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ABSTRACT

A program using cooperative learning to improve the teamwork skills of high school-level vocational home economics students in multicultural, economically diverse communities was developed and tested during a 5-month action research project. The research phase of the project included the following: 71 of the students enrolled in the classes Home Economics Related Organizations (HERO) and Foods 3 and 4 answered the initial survey; videotaped oral interviews with 25% of the students in each class; and a survey of 33 HERO employers concerning students' ability to work within groups. Data from the surveys/interviews and a literature review were used to develop instructional strategies that were in turn incorporated into a 3-month instructional program focusing on teamwork/cooperative learning and conflict resolution and communication in group settings. Postprogram surveys were completed by 47 of the 71 students originally surveyed and by 29 HERO employers. Only slight differences were noted between the responses to the pre- and postproject employer surveys. The participating teachers considered the project a positive experience, however, and noticeable gains in the students' understanding of group dynamics and team building were observed in the postproject surveys. (The bibliography lists 42 references. Appended are the student and employer interview and survey instruments, project learning activities, sample group processing forms, and pre- and postproject survey results.) (MN)

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IMPROVING TEAMWORKING SKILLS OF VOCATIONAL
HOME ECONOMICS HIGH SCHOOL STUDENTS THROUGH
COOPERATIVE LEARNING

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AN ACTION RESEARCH PROJECT SUBMITTED TO THE GRADUATE
FACULTY OF THE SCHOOL OF EDUCATION IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF TEACHING AND
LEADERSHIP

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Abstract

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DATE: September 1993

TITLE: Improving Teamworking Skills of Vocational Home
Economics High School Students Through Cooperative
Learning

ABSTRACT: This report describes a program for improving the teamwork skills of vocational high school students in a multi-cultural, economically diverse suburban community located near Chicago, Illinois. The problem was originally observed by home economics teachers, who found students quarreling when in a teamwork situation. Investigation into student behavior at the work place and teacher observations confirmed the problem and described its extent.

Analysis of the setting and periodical data revealed the following probable causes: 1. change in corporate structure from competitive management to teamwork management, creating a need for graduates to be proficient in teamwork skills, 2. increase in competitive learning and diminished emphasis to teaching social skills and teamwork as a student progresses upward by grade level, 3. lack of communication between business and education about desired work related skills.

Solution strategies suggested by the research and teacher observations resulted in the implementation of cooperative group strategies to improve cooperation and to teach team building skills.

Chapter 1

PROBLEM STATEMENT AND CONTEXT

General Statement of Problem

Students in the Home Economics Related Occupations/American Regional Foods classes at Larkin High School exhibit low ability to work cooperatively in teams as evidenced by quarreling over participation and duties during group work.

Immediate Problem Context

School District U-46 covers over ninety square miles encompassing parts of Kane, Cook and DuPage Counties. The population of the communities served is approximately 125,000. The number of students served is 28,068. U-46 is the second largest school district in the state of Illinois. There are three high schools in the district: Elgin, Larkin and Streamwood. These three schools have a combined population of 7,200 students. Future growth is estimated at approximately four hundred new students per year throughout the district. The district's average daily attendance rate is ninety-five percent. The student mobility rate is twenty-seven percent. The following information is based upon the 1992 School District U-46 Report Card (Larkin High School Staff, 1992). The district has two hundred forty-one students who are classified as chronic truants. The limited-English proficiency rate in

U-46 is more than three times that of the state at fifteen percent. The percentage of district students classified as low income is twenty percent. The ethnic background of the district is as follows: sixty-nine percent white, eight percent black, twenty percent Hispanic, six percent Asian/Pacific Islander, less than one percent Native American (Larkin High School Staff, 1992).

There are 1,608 teachers in the district. The average length of teaching experience in the district is fifteen years. Master degrees have been earned by 54.7 percent of the district's teachers. The pupil/teacher ratio is eighteen to one and the pupil/administrator ratio is two hundred thirty to one. The ethnic background of the district's teaching staff is as follows: ninety-one percent white, three percent black, five percent Hispanic, one percent Asian, less than one percent Native American. Twenty-five percent of the teachers are male and seventy-five percent female (Larkin High School Staff, 1992).

