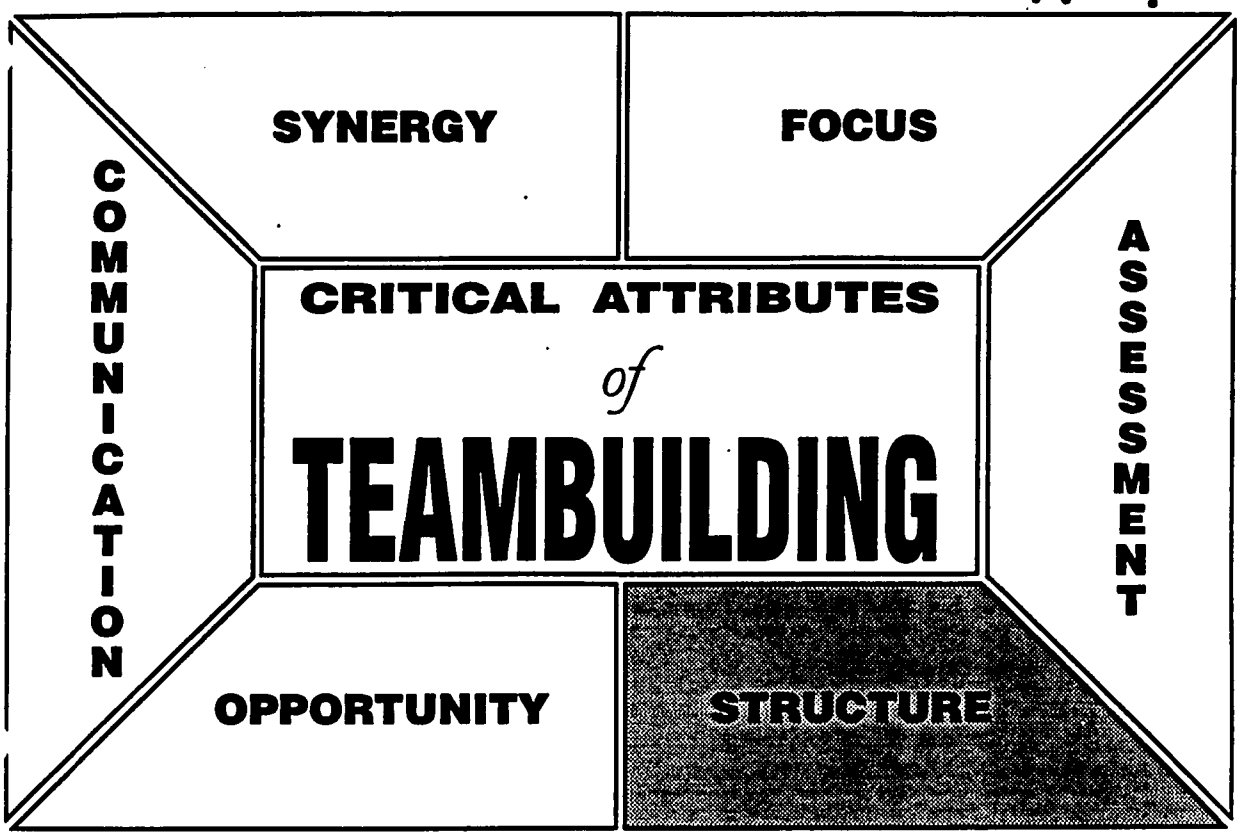
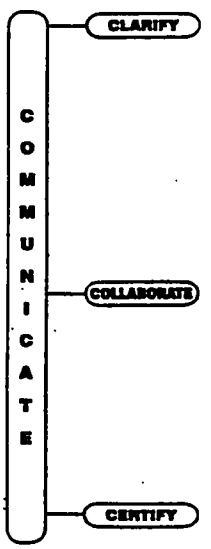


STRUCTURE means . . .

- operationalizing the 6 attributes
- goals, roles, procedures
- working your plan
- project management



Team Building

TEAM OPERATIONAL SKILLS

COMMUNICATE

CLARIFY

A. Goals
   1. Checking for understanding (must know objective, expectation and timeline).
   2. Identify hot spots (what aren't we getting).

B. Roles
   1. Every member is responsible for the team's success.
   2. Every member is a teacher.
   3. Members assume an active role in their own learning.

C. Procedures
   1. Clarify
   2. Collaborate
   3. Certify

COLLABORATE

A. Clarify (1A above).
B. Expand learning opportunity (be a teacher).
C. Be a resource (share knowledge, experience, discovery ideas, etc.).
D. Actively participarte in the problem solving dynamics.
E. Help others be right.
F. Be sure everyone is LEARNING (don't let anyone fall through a crack) (Success for ALL).
G. Assess, how are we doing? (Measure and improve our own performance).
H. 'Ask why? (Understand the process and the underlying principle).
I. Certify (III below).

CERTIFY

A. Self Assessment of Learning Goal
   1. Individual
   2. Team

B. Self assessment of teambuilding goals
   1. Individual
   2. Team

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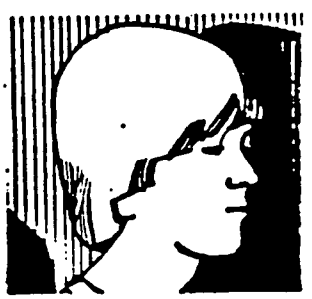
GROUP MEMBERS' ROLE

- FOCUS ON TASK
- LISTEN & RESPECT OTHERS
- ASSIST IN SUMMARIZING
- BE ON TIME
- CONTRIBUTE IDEAS
- MAKE PROCESS SUGGESTIONS
- PARTICIPATE IN DECISION MAKING
- KEEP FACILITATOR NEUTRAL
- HAVE WIN/WIN ATTITUDE



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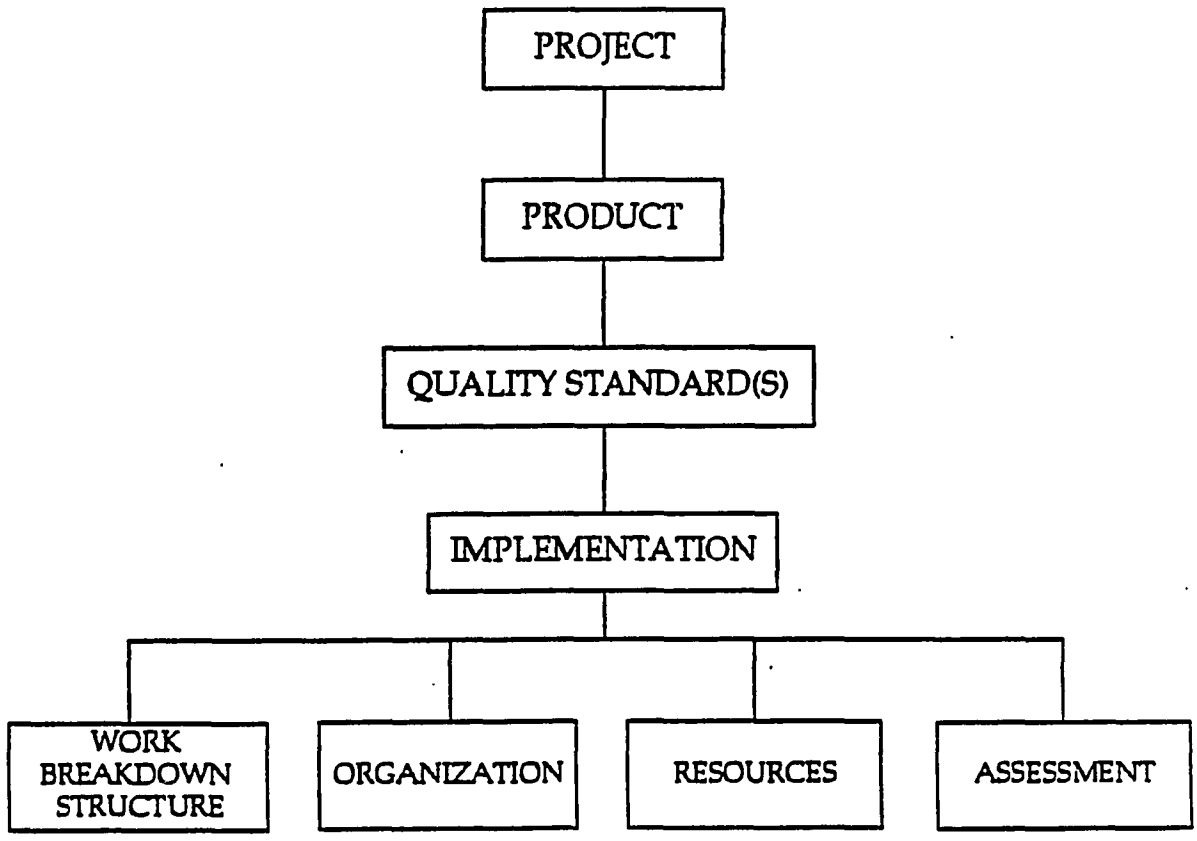
PROJECT MANAGEMENT

TECH PREP PROGRAM

CRESTON & OTTAWA HIGH SCHOOLS



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PROJECT MANAGEMENT

TECH PREP PROGRAM

CRESTON & OTTAWA HIGH SCHOOLS

PROJECT	Any activity that can be broken down into steps/tasks.
PRODUCT	Result(s) of completing the steps/tasks according to given guidelines/criteria.
QUALITY STANDARD(S)	The guidelines that tell what an acceptable product is...(criteria, tolerances, specifications, or personal goals).
IMPLEMENTATION	All of the things you need to do to complete the project... (WBS, Organization, Resources, Assessment).

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PROJECT MANAGEMENT

TECH PREP PROGRAM

CRESTON & OTTAWA HIGH SCHOOLS

WORK BREAKDOWN STRUCTURE (WBS) — Gives us a roadmap for completing our project.

1. **Brainstorm, Order/Sequence Tasks**..Determine all of the steps/tasks needed to complete our project, then place them in the order/sequence that they will need to be completed.
2. **Duration**...Determine the time it will take to finish each step/task.
3. **Timeline**...Determine the starting and ending times for the project based on the duration for each step/task.
4. **Float**...This is the difference between the total duration and the ending date (time) on your timeline. It can be positive or negative.
5. **Adjustments**...If the float is negative, make adjustments to the starting time, ending time, or durations. Positive float is good! It provides time to deal with unexpected problems.

ORGANIZATION — Determine who is going to do what. May involve teambuilding and teamwork.

RESOURCES — All of the things you will need to complete the project such as learning/knowledge, materials, people, money, and equipment.

ASSESSMENT — Continuously checking all parts of the project to make sure the given guidelines/criteria are being met, and to make needed adjustments.