In 1990-91, the operating expenditure per pupil was \$4,719 (Larkin High School Staff, 1992). The average district class size is twenty-nine. Local libraries, service organizations, historical societies, music and drama activities provide services and activities that complement the U-46 educational agenda. Community members are also represented in a Citizens Advisory Council,

Concerned Citizens for Education Committee and Booster Clubs. There is a strong working relationship between the district high schools and the area two-year college, Elgin Community College (Larkin High School Staff, 1987).

In 1990-91 the district's graduation rate was eighty-six percent and in 1991-92, eighty-three percent. On a district-wide basis approximately sixty percent of the graduating seniors intended to pursue some kind of education and or training beyond high school (Larkin High School Staff, 1992).

The economic outlook for the district is negative. There is overcrowding in all three high schools and major retrofitting work needs to be done throughout the district. In the recent past a number of teacher and administrative positions have been eliminated. As per School Board recommendation, a major referendum needs to be passed to build a fourth high school and retrofit the existing three (Bowen, 1993).

There are strained labor relations between the teacher's union and the district. The district has experienced eight strikes in the last twenty years. Two of these strikes have been within the last four years. The longest and most bitter strike was at the beginning of the 1991-92 school year. This twenty-one day strike created many negative feelings throughout the entire community (Larkin High School Staff, 1993).

Larkin High School is the second largest of the high schools. Larkin is located on a forty-three acre campus on the west side of Elgin, Illinois. It is the oldest high school building in the district, opening in 1962. At Larkin, over eighty percent of the teachers have ten or more years in education and over seventy percent of Larkin's teachers have a Masters degree. Teachers have been almost exclusively assigned teaching positions in their major areas of undergraduate study or graduate preparation. Larkin employs two full-time social workers, eight guidance counselors and approximately one hundred fourteen teachers. There is a full-time school nurse in the building and two full-time librarians. Larkin has three teachers assigned to a Reading Center which provides a semester course for students whose reading level is below grade level. It has a peer-tutoring program which offers help to all students on Tuesdays and Thursdays, eight periods a day. Larkin has one Educable Mentally Handicapped teacher, six Learning Disorder Resource teachers, and two Behavioral Disorder teachers. There is a Learning Disorder Resource Study Hall available all eight periods to give extra help to special education students. Larkin currently has an "At Risk Program" which identifies the most truant students and places them in an At Risk Class or the Alternative Education High School. This program does not directly assist the students who remain in

the classrooms of Streamwood, Larkin or Elgin High Schools. Students must go through a referral and acceptance procedure to attend Alternative High School.

The total enrollment at Larkin is 2,185. The ethnic background of Larkin students is as follows: seventy-six percent white, eight percent black, twelve percent Hispanic, three percent Asian, less than one percent Native American. Approximately ten percent of Larkin's students are low income and six percent are of limited-English proficiency. This building has a mobility rate of twenty-four percent. The school's attendance rate is ninety-three percent and there are six students classified as chronically truant. The graduation rate at Larkin for the 1990-91 school year was eighty-four percent as it was again for the 1991-92 year. The student's average ACT score is 21.4. The average class size at Larkin is twenty-two students. There are fifty-three percent of the student body enrolled in college preparatory classes, twenty-six percent in the general education program, and twenty-one percent in the vocational based program. The percentages of students enrolled in the high school's core subjects are: Mathematics ninety-three percent; Science, eighty-two percent; English, one hundred ten percent (some students are taking more than one English class); and Social Science, eighty-nine percent (Larkin High School Staff, 1992).

The Home Economics courses are located in the vocational technology wing, which is separated from the academic and physical education areas of the building. The classrooms used for home economics are not located in a particular section of the wing. They are scattered throughout the area. Most of the home economics labs are in less than ideal arrangements and technology is old. The physical space is inadequate with poor floor plans. Ventilation is poor. Storage space is very limited.

There are 5.2 teachers in the Home Economics department. All of the teachers have or are working on their Masters degrees and have at least six years teaching experience. This department is a dedicated and cohesive group. All of the teachers are willing to share and cooperate with one another.

The following table is a scope and sequence of the courses taught in the Home Economics Department.

Table 1

Scope and Sequence of Home Economics Courses Taught at Larkin High School

Program	Grade 9	Grade 10	Grade 11	Grade 12
Homemaker	Intro to Child Dev.	Foods 1-2	Personal Management	H.E.R.O.
Child Care	The Individual Intro to Child Dev.	Foods 1-2	Inter- personal Child Development	H.E.R.O. Child Develop.
Food Service	Foods 1-2	Foods 3-4	Catering	Foods Service H.E.R.O.
Fashion	Fashion 1-2	Fashion 3-4	Fashion 5-6	Fashion 7-8 Fashion Merch. H.E.R.O.
Home Furnish.	Fashion 1-2	Fashion 3-4	Housing Home Furn.	H.E.R.O.
Occup. of Home- making	Intro to Child Develop. The Individual Clothing 1-2 Foods 1-2		Child Development Personal Management Interpersonal Manage. Housing Home Furnishings	

Homemaker Assistant, Child Care, Foodservice, Clothing, and Home Furnishings are all vocational sequences which lead to specific careers. Many of the aforementioned programs are state funded. Occupations of Homemaking is a general sequence offered to the students who wish to learn or improve their homemaking skills. The Foods 3-4 and H.E.R.O. Classes will be used for the purpose of this research. Foods 3-4 is a second level foods course which specializes in American regional and international cuisine.

It may be taken during the sophomore, junior, or senior year. Home Economics Related Occupations (H.E.R.O.) is one of the capstone courses for every sequence. It is a cooperative work program specializing in the home economics professions. Students must be sixteen years old and a junior or senior in order to take this program. They receive two credits each semester, one for working at an after school job and the other for a class which teaches them job applications, interviewing skills, employment relations, work safety, and other work related skills.

The Surrounding Community

The population served by Larkin High School resides in two communities, Elgin and South Elgin. All South Elgin public high school students attend Larkin. Elgin public high school students who live West of Dundee Avenue or Center Street attend Larkin. The communities of Elgin and South Elgin are located approximately thirty-five miles from the center of downtown Chicago. A commuter line of the Milwaukee Railroad has stops in Elgin. The Northwest Tollway and the Eisenhower Expressway are easily accessible. While Elgin is in both Kane and Cook Counties, South Elgin and the part of Elgin served by Larkin High School are in Kane County.

The population of Elgin in 1990 was 77,010 (seventy percent Caucasian, seven percent Black, nineteen percent Hispanic, three percent Asian, less than one percent

other). The population of South Elgin in 1990 was 7,474 (eighty-nine percent Caucasian, two percent Black, six percent Hispanic, three percent Asian, less than one percent other). Elgin has a projected growth rate of thirty percent from 1990 to 2010. South Elgin has a projected growth rate of forty percent in that same time period (Elgin Area Chamber of Commerce, 1990).

The area offers a stable economy with modest growth. Job opportunities include areas of manufacturing, retail, health, education, finance, insurance, real estate, and construction. The per capita income for Elgin in 1987 was \$12,960. The South Elgin per capita income in 1987 was \$11,259. The per capita income for the United States, in 1987, was \$15,471. The 1990 average unemployment rate for Kane County was less than six percent. The Illinois rate of of unemployment was over six percent (Elgin Area Chamber of Commerce, 1990).

In addition to the School District U-46 facilities, there are a variety of other educational institutions in the area. Three colleges and universities are located or have branches in Elgin: Elgin Community College, Judson College, and National Louis University. There are ten elementary parochial schools in Elgin and one parochial high school. There are two private schools in Elgin: Elgin Academy, which serves grades K-12, and Chicago Junior School, which serves students preschool to grade

eight. Summit School, in East Dundee, offers a Gifted Program for grades one through eight and a Learning Disabled Program for grades one through twelve. There is also, in West Aurora, a state operated residential Mathematics and Science Academy for gifted students who reside in the state.

Elgin has an impressive cultural center involving Hemmens Auditorium and Gail Borden Library. Hemmens hosts frequent plays, musicals, symphony concerts, retailer shows and craft fairs. Gail Borden has over 250,000 books, 500 periodical titles, and 12,000 audiovisual items. They add 20,000 items annually (North Central Evaluation, 1987).

State and National Context of the Problem

After World War, II school reform caused preparation for college to be the primary objective of American schools in an effort to raise our standard of living. Nearly fifty years later, the United States remains very much fixated with the belief that the highest skill requirements needed by high school graduates are for entrance to college. That has been used as the benchmark for making many educational decisions. However, when we analyze the dramatic changes occurring in the world of work today, we find something that is very sobering. Namely, the skills, knowledge, and behaviors needed for entry-level employment are both different and higher than those needed for higher education (Daggett, 1993).