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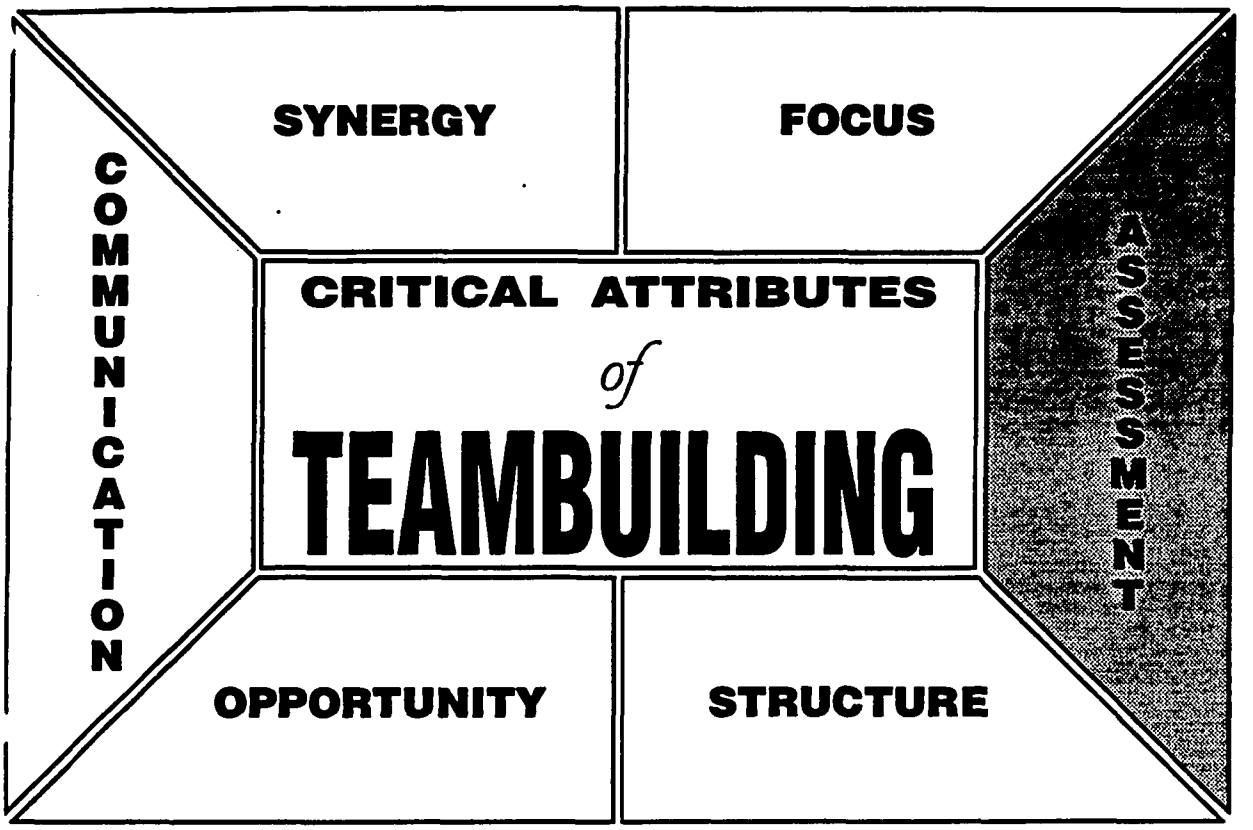
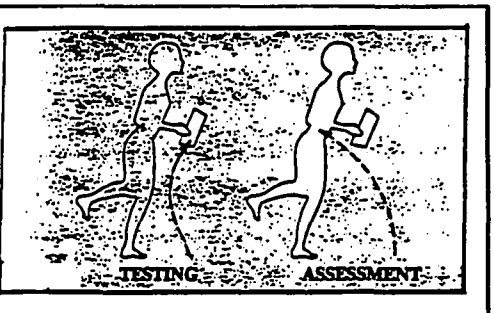
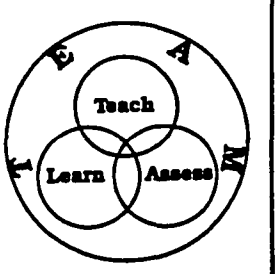


ASSESSMENT means . . .



- How are we doing?
  - › Re: learning objective
  - › Re: teambuilding objective
- Monitoring progress and quality
- Reflection/feedback
- PROCESSING
- Allowing what goes on in the team to not be lost
- Improvement plan (continuous improvement)



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Team Building

ASSESSMENT

What it is . . .

- *. Assessment in its origin means to "sit down beside"
- *. Assessment in its development means careful judgement based on the kind of close observation that comes from "sitting down beside"
- **. Assessment is seeing that students get better and better at significant tasks
- . Assessment is coaching for feedback
- . Assessment is a visible result of student learning
- . Assessment is a broader, more personal view of learner's progress
- . Assessment is a multidimensional process of judging an individual in action
- . Assessment is mentoring

Why we should Assess . . .

- . testing measures product only
- . assessment addresses the interaction of person and product
- . assessment helps learners learn certain processes - how to seek out, integrate and use knowledge rather than simply passing along the body of knowledge itself
- . education goes beyond knowing (to being able to do what one knows)
- . observe and judge the learner (how we learn and in action (what we can do
- . monitor student progress
- . "How are we doing?"

2 Types of Assessment

1. By the teacher: Practitioner of assessment/master observer

OVER

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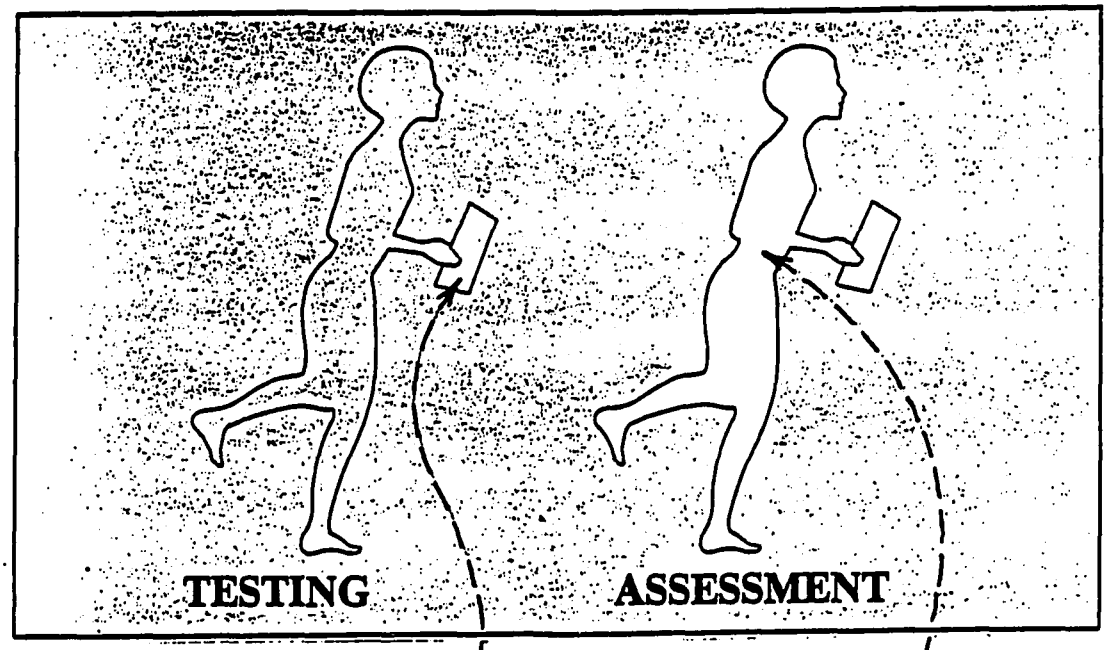
2. **By the student: Self Assessment**

- Recapitulation, quality check
- Internalization, what are we doing and why are we doing it
- Develop own criteria (why is assignment a good paper)
- Communication across the curriculum, write about what we are learning
- understanding of
  - what we achieve
  - how we achieved it
  - why we did what we did
  - what we might yet do

Sources: * Alverno College
** Grant Wiggins



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TEAMBUILDING ASSESSMENT
(Individual)

NAME_____

TEAM_____

TEAM LEARNING OBJECTIVE*_____

_____

"HOW ARE WE DOING?"

This self assessment is in two parts. **PART A** addresses your learning goal. **PART B** addresses your teambuilding goal.

PART A	WRITE about what you are learning regarding the team learning objective* stated above.

PART B	WRITE your assessment of both <u>your</u> contribution to the team effort and the <u>team</u> effort as a whole.	
	INDIVIDUAL	TEAM
	What did I do well?	What did the team do well?
	What do I need to change?	What does the team need to change?

TEAMBUILDING ASSESSMENT
(Team)

DRAFT

NAME_____

TEAM_____

TEAM LEARNING OBJECTIVE*_____

_____

"HOW ARE WE DOING?"

In your team, present and discuss <u>your</u> individual assessment. Then, as a team, prepare a team assessment in response to the four questions below.	
INDIVIDUAL	TEAM
What did individuals do well?	**What did the team do well?**
What do individuals need to change?	**What does the team need to change?**

Did the team meet its team learning objective*?_____

_____

Identify the areas needing improvement_____

_____

_____

_____

Continuous Improvement

If it's not broken,

fix it anyway

There is always a better way"

Continuous Improvement means . . .

- if it isn't broken, we still have time to improve it
- finding a better way
- not being satisfied with the present
- not yet what we want to be
- always working to constantly improve
- reaching milestones never destinations
- focusing on results
- world class performance
- quality
- innovation and breakthrough
- stretching competency . . . getting better
- building expertise

KAIZEN (Japanese)

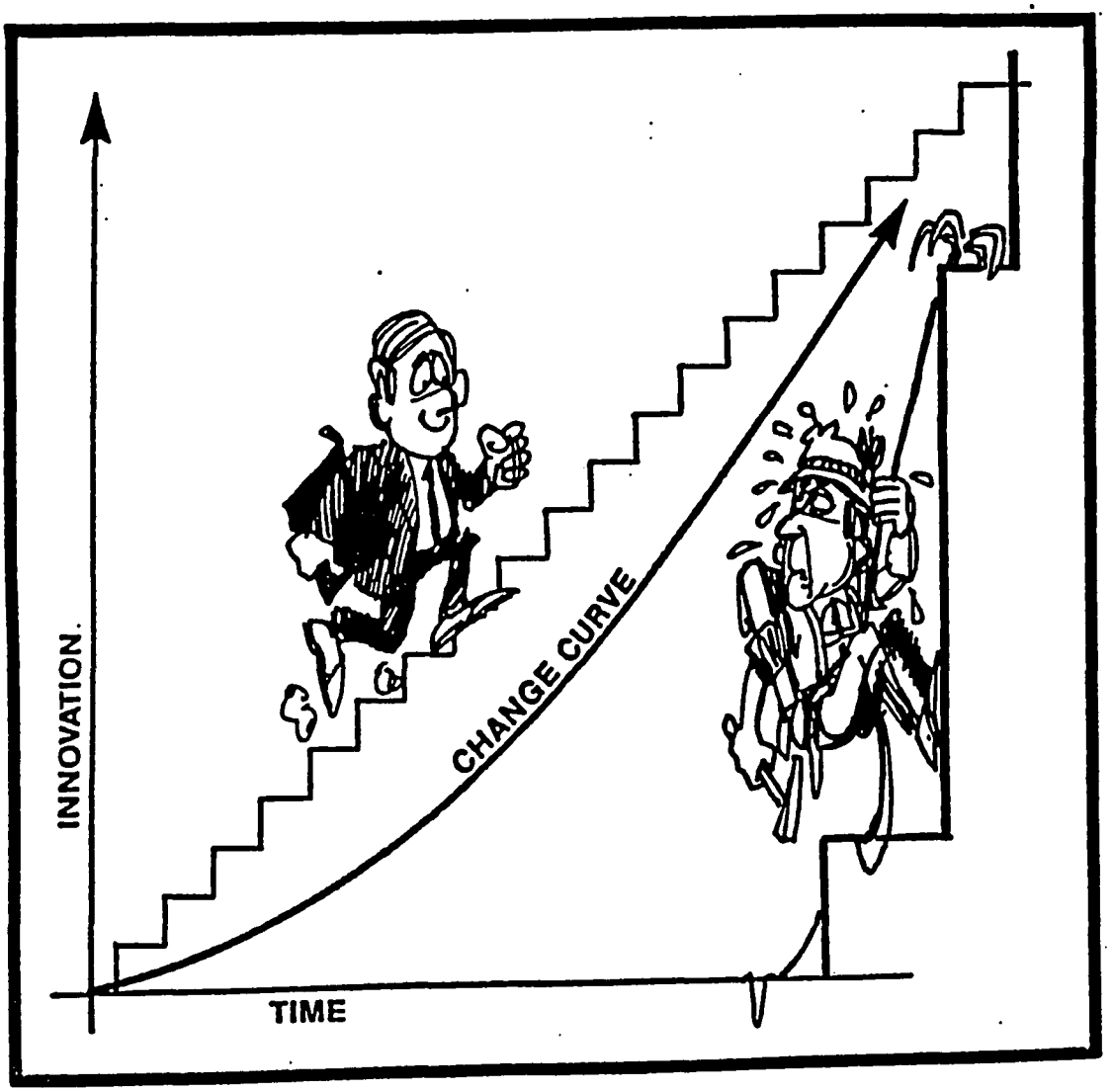
Gradual unrelenting improvement,
doing "little things better",
setting and achieving ever higher standards

for the U.S., KAIZENS' clear message is:

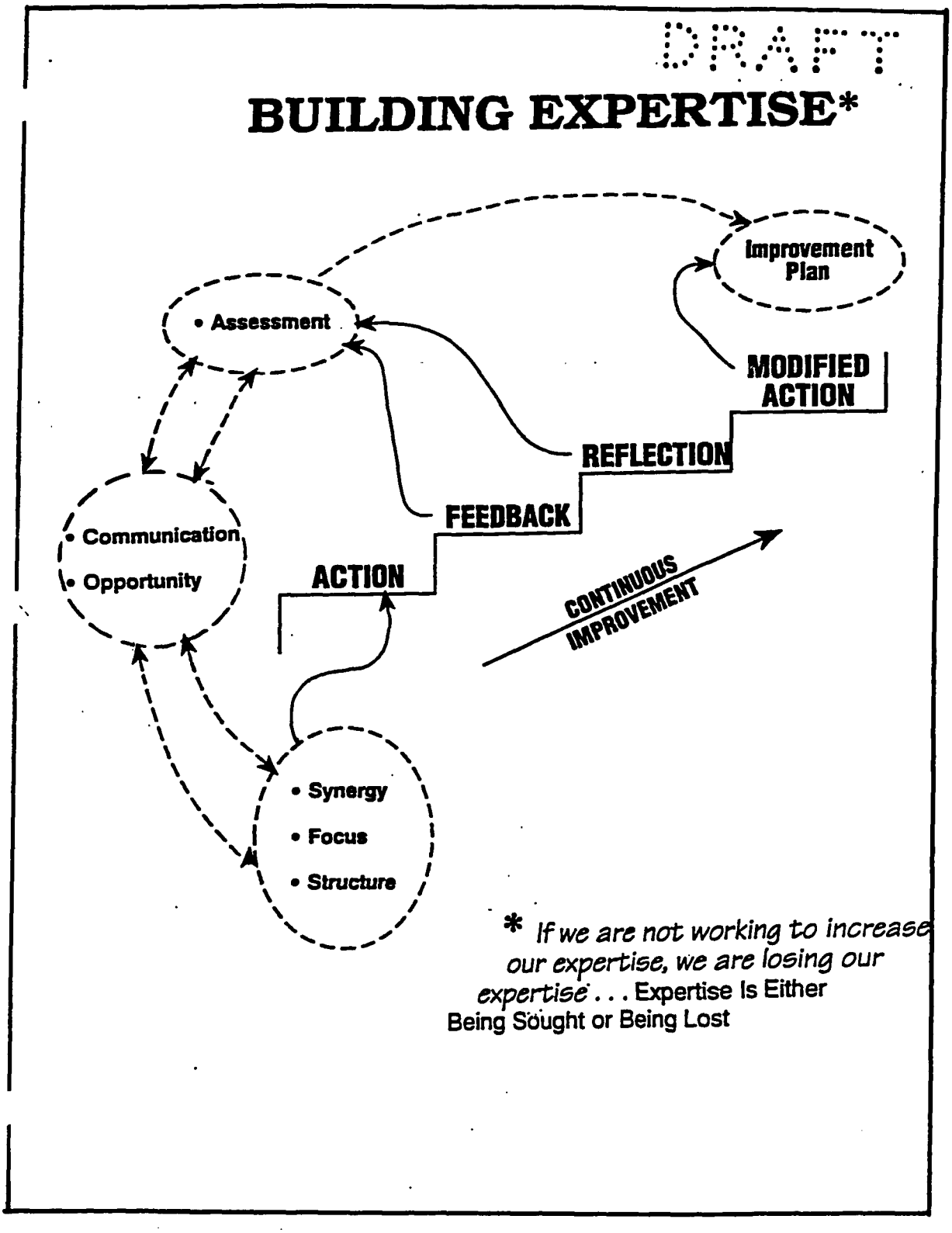
- do it better
- make it better
- improve it -- even if it ain't broke. . .

. . .because if we don't, we
can't compete with those that do

Continuous Improvement



"There is always a better way"



Glossary of DEFINITIONS... DRAFT

1. Ability:	what students can do after the school year is over that is transferrable to life roles (real achievement)
2. Baggage:	debris that has to be cleared before learning can occur
3. Big Picture:	an image of the desired end result, first...followed by the contributing sub parts
4. Buy-In:	from the heart (intrinsic)
5. Camouflage:	a tactic used by students to convince us that they're stupid
6. Celebration:	high 5, thumbs up, patting selves on back
7. Challenging the Givens:	forward looking...moving from prevailing paradigms to new paradigms
8. Change:	process of letting go (let go before grabbing on)
9. Change:	something only the survivors will recognize
10. Coach:	one who helps others be right, one who supports
11. Collegial Group:	peer support/planning group
12. Commonality:	sense of unity, knowing what everyone else is doing
13. Competitive Advantage:	ability to produce 100% good stuff (correct, complete, on-time) and respond quickly to change
14. Constraints:	bottlenecks/roadblocks that if eliminated would have great impact on the achievement of goals
15. Continuous Improvement:	the sensitivity for always seeking a better way through small incremental steps leading to breakthrough
16. Control:	to keep from happening
17. Convergent:	where divergent ideas (possible solutions) are formed into a final solution
18. Course Content:	everything in the students permanent record (credentialling) that they have forgotten when they leave school
19. Cover:	to hide from view
20. Creativity:	the path to a better way
21. Critical Attribute:	the essential quality(s) that makes something what it is

22. Critical Variable:	the effort students put in (not test scores)
23. Culture:	"the way we do things around here" (it shapes us and our environment
24. Curriculum Committee:	a group of people re-arranging furniture on the deck of a sinking ship
25. Curriculum:	all the stuff students have forgotten when they leave school
26. Decade of the 80's:	the period of educational history where reforms changed little with reference to student learning and outcome
27. Divergent:	brainstorming level thinking/planning (possible solution)
28. Driving Force:	why do we want to do this?
29. Dysfunctional:	inability to be a high performance team
30. Elaboration:	thinking creatively, building on other peoples ideas
31. Employee Involvement:	a strategy to achieve goals (no one is a smart as all of us)
32. Empowerment:	the latitude to invent better ways to get there, based on a common mission (focus)
33. Enable:	equipping to learn, think critically, problem solve, work collaboratively and be self directed (learn to learn)
34. Enabled:	equipped to learn and perform
35. Engaged:	involved in/hooked on the act of learning and contributing
36. Ensurance:	To be sure
37. Evasive Tactic:	avoiding the issue
38. Expression:	allowing creativity to ensue
39. Extension of the Past:	failure to change
40. Facilitator:	one who makes easier
41. Facts:	something that once learned is irrelevant
42. Fantasy:	belief that the status quo will prevail and serve
43. Flatlining:	perpetuating the integrity of the bell curve

44. Foot Dragging:	impeding change/progress
45. Gedinagrupe:	what teambuilding is not
46. Hierarchy:	corporate/institutional management structures that inhibit the ability to achieve and maintain competitive advantage
47. High Performance Team:	a desired teambuilding result
48. Improvement Area:	areas where we can be better, the basis for an improvement plan
49. Incompetent:	what people become when change is introduced (needy)
50. Inconsistent Output:	same way, everyday
51. Innovation:	doing things differently...a better way
52. Internalize:	learning something to the point of being able to practice at the routine level (2nd nature)
53. Intrinsic:	coming from within (students learning for their own sake) motivation
54. KAIZEN:	(Japanese) gradual, unending improvement doing "little things better", setting and achieving ever higher standards (Continuous Improvement)
55. Leader:	keeper of the dream (promoter too)
56. Leadership:	"make it happen"
57. Learning Outcomes:	what we want students to demonstrate that they can do
58. Loyal Customer:	easier to retain than getting a new one
59. Mass Production:	the way failing organizations are operated (schools included)
60. Mission:	derived from our view of the world as it will be like (we create the future)
61. Motivation:	result of being actively engaged in something meaningful
62. Opportunity:	engagement in the Teaching/Learning/Coaching/Assessment process
63. Organization:	a group of people
64. Outcome:	a seeable result

65. Outcomes of Significance:	learned abilities transferrable to life roles
66. Overstatement:	pushing the extreme
67. Paradigm:	how we look at things
68. Patience:	a virture allowing the dynamics of creativity and change to occur
69. Payday:	something that has typically occurred every other Friday and we just think will always continue
70. People:	our greatest resource (if enabled)
71. Persistence:	"hang in there", "never give up/never give up/never give up" (something people don't know how to deal with very well)
72. Plan:	a system for success, plan your work...work you plan (trust the process)
73. Portfolio:	a place to keep ones development
74. Practice:	preparation (learning) for a significant event (demonstration)
75. Proactive:	a position of having the choice to think before you act
76. Problem:	a deviation off plan
77. Process:	a systematic plan ("I love it when a plan comes together") (Hannibal Smith...The "A" Team)
78. Project Management:	from inception to completion, all the steps, processes, resources, learning, teambuilding, and assessment required to produce a quality outcome/product
	how to do things
79. Recitation:	performance for someone elses approval
80. Reflection:	inward looking, self correcting, assessment
81. Relevance:	what school stuff has to do with one's adult life (transferrability)
82. Risking Failure:	a part of getting better
83. Role Performances:	the real things people do in real life
84. Socratic Dialogue:	directing one way communication

85. Status Quo:	historical commitment to ignorance (we've always done it this way)
86. Strength Area:	things we do well
87. Student:	person doing the work of learning (or should be)
88. Stuff:	the stuff we have students do that does not address the demonstration of the learning outcomes
89. Synergy:	the power of people...the whole is greater than the sum of its parts
90. Synthesize:	interpret, make, meaning, understand, integrate, combine
91. Teach:	impart learning (cause someone to learn)
92. Teaming:	setting up people to contribute
93. TQC:	Total Quality Control...a method of achieving total customer satisfaction that allows decision-making to spread to the lowest level of the organization
94. Unemployable:	inability to get, hold, and advance in a job
95. Vision:	the dream
96. Warehouse:	a place to keep students during the credentialing process
97. Waste:	anything that does not add value to the product
98. Windows of Opportunity:	a limited time chance to respond to change
99. World Class:	a philosophical guide to assist us with our quest to constantly improve quality, process and service