The educational system of the 90s must be cognizant of the growing concern of business over the product produced by our schools. While we must not diminish the importance of preparing for college, we must realize the consequences of failing to prepare all students for entry into the work force may cause failure of our nation. Levin as cited in Bullard and Taylor (1993) list four areas where the impact of school failure will be felt by every American: reduced economic competitiveness, higher costs for public services, massive disruption in higher education, and emergence of a dual society with a large and poorly educated underclass. Drawing conclusions from statistics reported in the 1990 Report of the Commission on the Skills of the American Workforce, Jones and Pierce (1992, p. 65) state:

It is entirely possible that we may not be able to produce enough skilled adults to support the Army, to conduct needed medical research, to run complex technological systems, or to sustain many of the basic functions of a vigorous and flourishing economy.

The United States was once without question the world leader in manufacturing. In the 1989 the United States ranked fourth behind Europe, Japan and Russia in manufacturing research. The United States ranked third in the consumption of machine tools and fifth in the production

of machine tools. The United States share of the world automotive market has dropped from 76 percent to 24 percent; machine tools from 100 percent to 35 percent; and color televisions from 90 percent to 10 percent (Johnson & Johnson, 1991, citing The National Center for Manufacturing Sciences, 1989).

Business has recongnized the need to go beyond the traditional three R's that education has taught in the past, and they are taking the lead in advocating school reform. The entry level worker of the 90s must be proficient in technical reading, technical writing, applied physics, statistics, logic, probability, and knowledge of measurement systems (Daggett, 1993). In addition to these technical skills, employers uniformly expect listening and oral communication skills, group and teamwork skills, critical thinking, problem solving, decision making, and self-esteem, goal-setting, and personal and career development. Unless our schools begin to provide business with workers who have these skills, the United States will be unable to compete in the world economy. Pellecano (1987, p. 47) states this concept even more strongly: "Concomitantly, they place society at risk of becoming a Third World inhabited by individuals who are dependent, underdeveloped, uncompetitive, and unreactive to market forces."

One might expect the failure of the American worker is lack of technical skills. However, this is not the case.

His/her greatest deficit is in interpersonal relationship skills. In 1982 a nationwide survey of business, labor union, and educational institutions the Center of Public Resources "found that ninety percent of the respondents who had been fired from their jobs where fired for poor job attitudes, poor interpersonal relationships and inappropriate behavior" (Johnson & Johnson, 1989-90, p. 32). These skills are essential at all levels in the workforce.

Motorola, Inc. which employs 94,400 world-wide, is one of the largest employers in the Chicago metropolitan area. Motorola requires that its entire staff be able to solve problems and work in a "quality team" concept. Specific skills Motorola (Bales, 1993) lists as being necessary are:

1. Knowing how to learn
2. Listening and speaking well
3. Creative thinking and problem solving
4. Interpersonal relations and teaming
5. Self-esteem and motivation
6. Organizational effectiveness and leadership

Nationally many companies are assuming a team concept approach to their corporate structure. Other leaders in this teamwork approach are General Electric and Ford Motor Company.

We have for too long taken for granted these interpersonal skills. We have made no direct effort to teach these skills at a high school level. However, Johnson

& Johnson (1989-90, p. 30) state that "...interpersonal and group skills (do not) magically appear when they are needed. Students must be taught these skills and be motivated to use them." As vocational educators it is our responsibility to meet the needs of the workforce by educating our students in interpersonal skills.

Chapter 2

PROBLEM EVIDENCE AND PROBABLE CAUSE

Problem Background

As pointed out in Chapter 1, there is a growing concern by the business sector about the preparation of students for the workforce. Areas of educational deficits include: technical reading and writing, applied physics, statistics, logic, problem solving, listening and oral communication skills, critical thinking skills, decision making, and group and teamwork skills.

In the 1980's, the focus of education and business partnerships was to increase literacy skills of workers and for businesses to provide funding for education, as evidenced by the Boston Compact, Public Education Nashville Citizens Involved in Leadership (Project PENCIL), Southern Wisconsin Education for Employment Program (SWEEP), and a multitude of similar programs (National Alliance of Business, 1987). Polaroid, Onan Corporation, Texas Instruments, R. J. Reynolds, Rockwell International, Ford and the United Auto Workers were among the many companies that sponsored remedial programs for workers in the 1980's (Pinebrook & Bissonnet, 1992).

Remediation, in the nineties, will include social skills and teamwork skills as well as continued efforts to

increase literacy. In a study called: Measurement of Workforce Readiness: Review of Theoretical Frameworks (O'Neil, Allred & Baker, 1992), five major employment readiness studies were examined in order to develop a workforce readiness assessment. Upon examination it was found that all five studies had several commonalities. As could be expected, all employers desire employees to have basic academic skills and problem-solving skills. In addition to these basic skills, interpersonal and teamwork skills were said to be essential. "Reading, writing, and math deficiencies have been the first to appear in the workplace, but increasingly, [other skills] are also viewed as essential." (Carnevale, Gainer & Metzger, as cited in Pinebrook & Bissonnet, 1992, p. 72).

They give the following list as essential skills:

1. organizational effectiveness and leadership skills
2. interpersonal skills, including negotiation and teamwork
3. personal skills such as self-esteem, goal setting and motivation, and employability and career development skills
4. creative thinking and problem solving skills
5. communication skills, including listening and oral communications
6. the three R's; reading, writing, and computation

7. learning to learn (Carnevale, Gainer & Metzger, as cited in Pinebrook & Bissonnet, 1992, p. 72,).

Nationally, educators are in the process of developing curriculum and revised teaching methods to accommodate the needs of students and business, as evidenced by the State of Michigan's portfolio of team work and personal management skills (Personal Management Skills Portfolio, 1992). In 1993, the major emphasis of the Illinois Vocational Association Conference, in St. Louis, Missouri, was teaching thinking skills and team partnership. The aforementioned programs are diagnostic and skill oriented, but many do not suggest specific teaching methods.

Locally, teamwork skills have been neglected by educators in grades six through twelve. Jan Lockary, U-46 Assistant Superintendent of Curriculum Development, said in an interview that there is no specific curriculum dealing with teamwork skills in the junior high schools. At the high school level, Home Economics was the only subject area whose units of study included teamwork skills (Jan Lockary, personal communication, October 22, 1993). In the 1980's, School Advisory Committees were formed to facilitate communication between local businesses and vocational educators. These committees did not include any academic teachers, they met infrequently, and they did not offer suggestions for curriculum restructuring. They provided guest speakers and a source for used equipment. Recently

U-46 and Elgin Community College have begun a Tec Prep Program. Teachers who have participated in Tec Prep have become increasingly cognizant of employment skills needed by students. However, there is currently no district-wide action to implement or increase the teaching of teamwork skills.

Problem Evidence

The following means will be used, at the beginning and end of a five month action research period, to document students' attitudes and behaviors while working in a group. A questionnaire was distributed to all members of H.E.R.O. and Foods 3-4 (Appendix A). A video taped oral interview was conducted with twenty-five percent of students in each class (Appendix B). A survey was taken of HERO employers concerning students ability to work well within a group (Appendix C).

Seventy-one students answered the initial survey. All 71 students have participated in group work with other students. As can be seen below in Table 2, most student felt that they worked well or very well in a group.

Table 2

"How well do you feel you work in a group?"

poor 0%	average 23%	well 35%	very well 41%
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Most students realized that they would be required to work cooperatively in the work place, as can be seen in Table 3

Table 3

"How often do you feel you will work in a group requiring cooperation in the workplace?"

never	almost never	occasionally	almost always	always
2%	2%	32%	38%	30%

A large number of students (72%) felt that cooperation is important to success in the workplace, as can be seen in Table 4, below.

Table 4

"How important do you feel cooperation is to success in the workplace?"

not at all important	somewhat important	almost always important	very important
0%	7%	21%	72%

We voided the question which asked how important attendance is to working in a cooperative group, because we no longer felt that issue was relevant to our research. We asked students to rate their performance, in a group, for eleven different characteristics: courtesy, cooperation, productivity, flexibility, problem solving, friendliness, tolerance, contribution, conflict resolution, enjoyment of

group work, and working with people different from self. Their response to this evaluation can be seen in Table 5.