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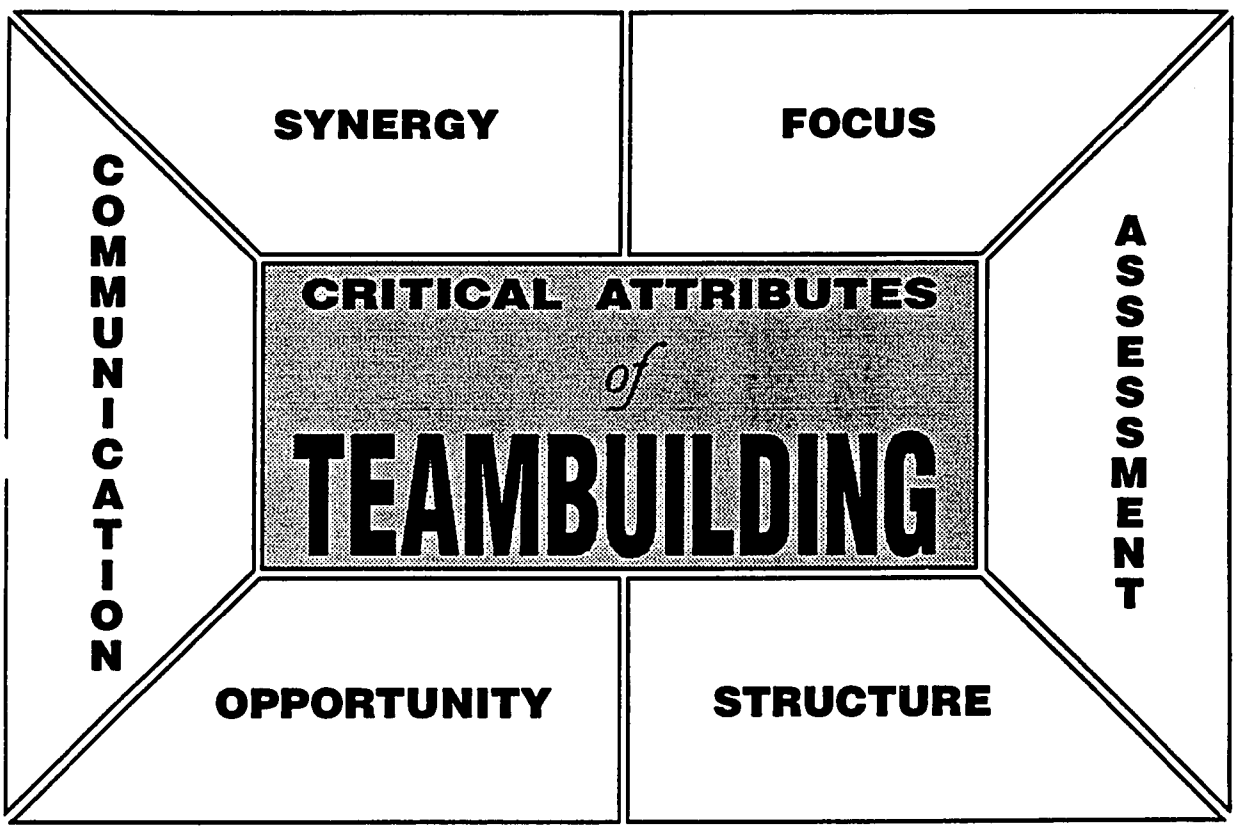
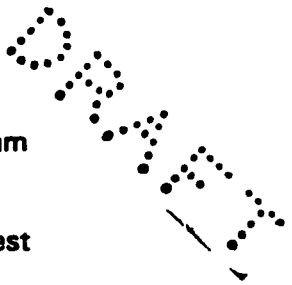


Prepared by: Jennifer Shell
Barry Boyer
Grand Rapids Public Schools

TEAMBUILDING

BUSINESS PLAN



GOAL

- Effective team functioning...becoming a high performance team

MISSION

- The creation of a culture that encourages and supports our best performance

VALUES

- Learning
- Common Purpose
- WE-NESS
- Continuous Improvement
- Quality Driven
- Transferability
- Success for all
- Common Sense
- If It Isn't Right, It Isn't Done
- Desired Result: A happy productive and stimulating environment where we make good use of our time and learn from each other

OBJECTIVES

- To enhance learning ability and ensure learning outcome
- To learn and practice teambuilding skills...become a high performance team

ORGANIZATION

- The internalization, practice and assessment of the six CRITICAL ATTRIBUTES of teambuilding

1. communication
2. synergy
3. opportunity
4. focus
5. structure
6. assessment

EXPECTATIONS

- enhanced learning
- increased productivity
- improved decision making
- complete, correct, on-time
- 100% good stuff
- effective team functioning
- success for all

MEASURABLE RESULTS

- Demonstrated practice and assessment of the six CRITICAL ATTRIBUTES

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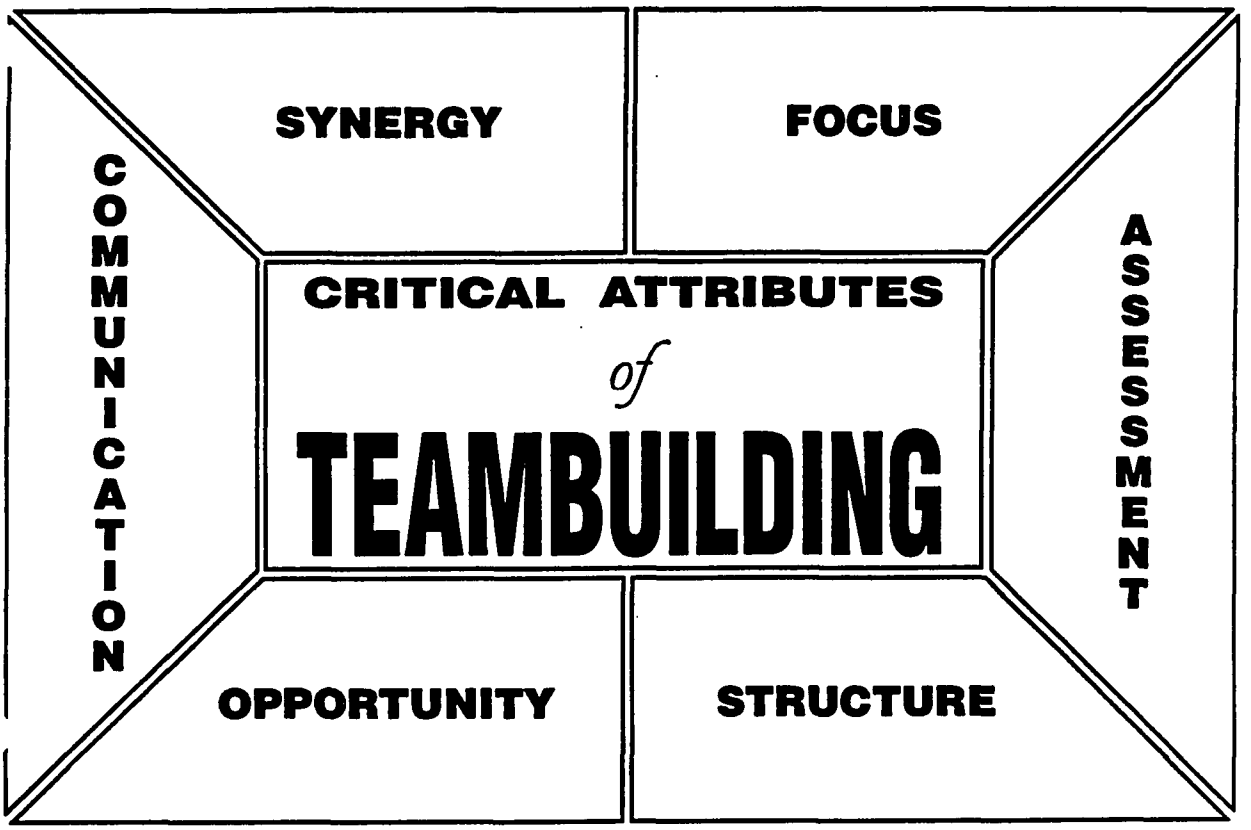

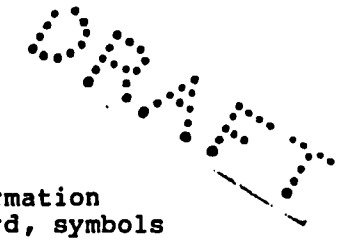

THE SIX CRITICAL ATTRIBUTES OF TEAM BUILDING

COMMUNICATION

- sharing thoughts, ideas and information
- uses the spoken word, written word, symbols and gestures
- exposes questions
- contributes knowledge
- clarifies for understanding

SYNERGY

- involves all team members
- works together with others
- recognizes the skills, abilities and backgrounds of others
- values differences
- achieves harmony, learning, growth and success in meeting goals and objectives

OPPORTUNITY

- contributes information
- benefits from the contributions of others
- provides positive support
- receives positive encouragement
- enables coaching

FOCUS

- working together toward a common goal
- being in agreement

STRUCTURE

- organizes format for procedure
- aids in successful accomplishment of goals and objectives

ASSESSMENT

- is on-going discussion and feedback
- identifies accomplishments and successes
- identifies improvement areas
- encourages action for making improvements
- includes problem-solving

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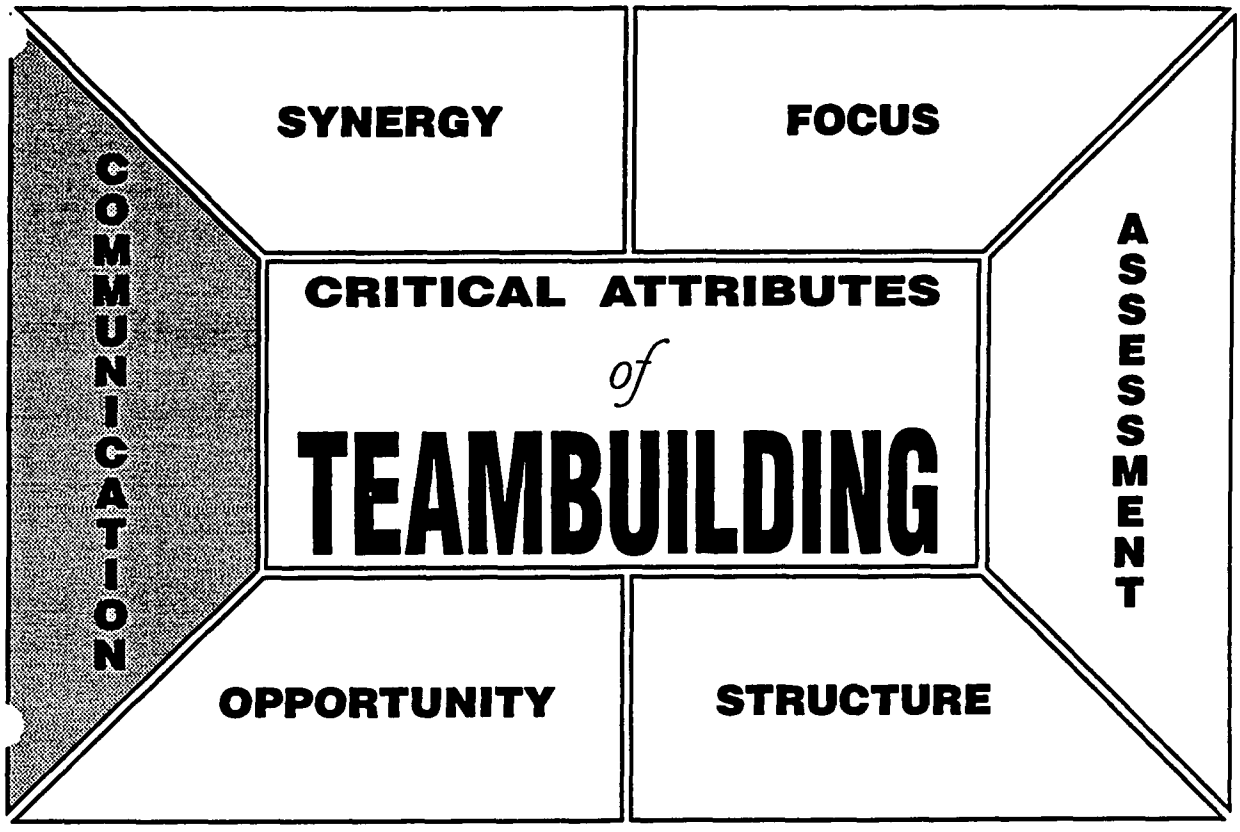

CHAPTER 1: COMMUNICATION

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WHO COMMUNICATES:	• the members of the team with each other • the members of the team with the coach • the members of the team with the other teams
WHERE DO WE COMMUNICATE:	• in the classroom • in the school building • outside the school building
WHEN DO WE COMMUNICATE:	• most of the time
WHAT DO WE COMMUNICATE:	• our thoughts, information and ideas • questions for clarification • our personal knowledge • clarification of the thoughts, ideas and information of others • behaviors unique to our personalities through non-verbal communication
HOW DO WE COMMUNICATE:	• by speaking to one another • by writing (notes,letters,books, chalkboard,documents, etc.) • by using gestures • by using technological communication systems (computer, phone,fax,video,T.V.,radio,etc.)
WHY DO WE COMMUNICATE:	• to learn • to build relationships • for better understanding • to share and offer helpful suggestions • to offer appreciation • to pool our thoughts, ideas and information with the thoughts, ideas and information of others so that the best possible outcome for growth will occur. • to reach consensus

BARRIERS TO COMMUNICATION AND CONFLICT RESOLUTIONS

• absenteeism	• be in class
• not understanding what was said	• ask questions for clarity
• misinterpretation of slang words	• ask for a definition of the words
• personal attacks on character	• discuss facts don't put other people down
• voicing your opinion	• share your opinion with others and listen how their beliefs differ from yours
• not having the same goals for the task	• discuss everyone's goals for the project and compromise

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VOCABULARY

Match the word with the correct definition

A. COMMUNICATION	F	A conclusion thought out, yet open to dispute.
B. DIALOGUE	C	A spirit of friendly good fellowship.
C. CAMARADERIE	E	Settlement of differences by arbitration or by consent reached by mutual concessions.
D. RELATIONSHIPS	D	The relation connecting or binding participants in a relationship.
E. COMPROMISE	A	A process by which information, ideas and thoughts are exchanged between individuals through a common system of symbols, signs or behavior.
F. OPINION	B	A conversation between two or more persons. An exchange of opinions or ideas.