Table 5
Students' Self Evaluation of Group Skills

Skill	Never	Occasion- ally	Sometimes	Almost Always	Always	Void
Courtesy	0%	3%	13%	54%	31%	0%
Cooperation	0%	1%	10%	54%	35%	0%
Productivity	0%	1%	17%	48%	32%	1%
Flexibility	0%	3%	20%	51%	27%	1%
Problem solving	0%	4%	35%	41%	18%	1%
Friendliness	0%	2%	11%	34%	52%	1%
Tolerance	1%	7%	35%	32%	21%	3%
Contribution	0%	0%	15%	48%	34%	3%
Conflict resolution	0%	13%	18%	46%	20%	3%
Enjoyment of group work	3%	6%	18%	41%	30%	3%
Able to work with people of diverse backgrounds	0%	8%	27%	32%	31%	1%

Because of a printing problem, nearly half of the students did not answer the question (question seven) about the importance of various characteristics when working in a group. The responses of the students who did answer this question can be seen in Table 6. below. Of those students that answered the question, the majority felt that all of the qualities listed were always or almost always important to the functioning of a group. However, the participating teachers noted that the percentage of students who felt that tolerance and enjoyment of group work was of

"occasional importance" was high. It is the hope of the participating teachers that this feeling will change after the project has been complete.

Table 6
Students' Evaluation of the Importance of Group Skills

Skill	Never	Occasion- ally	Sometimes	Almost Always	Always	Void
Courtesy	0%	3%	6%	20%	24%	48%
Cooperation	0%	0%	6%	17%	30%	46%
Productivity	0%	1%	7%	20%	25%	46%
Flexibility	0%	1%	7%	27%	17%	48%
Problem solving	0%	0%	10%	20%	23%	48%
Friendliness	0%	1%	8%	14%	30%	46%
Tolerance	1%	6%	10%	21%	13%	51%
Contribution	0%	3%	6%	25%	20%	46%
Conflict resolution	0%	1%	3%	15%	32%	48%
Enjoyment of group work	0%	6%	15%	17%	17%	45%
Able to work with people of diverse backgrounds	0%	3%	10%	20%	24%	44%

The following questions were open-ended and allowed the students to list more than one answer. When asked to list the advantages of working in a group, students gave the following answers:

Table 7

Student Responses to Advantages of Working in a Group on the Pre-survey

Kind of Response	Number of Responses
new ideas	24
work was done faster	19
more help	16
they got to know more people	13
they had more fun	11
a greater quantity of work got done	9
less work for each person	8
didn't answer	5
they learned different points of view	5
they learned more	4
they learned to cooperate	1
they learned to solve problems	1
he didn't have to do dishes all the time	1
nothing	1

When asked to list the disadvantages of working in a group, students gave the following answers:

Table 8

Student Responses to Disadvantages of Working in a Group on the Pre-survey

Kind of Response	Number of Responses
not getting along (arguments)	34
unfair division of work	12
people mess around	5
nothing gets done	4
they learn less	2
conflicting personalities	2
overcrowding	2
getting in each others way	1
not enough to do	1
not everyone likes group work	1
not everyone cooperates	1
some people like to work alone	1
nobody likes to talk	1
no fighting	1
absences; one did not answer	1

When asked how conflict should be resolved in a group situation, students gave the following answers:

Table 9

Student Response to How Conflict Should be Resolved in a Group on the Pre-survey

Kind of Response	Number of Responses
by talking	43
think it out	2
move someone out of the group	2
a teacher or mediator should settle it	2
to say nothing	1
fight	1

When asked to list the advantages and disadvantages of solving conflict within a group, students listed the following:

Table 10

Student Response to Advantages of Solving Conflict in a Group on the Pre-survey

Kind of Response	Number of Responses
you get a lot of ideas	9
things will get done again	7
problem will be solved	5
some might agree with you	4
there's more people to work it out	3
working together	2
talking it out	2
people will forgive	2
easier	2
more responsibility	1
they could talk to the teacher	1

Table 11

Student Responses to Disadvantages of Working in a Group to Resolve Conflict on Pre-survey

Kind of Response	Number of Responses
some might not agree with you (arguments)	14
you might get angry at people involved	8
people might get hurt feelings	4
it might make problems worse	4
problems won't be solved	3
it takes a long time	2
too many people want to help	2
people might take sides	1
people won't listen	1
people won't come to the meetings	1
favortism	1
you're not on task	1
some people won't want to solve the problem	1

Thirty-three HERO students' employers were surveyed in order to evaluate students' team skills exhibited at the workplace. The types of business students were placed in varied from nursing homes, restaurants, and daycare centers to retail stores. Students who participate in the HERO program must be employed in a home economics related field. The employers asked to take the survey where those who directly supervised the HERO student on the job. The same skills evaluated in the student survey, questions six and seven, were used for the employers survey. The results of the employers' evaluation can be seen in Table 12, below.