QUESTIONS

1. DESCRIBE in your own words what COMMUNICATION is:

2. LIST three barriers to COMMUNICATION and possible conflict resolutions to those barriers:

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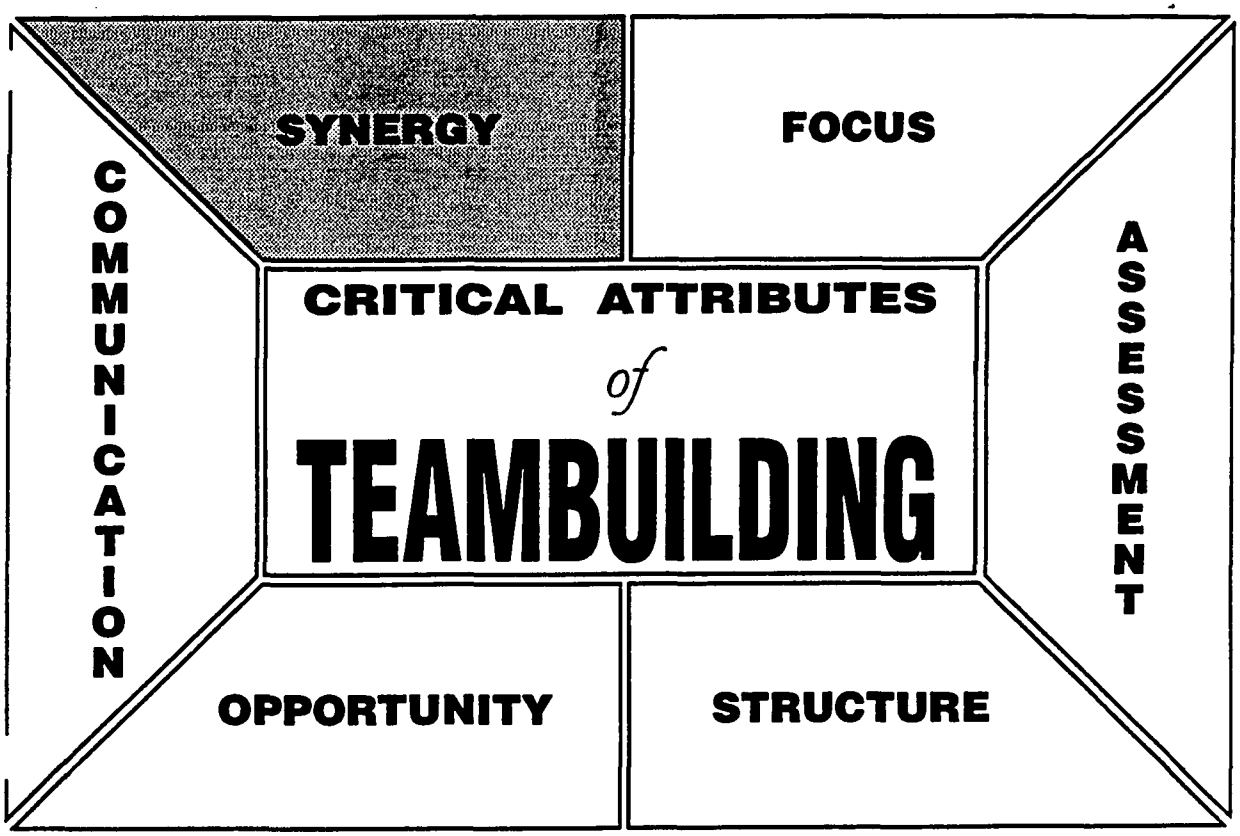

CHAPTER 2: SYNERGY

WHAT IS SYNERGY:

- working together
- recognizing the backgrounds, abilities and skills of others and how they can be helpful to the team.
- valuing the differences between people

WHO IS SYNERGISTIC:

- each member of the team
- the coach

WHERE ARE WE SYNERGISTIC:

- in the classroom
- in the school building
- outside the school building

WHEN ARE WE SYNERGISTIC:

- most of the time

HOW DO WE UNDERSTAND SYNERGY:

- by understanding and accepting ourselves
- by understanding and accepting others
- by recognizing the unique skills of others and working together to successfully accomplish the team project

WHY DO WE NEED SYNERGY:

- to broaden our scope of learning
- to develop harmony and growth within the team
- to pinpoint the specific areas that each person will be used most effectively in a team setting
- to enlighten each other to the unique skills and abilities each person has and is willing to offer to the team

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BARRIERS TO SYNERGY AND CONFLICT RESOLUTIONS

• cut downs on personal character	• build one another up
• negative attitudes	• think positive
• absenteeism	• be in class
• prejudice	• don't judge others by race, religion or beliefs
• voicing opinions	• share your opinion and be willing to compromise
• expecting everyone to think like you	• value the differences of others recognize your own perceptual limitations allow others the freedom of expression
• feeling like you have nothing to offer	• recognize you do have something to offer
• emotions out of control: anger, sadness, joy	• keep your emotions focused on the task
• one person taking over and doing all the work	• everyone has something to offer learn delegation

1/28/1992

VOCABULARY

Match the word with the correct definition

A. SYNERGY	F	To anticipate or look forward to the coming of an occurrence.
B. HARMONY	B	An interweaving of different accounts into a single narrative.
C. PREJUDICE	G	Relative worth, utility or importance.
D. COMPROMISE	A	Working together, combined action or operation.
E. DELEGATION	E	A group of persons chosen to represent others.
F. EXPECTATIONS	D	Settlement of differences by arbitration or by consent reached by neutral concessions.
G. VALUE	C	An adverse opinion or leaning formed without just grounds or before sufficient knowledge.

QUESTIONS

1 DESCRIBE in your own words what SYNERGY is:

2. LIST three barriers to SYNERGY and possible conflict resolutions to those barriers.

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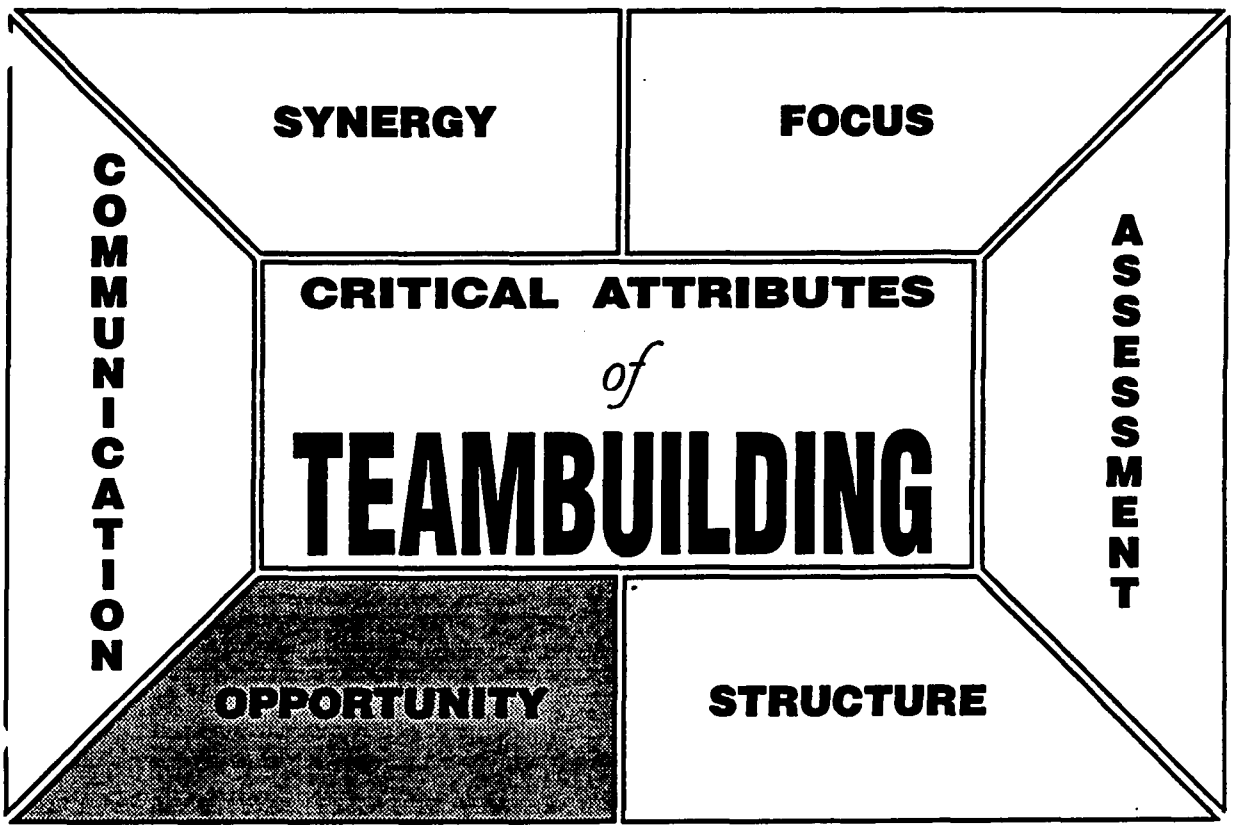
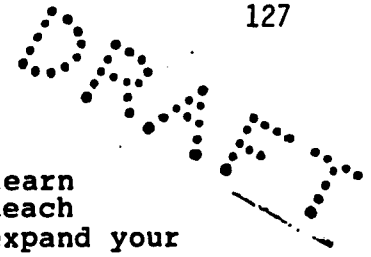


CHAPTER 3: OPPORTUNITY



WHAT IS OPPORTUNITY:

- the chance to learn
- the chance to teach
- the chance to expand your knowledge
- the chance to contribute information
- the chance to benefit from the contributions of others
- the chance to provide positive support
- the chance to receive positive encouragement

WHO HAS AN OPPORTUNITY:

- each member of the team
- the coach

WHERE IS OPPORTUNITY POSSIBLE:

- in the classroom
- in the school building
- outside the school building

WHEN IS OPPORTUNITY POSSIBLE:

- most of the time

HOW IS OPPORTUNITY POSSIBLE:

- by having the desire to learn
- by removing personal barriers to learning and growth
- by offering praise and encouragement to others
- by accepting praise and encouragement from others
- by recognizing improvement areas and accepting help from others to overcome them
- by having the desire to share your knowledge and insights with others

WHY IS OPPORTUNITY IMPORTANT:

- it enables our opinions to be challenged by others
- it opens our eyes to new ways of seeing things
- it opens our minds to increased learning
- it enables our skills and abilities to be shared and appreciated by others
- it will help prepare us to boldly face a changing world

BARRIERS TO OPPORTUNITY AND CONFLICT RESOLUTIONS

• absenteeism	• be in class your contributions are valuable
• not wanting to share	• share by not sharing you deprive others of your unique ideas
• not wanting to listen	• listen by not listening you deprive yourself from hearing useful information
• by feeling your opinion isn't worth anything	• recognize that your opinion is valid it just might be in opposition to others' opinions, but it is not less valid
• by thinking the opinions of others aren't worth anything	• recognize that everyone is entitled to their own opinion you might learn another view by listening to them
• by feeling the person isn't worth anything by thinking they couldn't have anything to offer you	• everyone has value everyone has something positive to offer

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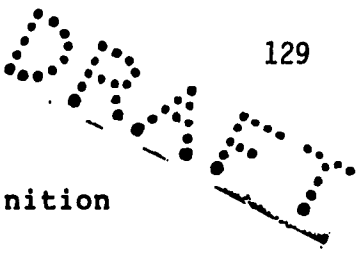

VOCABULARY

Match the word with the correct definition

A. OPPORTUNITY	E	To take something away from; to withhold something from.
B. ENCOURAGEMENT	D	A conclusion thought out, yet open to dispute.
C. UNDERSTANDING	A	A good chance for advancement or progress.
D. OPINION	B	To inspire with courage, spirit or hope.
E. DEPRIVE	C	To grasp the meaning of; to be thoroughly familiar with the character power of comprehension.
F. TEACH	F	To seek to make known and accepted; to impart knowledge of; to instruct by example or experience.

QUESTIONS

1. DESCRIBE in your own words what OPPORTUNITY is:

2. LIST three barriers to OPPORTUNITY and possible conflict resolutions to those barriers:

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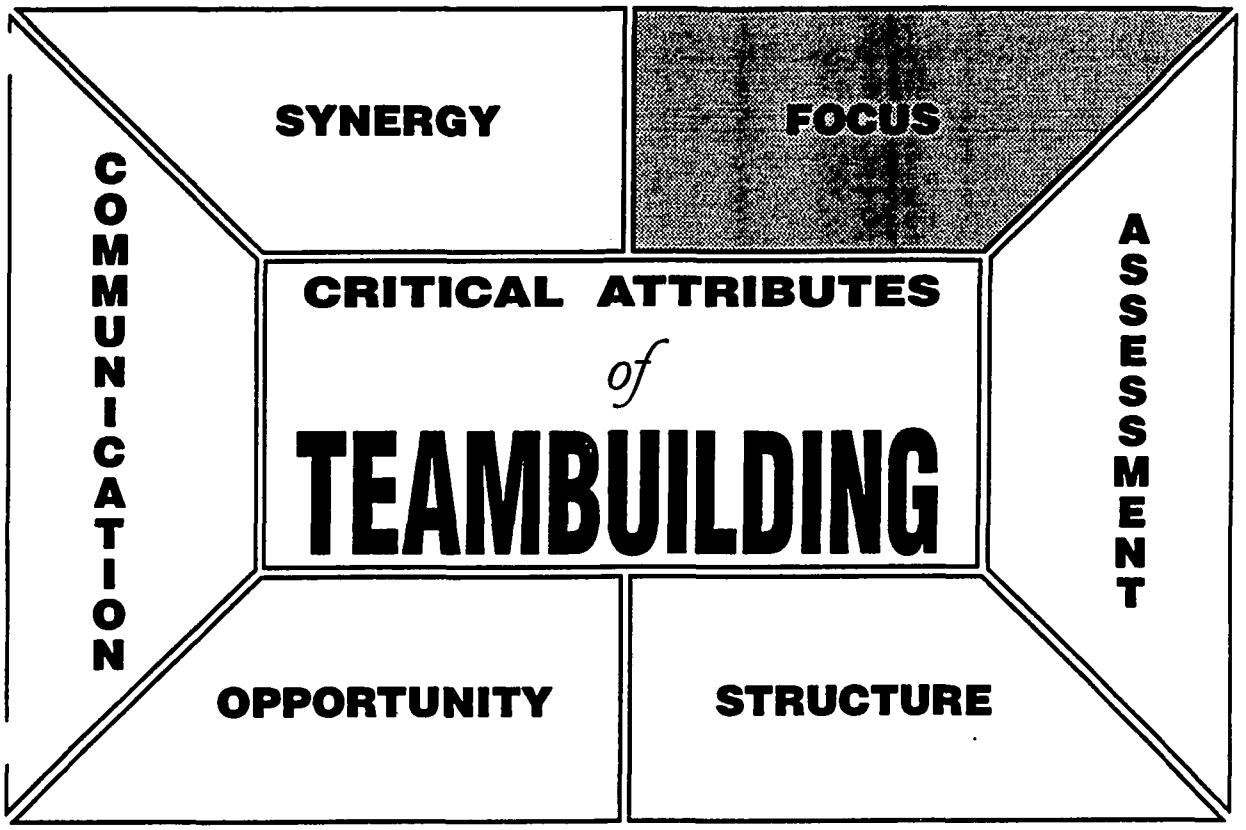
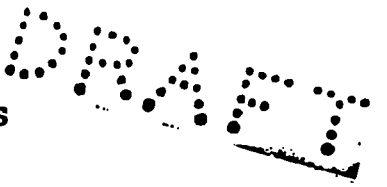


CHAPTER 4: FOCUS



WHAT IS TEAM FOCUS:

- a central theme for placing attention
- being in agreement
- working together toward a common goal
- clarifying roles, goals, procedures

WHO WILL FOCUS:

- the members of a team
- the coach

WHERE DO WE FOCUS:

- in the classroom
- in the school building
- outside the school building

WHEN DO WE FOCUS:

- as we discuss the project
- after we recognize and understand the opinions and contributions of others
- when we determine where we want to end up

HOW DO WE FOCUS:

- by begining with the end in mind
- by reaching consensus
- by setting aside personal differences
- by compromising our personal beliefs, if necessary, for the good of the team
- by having a goal

WHY DO WE FOCUS:

- because it is more effective to accomplish one goal by many members than many goals by many members in a team setting

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BARRIERS TO FOCUSING AND CONFLICT RESOLUTIONS

• no vision	• begin with the end in mind discover a vision within your team through communication
• unwillingness to compromise your personal beliefs and opinions	• listen carefully to what others have to say weigh all possible options including yours, before judgment
• absenteeism	• be in class your contributions are of value
• lack of objectives	• ask questions to define all areas of project expectations
• inability to agree on a goal	• look at the big picture what do you ultimately want to accomplish look at various options
• stubbornness	• listen with an open mind

1/28/1992

VOCABULARY

Match the word with the correct definition

A. FOCUS	G	A particular way of accomplishing something.
B. AGREEMENT	C	The end toward which effort is directed.
C. GOAL	F	The power of comprehending; an agreement of opinion or feeling.
D. OPTION	A	A point of concentration; directed attention.
E. STUBBORN	E	Unreasonably or perversely unyielding.
F. PROCEDURE	D	An alternative course of action.
G. UNDERSTANDING	B	To be similar; complete accord usually attained by discussion and adjustment of differences.

QUESTIONS

1. DESCRIBE in your own words what FOCUS means:

2. LIST three barriers to FOCUS and possible conflict resolutions to those barriers:

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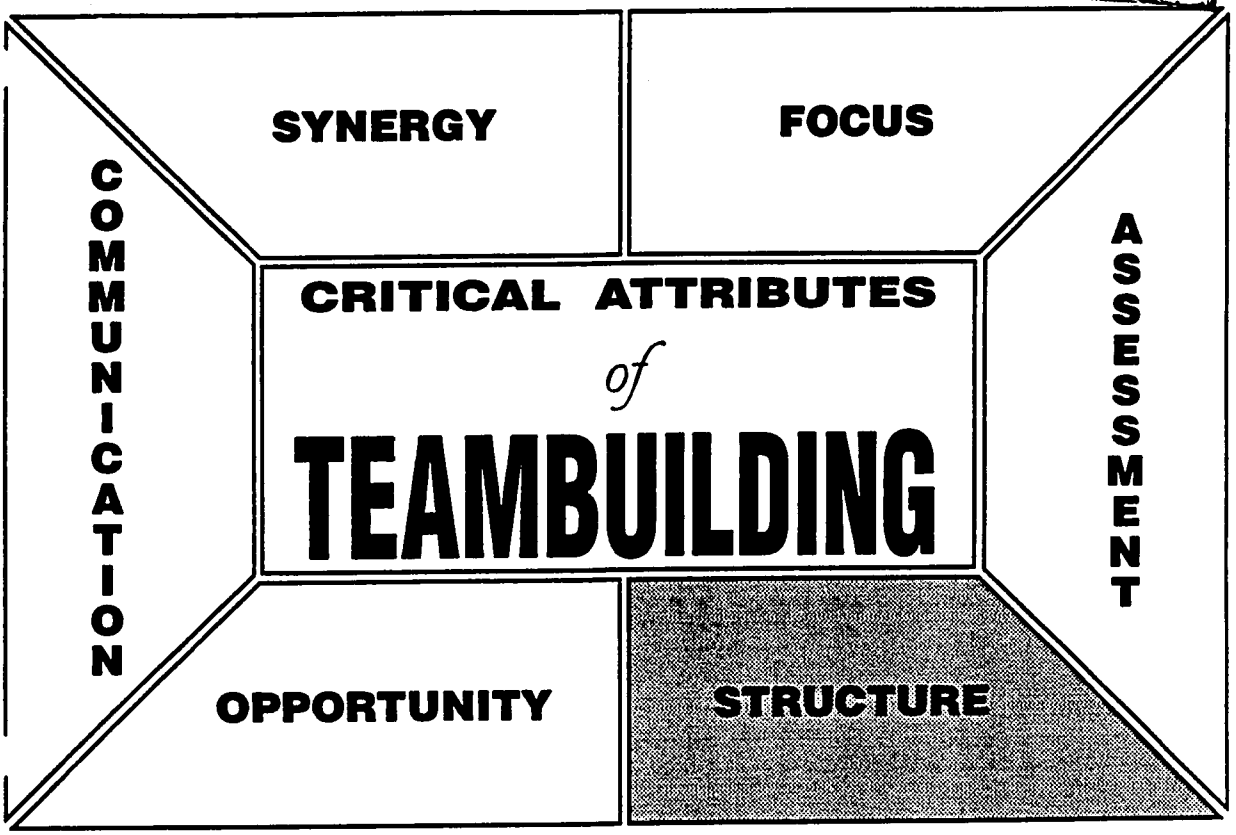

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CHAPTER 5: STRUCTURE

WHAT IS STRUCTURE:	• an organized format that aids the successful accomplishment of goals and objectives • models: Project Management Design Down/Deliver Up
WHO NEEDS STRUCTURE:	• the members of the team • the coach
WHERE DO WE USE STRUCTURE:	• in the classroom • in the school building • outside the school building
WHEN DO WE USE STRUCTURE:	• most of the time
HOW DO WE USE STRUCTURE:	• by following models of organization
WHY DO WE USE STRUCTURE:	• it drives team functioning • it aids in the organization of team functioning • it allows us to make the best use of our time in order to accomplish our goals and allow time for fun and recreation • it is the basis of all things

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BARRIERS TO STRUCTURE AND CONFLICT RESOLUTIONS

• absenteeism	• be in class your contributions are necessary
• spontaneity	• recognize that successful team projects don't "just happen"
• no deadlines	• set deadlines and work actively toward them
• no check-points	• set realistic check-points and try to meet them

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VOCABULARY

Match the word with the correct definition

A. STRUCTURE	D	A source of supply or support.
B. ORGANIZATION	G	Start where you want to end up.
C. MANAGEMENT	A	Something arranged by systematic planning; to form into a coherent unity or functioning whole.
D. RESOURCE	B	To arrange in a definite pattern of organization.
E. IMPLEMENT	F	The planned undertaking of a specific plan/design.
F. PROJECT MANAGEMENT	C	The conducting or supervising of something.
G. DESIGN DOWN/DELIVER UP	E	Anything necessary to perform a task.

QUESTIONS

1. DESCRIBE in your own words what STRUCTURE means:

2. LIST two barriers to STRUCTURE and possible conflict resolutions to those barriers:

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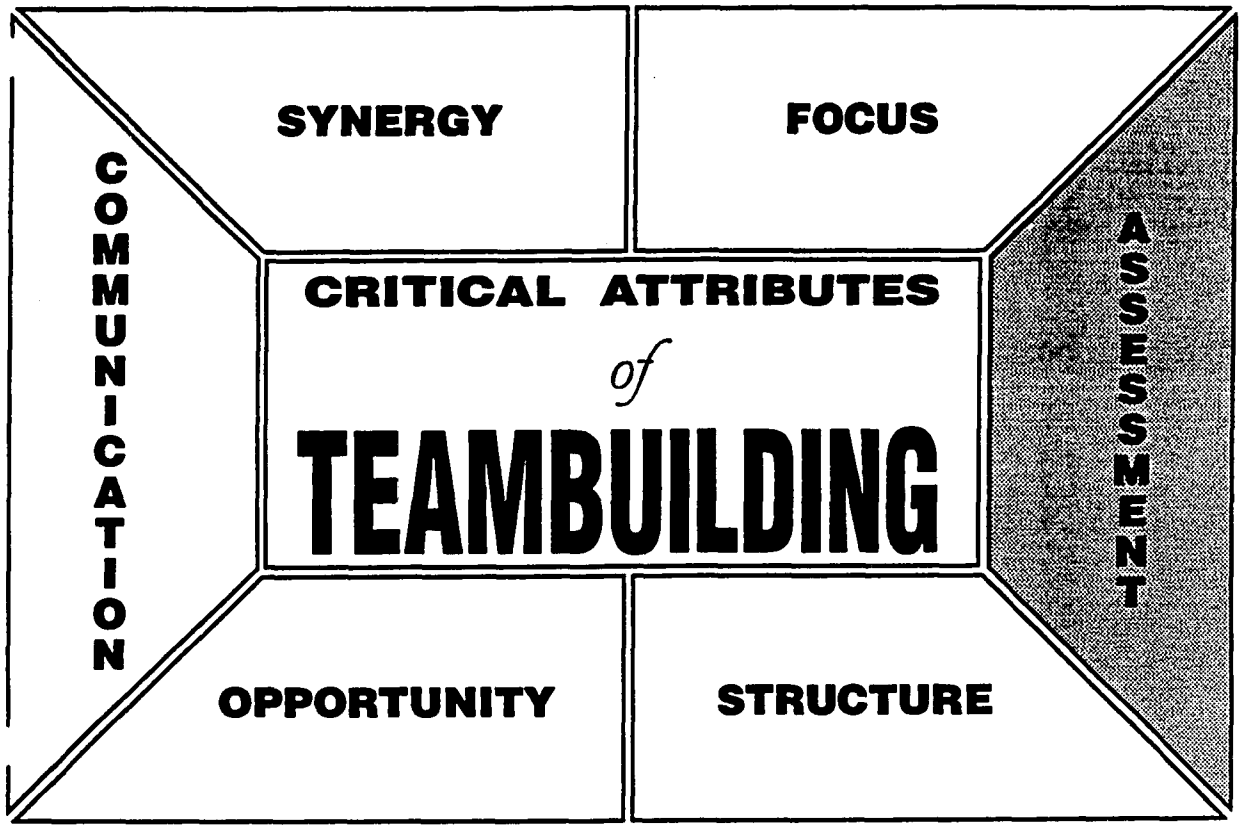
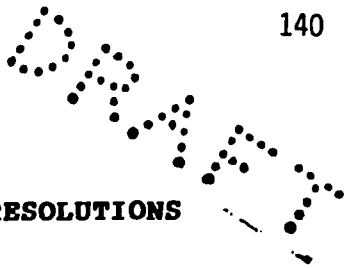


CHAPTER 6: ASSESSMENT

WHAT IS ASSESSMENT:	• asks "how are we doing?" • on-going discussion and feed-back • identification of improvement areas • encourages action for making improvements • identifies accomplishments and successes • promotes openness and inward looking
WHO WILL ASSESS:	• the members of a team • the coach
WHERE WILL ASSESSMENT TAKE PLACE:	• in the classroom • in the school building • outside the school building
WHEN WILL ASSESSMENT TAKE PLACE:	• all the time • all throughout the task • at the end of the task
HOW DOES A TEAM ASSESS:	• by structuring time to discuss the project • by following given models • by designing your own models • by asking the question "how are we doing?" • by continuously monitoring progress and quality of the task
WHY IS ASSESSMENT IMPORTANT:	• aids in monitoring progress • helps learners learn certain processes - how to seek out, integrate and use knowledge rather than simply passing along knowledge • addresses the interaction of person and product • provides an opportunity for feedback



BARRIERS TO ASSESSMENT AND CONFLICT RESOLUTIONS

- not assessing
- to understand the importance of assessment and to structure time to assess

1/28/1992

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VOCABULARY

Match the word with the correct definition

A. ASSESSMENT	G	Degree of excellence; superiority in kind.
B. PROGRESS	H	To return to a point of origin of evaluation or corrective information about an action or process.
C. ACCOMPLISHMENT	B	To develop to a higher, better or advanced stage.
D. LAZINESS	D	A disinclination to work or take trouble.
E. PROCESSING	C	To bring about by effort; to bring to completion; to succeed in reaching.
F. MONITOR	E	A series of actions or operations contributing to a desired result.
G. QUALITY	F	To watch, observe, check, keep track of, regulate.
H. FEEDBACK	A	Asks the question "How are we doing?

QUESTIONS

1. DEFINE in your own words what ASSESSMENT means:

2. NAME the one barrier to ASSESSMENT and the possible conflict resolution to that barrier:

1/28/1992

Appendix C

Marking Period Progress Summary
(Work Habits Evaluation
Instrument)

Marking Period Progress Summary

Program Business Applications and Technology (BAT) Teacher J. HANSEN

Student _____

Home School _____ Today's Date JAN. 17, 1992

Marking Period 1 ☐ 2 ☒ 3 ☐ 4 ☐ Mentor _____

Grand Rapids VOCATIONAL EDUCATION "Learn to Earn"

1	Gives full attention to instruction and follows directions: Always (9) (7) Usually (6) (5) Sometimes (4) (3) Seldom (2) (1) Never (0)	☐	☐
2	Comes prepared, starts work immediately, and works to end of class period: Always (9) (7) Usually (6) (5) Sometimes (4) (3) Seldom (2) (1) Never (0)	☐	☐
3	Works well with minimal supervision: Always (9) (7) Usually (6) (5) Sometimes (4) (3) Seldom (2) (1) Never (0)	☐	☐
4	Works up to potential, shows maximum effort: Always (9) (7) Usually (6) (5) Sometimes (4) (3) Seldom (2) (1) Never (0)	☐	☐
5	Works cooperatively as a member of a group: Always (9) (7) Usually (6) (5) Sometimes (4) (3) Seldom (2) (1) Never (0)	☐	☐
6	Makes effective use of time and/or materials: Always (9) (7) Usually (6) (5) Sometimes (4) (3) Seldom (2) (1) Never (0)	☐	☐
7	Demonstrates initiative and motivation: Always (9) (7) Usually (6) (5) Sometimes (4) (3) Seldom (2) (1) Never (0)	☐	☐
8	Has a cooperative positive attitude: Always (9) (7) Usually (6) (5) Sometimes (4) (3) Seldom (2) (1) Never (0)	☐	☐
9	Is on time for class, (or work): Number of tardies _____ 0 Tardies (10) 1–2 (12) 3–4 (8) 5–6 (4) More than 6 (0)	☐	☐
10	Meets attendance requirement (employment standard): Number of absences _____ out of a possible days _____ - _____% 100%–95% (24) 94%–90% (18) 89%–85% (12) 84%–80% (6) Below 80% (0)	☐	☐
	Grading Scale 100–93 A 92–84 A- 83–80 B+ 79–77 B 76–73 B- 72–70 C+ 69–67 C 66–63 C- 62–60 D+ 59–57 D 56–53 D- 52–0 E	Letter Grade ☐	Point ☐ ☐

B.A.T. Performance Tasks

		In Progress	Completed
Program Overview			
A. Applied Communication Resume Letter	10	☐	☐
B. Applied Mathematics	10	☐	☐
C. Work Habits		☐	☐
D. Problem Solving/Decision-Making/Critical Thinking		☐	☐
E. Management and Leadership		☐	☐
F. Career Planning		☐	☐
G. Economics of Work	10	☐	☐
H. Keyboarding		☐	☐
I. Recordkeeping Comp. Form	8	☐	☐
J. Computer Applications		☐	☐
K. Telephone Skills	10	☐	☐
L. Resource Management Lec. Work	7	☐	☐
M. Records Management		☐	☐
N. Notetaking and Study Skills		☐	☐
O. Job Classification	15	☐	☐
P.		☐	☐
Q.		☐	☐
R.		☐	☐
S.		☐	☐

Work Habits → ☐ 30%

Academic and Lab Work *(Assignments, Lectures, Tests, Quizzes, etc.)* ← ☐ 70%

☐ 100%

Comments: _____

Semester Summary	
First or Third 9 week grade	
Second or Fourth 9 week grade	
Final Exam grade	
SEMESTER GRADE	

BAT

WORK HABIT INDICATORS

BUSINESS APPLICATIONS and TECHNOLOGY

1 Gives Full Attention to Instruction and Follows Directions Means . . .

- — follows oral instructions
- — follows written instructions
- — paying attention
- — working accurately to complete all tasks
- — re-check, verify, proof work
- — showing sensitivity for quality work

2 Comes Prepared, Starts Work Immediately and Works to Class End Means . . .

- — coming prepared to work (attitude, dress, paper, pencil, book, etc.)
- — commencing work when assigned
- — starting work without being told

3 Works Well with Minimal Supervision Means . . .

- — using time productively
- — planning and organizing time
- — completing tasks on time
- — not wasting time
- — applying oneself to tasks and activities

4 Shows Maximum Effort Means . . .

- — applying special effort
- — working up to ability
- — "stretching" to work beyond ability
- — trying hard to "be the best"
- — doing the "over and above"

5 Works Cooperatively as a Member of a Group Means . . .

- — contributing as a member of the team
- — sharing responsibility and work
- — contributing toward group goals
- — being sensitive to others in your group
- — participating equally
- — helping everyone succeed

8 Makes Effective Use of Time and Materials Means . . .

— using time productively
— being able to work consistently
— not wasting materials
— beginning new tasks without being told
— not wasting your time or the time of others

7 Demonstrates Initiative and Motivation Means . . .

— showing pride in your work
— showing interest and enthusiasm
— anxious to assume a task (don't wait for instructor to tell you)
— staying on task

6 Has a Cooperative/Positive Attitude Means . . .

— accepting work assignments willingly
— cooperating with instructor/technician
— participating willingly
— paying attention
— supporting the group (teamwork)
— displaying a positive image
— accepting constructive criticism
— following classroom/laboratory operational procedures
— respecting others and their property

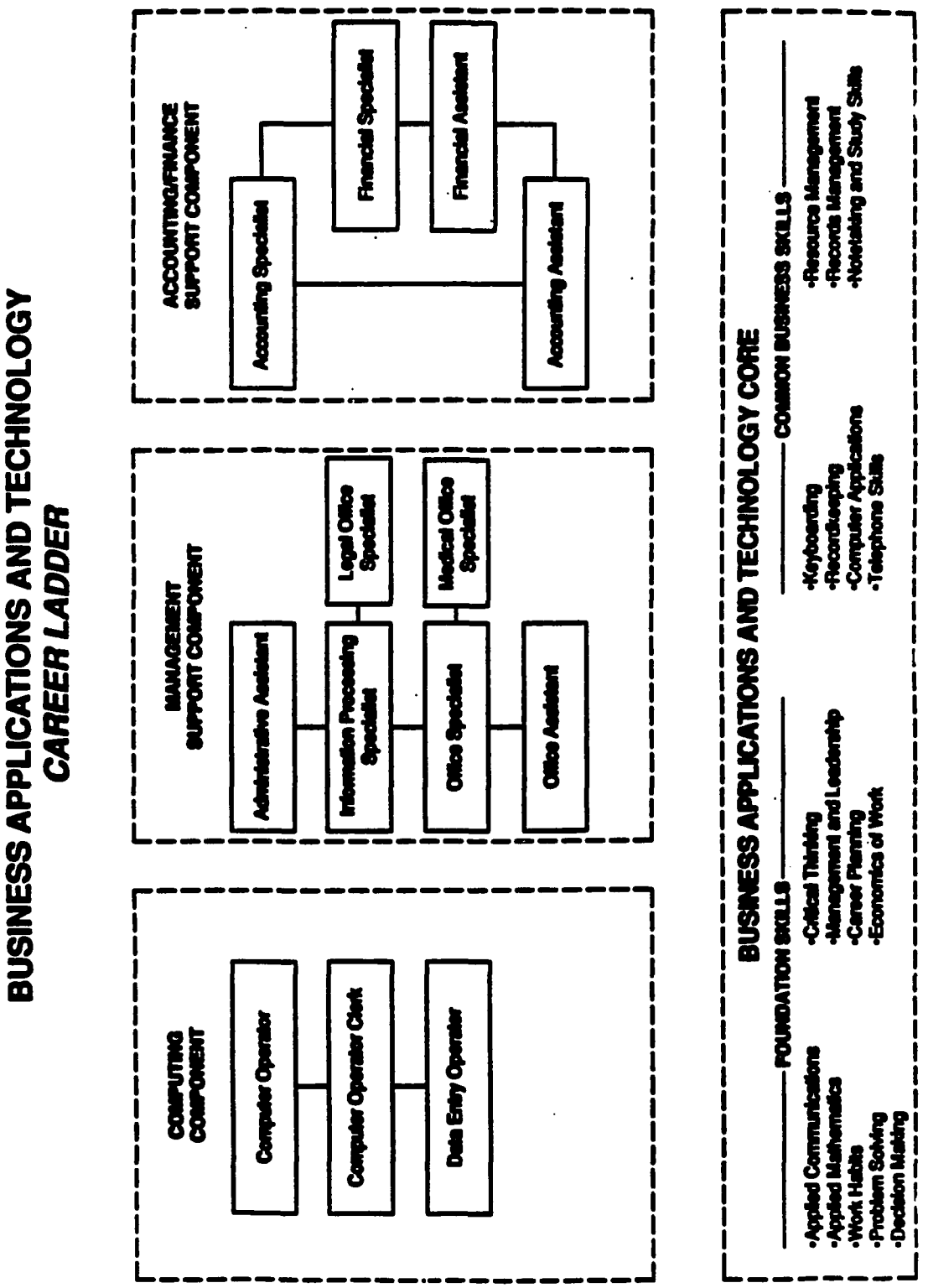
9 Is on Time for Class or Work Means . . .

— arriving to class (work) on time
— is punctual in beginning tasks/duties upon arriving

10 Meets Attendance Requirement Means . . .

— is in attendance on a daily basis

Grand Rapids VOCATIONAL EDUCATION "Learn to Earn"



BUSINESS SERVICES AND TECHNOLOGY CORE*

FOUNDATION SKILLS

APPLIED COMMUNICATION

Listening and Speaking

1. Develop conversation skills
2. Use standard pronunciation, diction, vocabulary, grammar
3. Take messages
4. Exhibit listening skills
5. Follow verbal instructions

Reading Skills

6. Comprehend written materials

Writing Skills

7. Write descriptive information
8. Complete forms
9. Compose routine correspondence
10. Use standard grammar
11. Use reference materials
12. Compose technical information

APPLIED MATHEMATICS

13. Perform the four basic arithmetic functions
14. Solve fraction problems
15. Solve decimal problems
16. Solve percentage problems
17. Use graphs, charts, and tables
18. Use formulas

WORK HABITS

19. Present a positive image
20. Exhibit positive work attitudes
21. Follow safety practices
22. Practice good work habits
23. Practice ethical behavior
24. Organize work environment

PROBLEM SOLVING/DECISON-MAKING/ CRITICAL THINKING

25. Use problem-solving skills

MANAGEMENT AND LEADERSHIP

26. Use parlimentary procedures
27. Describe leadership styles
28. Exhibit teamwork skills
29. Use interpersonal relationship skills

CAREER PLANNING

30. Prepare for a job search
31. Create a resume
32. Compose a letter of application
33. Identify potential employers
34. Complete an application for employment
35. Interview for jobs
36. Handle job offers
37. Assess personal strengths
38. Define legal rights of an employee

ECONOMICS OF WORK

39. Evaluate products and services
40. Define legal rights of agreements
41. Compare economic systems
42. Describe entrepreneurial concepts

* The entire core has been determined essential for entry-level employment by the Technical Committee.

COMMON BUSINESS SKILLS

KEYBOARDING

1. Demonstrate keyboarding techniques
2. Key from straight copy
3. Key simple tables
4. Key an outline
5. Key reports
6. Key a memorandum
7. Use proofreading marks
8. Key preprinted business forms
9. Key labels or cards
10. Key letters

RECORDKEEPING

11. Use an electronic calculator
12. Record transactions
13. Use common tables (sales tax, postage rate, payroll tax)

COMPUTER APPLICATIONS

14. Define computer-related terms
15. Identify types of computer hardware and software
16. Perform operating system procedures
17. Maintain office equipment
18. Perform word processing operations
19. Perform basic spreadsheet operations
20. Perform basic data base operations

TELEPHONE SKILLS

21. Answer the telephone
22. Use telephone resources
23. Display telephone etiquette

RESOURCE MANAGEMENT

24. Reconcile a bank statement
25. Prepare a personal budget

RECORDS MANAGEMENT

26. Maintain a filing system

NOTETAKING AND STUDY SKILLS

27. Use an abbreviated notetaking system
28. Create an outline
29. Transcribe notes
30. Develop study skills

MANAGEMENT SUPPORT COMPONENT

Job Title: OFFICE ASSISTANT

The Office Assistant job title is designed to prepare students for employment opportunities in today's rapidly changing business environment. Students will:

1. Acquire skills and knowledge of office procedures and equipment;
2. Apply skills and knowledge gained in the Business Services and Technology core;
3. Utilize human relation skills, time management principles, cost-effective techniques, and decision-making skills;
4. Develop personal characteristics, work attitudes, and communication skills essential for success on the job; and
5. Understand the interrelatedness of office systems--their procedures, equipment, and workers.

The Office Assistant will complete competencies in the following units:

A. TELEPHONE SKILLS
B. RECEPTIONIST SKILLS
C. MONEY MANAGEMENT
D. ALPHABETIC AND/OR NUMERIC FILING
E. MAIL PROCEDURES
F: DOCUMENT PROCESSING

UNIT A: TELEPHONE SKILLS

* 1. Take accurate telephone messages
* 2. Explain procedures for making long distance calls
* 3. Explain procedures for multi-line systems
* 4. Respond to various telephone situations
* 5. Discuss procedures for solving client complaints on telephone
*6. Create written responses to common visitor questions

UNIT B: RECEPTIONIST SKILLS

* 7. Announce a visitor
* 8. Exhibit introduction skills
  9. Draw directions for local addresses
  10. Compile a directory of emergency information
* 11. Handle difficult people
* 12. Proofread documents
* 13. Answer oral questions
* 14. Assist a person in the reception area
* 15. Resolve visitor problems
* 16. Maintain a ticker file
  17. Maintain a supplies inventory

*Essential entry-level employment tasks determined by Technical Committee

UNIT C: MONEY MANAGEMENT

18. Handle incoming money
19. Handle cash disbursements
20. Maintain petty cash fund

UNIT D: ALPHABETIC AND/OR NUMERIC FILING

* 21. File in alphabetic order
* 22. File in numeric order
* 23. File in date order
* 24. File in chronological order
* 25. File in geographic order
* 26. File by subject
* 27. Code documents
* 28. Create file folders
* 29. Locate information from reports

UNIT E: MAIL PROCEDURES

* 30. Sort mail
* 31. Distribute mail
32. Weigh outgoing mail
33. Determine class of outgoing mail
34. Affix the appropriate postage
35. Process mail using overnight delivery
36. Process mail using bulk mailing
37. Process mail using fax

UNIT F: DOCUMENT PROCESSING

* 38. Prioritize documents for keyboarding
* 39. Produce final copies of letters from draft
* 40. Produce a horizontally and vertically centered 5-column table from draft copy
41. Key a report with footnotes from draft
42. Arrange a bibliography
* 43. Format a table of contents from draft copy
* 44. Produce an outline from draft
* 45. Key minutes from a meeting from draft copy
* 46. Key memos from draft copy
* 47. Produce a budget from draft
* 48. Produce a final press release from an unarranged draft
* 49. Write purchase orders
* 50. Edit a letter
* 51. Print addresses
52. Create an organizational chart
53. Key notes of a speech on 3 x 5 cards
* 54. Key final documents for a newsletter
* 55. Compose business letters

*Essential entry-level employment tasks determined by Technical Committee

ACCOUNTING/FINANCE SUPPORT COMPONENT

Job Title: ACCOUNTING ASSISTANT

The Accounting Assistant job title is designed to provide students with the skills basic to the accounting department of small businesses. With the growth of small businesses which utilize internal accounting procedures, it is necessary that students be competent in basic accounting principles as they relate to proprietorship and partnerships. As even the smallest business utilize the computer for basic accounting, students must have an understanding and experience in the use of computers in accounting.

In addition to mastering the competencies required in the Business Services and Technology Core, students will develop skills in:

1. Starting an accounting system;
2. Recording business transactions;
3. Accounting procedures for partnerships;
4. Petty cash procedures;
5. Payroll procedures; and
6. Computerized accounting procedures.

The Accounting Assistant will perform duties supporting the accountant in recording, sorting, and filing financial data.

In addition to the proficiency of the Business Services Technology Core, the Accounting Assistant will exhibit competencies in the following areas:

A. Starting an Accounting System for Proprietorship
B. Recording Transactions
C. Starting an Accounting System for Partnerships
D. Petty Cash Procedures
E. Payroll Procedures
F. Computerized Accounting Procedures

*Essential entry-level employment tasks determined by Technical Committee

UNIT A: STARTING AN ACCOUNTING SYSTEM FOR SOLE PROPRIETORSHIPS

1. Identify the three major types of business organizations
* 2. Identify standard accounting practices
* 3. Define accounting terms related to starting an accounting system
* 4. List the components of the basic accounting equation
* 5. Define assets, liabilities, and capital
* 6. Prepare a partial chart of accounts
* 7. Prepare beginning balance sheet
* 8. Record opening entry
* 9. Open accounts
* 10. Post opening entry

UNIT B: RECORDING TRANSACTIONS

* 11. Explain how accounting concepts are affected by transactions
* 12. Explain how business transactions affect the accounting equation
* 13. Maintain a balance sheet
* 14. Record transactions
* 15. Post transactions
* 16. Compute net income
17. Write procedure for detecting errors
* 18. Complete a worksheet
* 19. Prepare financial statements
* 20. Record adjusting entries
* 21. Record closing entries
* 22. Post entries to ledger
* 23. Compute adjustments
* 24. Prepare post-closing trial balance

UNIT C: STARTING AN ACCOUNTING SYSTEM FOR PARTNERSHIPS

* 25. Define accounting cycle
* 26. Reconcile accounts receivable ledger
* 27. Complete a sales invoice
28. Define inventory terms
29. Analyze inventory report
30. Compare monthly expenses
* 31. Verify invoice errors
* 32. Select accounts affected by payment of accounts payable
33. Determine process for aging accounts
* 34. Enter journal transactions for uncollectible accounts
* 35. Prepare a schedule of accounts receivable
* 36. Prepare a schedule of accounts payable
37. Define control accounts
38. Define subsidiary ledgers

UNIT D: PETTY CASH PROCEDURES

* 39. Define petty cash
* 40. Explain petty cash procedures
* 41. Prepare petty cash vouchers
* 42. Compute petty cash totals
* 43. Record petty cash transactions

UNIT E: PAYROLL PROCEDURES

44. Describe various earning systems
* 45. Compute hourly earnings
* 46. Compute commission earnings
* 47. Describe payroll process
* 48. Define payroll withholdings
* 49. Define payroll preparation steps
* 50. Record payroll

UNIT F: COMPUTERIZED ACCOUNTING PROCEDURES

* 51. Define computerized accounting procedures
* 52. Create chart of accounts
* 53. Batch enter transactions
* 54. Edit a trial balance on a computer
* 55. Edit an income statement and balance sheet on a computer
* 56. Edit a weekly payroll record
* 57. Prepare monthly statements
58. Print address labels
* 59. Enter transactions
* 60. Open accounts
* 61. Prepare accounts on a spreadsheet
* 62. Create a trial balance
* 63. Create income statement
* 64. Create balance sheet

*Essential entry-level employment tasks determined by Technical Committee

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