Table 12
Employers' Evaluation of Students' Group Skills

Skill	Never	Occasion- ally	Sometimes	Almost Always	Always	Void
Courtesy	0%	3%	15%	30%	51%	3%
Cooperation	0%	0%	15%	33%	51%	3%
Productivity	0%	3%	27%	42%	30%	0%
Flexibility	0%	3%	27%	36%	33%	0%
Problem solving	0%	6%	48%	36%	12%	0%
Friendliness	0%	6%	12%	30%	55%	0%
Tolerance	1%	6%	33%	30%	33%	0%
Contribution	0%	3%	21%	51%	27%	0%
Conflict resolution	0%	18%	24%	30%	24%	3%
Enjoyment of group work	0%	3%	15%	30%	51%	3%
Able to work with people of diverse backgrounds	0%	3%	27%	33%	39%	0%

Probable Causes of Problem

Consensus by business and education indicates the following probable causes of poor teamwork: a. change in corporate structure from competitive management to teamwork management, creating a need for graduates to be proficient in teamwork skills; b. the disintegration of the American family, increasing the need for teaching teamwork skills in the school; c. increase in competitive learning and diminished emphasis of teaching social skills and teamwork as a student progresses upward by grade level; and d. lack of communication between business and education about desired workrelated skills.

Data to suggest probable cause of poor teamwork within the school setting was gathered through conversations with other teachers during faculty meetings. Teachers at Larkin High School have observed an increase in single parent families, divorces, abused students, dual income families, and emancipated students (An emancipated student is a minor who has filled for independent living status). The results of these lifestyles often are a lack of positive role modeling from parents to children and can result in negative role modeling. Teachers observed students to be rude and disrespectful to each other. Students have demonstrated an inability or desire to work with team members they do not like.

As cited earlier in an interview with Jan Lockary, former U-46 Superintendent of Curriculum Development, there is no specific curriculum dealing with teamwork skills in the junior high schools. At the high school level, Home Economics was the only subject area that touches on teamwork skills. However, the self-evaluation of Home Economics teachers at Larkin High School leads to the conclusion that teamwork skills must be stressed even more throughout all of the Home Economics courses. Many Home Economics strategies include grouping students in teams. However, students rarely evaluate how well they work with the team or how well the team works together.

Data collected from literature suggests both American business and education have operated in a competitive structure. A competitively structured business rewards, with promotions, raises and bonuses, only the employees who produce the most and do the best at their jobs. A competitively structured school rewards, with grades and honors, only the students who do the best work. The problem with a competitively structured school or business is that the workers or students find it profitable to keep others from succeeding in order to prove themselves worthy of the rewards. With the recession of the 1980's, many businesses found it necessary to cut back the numbers of their workers in order to make a profit and to avoid closing. Businesses examined their corporate structure and discovered that the competitive system was lowering production. In an effort to avoid further cutbacks and to obtain creative input from employees, many businesses formed teams to foster open communication and improve productivity.

At the forefront of this movement is General Electric Chief Executive Officer, Jack Welch. In 1988, he began a ten year process of reorganizing General Electric's nearly 500,000 employees into "Work-Out" teams which will determine company policy, negotiate with suppliers, and manage their own section of the business (Tichy & Sherman, 1993). General Electric is not unique in deciding to use a

team approach to management, but it is singular in the vastness of numbers of workers it will involve. Among the many companies adopting a team corporate structure are Ford Industries, Hewlett-Packard, Chapperell Steel, and Motorola.

In the nineties, companies will increasingly adopt a team structure because of the success of companies who have already done so. A recent survey given to HRD Executives by the American Society for Training and Development found that, as a result of teamwork:

1. Productivity improved in 77 percent of the companies
2. Quality improvements were reported in 72 percent of the companies
3. Waste was reduced in 55 percent of the firms
4. Job satisfaction improved in 65 percent of the firms
5. Customer satisfaction improved in 57 percent of the firms (Montebello & Buzzotta, 1993).

It has been observed by work program coordinators within School District U-46, that surrounding businesses are beginning to convert to a team-based management program. Conferences and visitations with Motorola, Panasonic, Ameritech, R. R. Donnelley, and St. Joseph's

Hospital during the 1992-1993 school year support the need for teaching more teamwork skills in our schools.

Historically, people learned to resolve conflict by modeling our successful elders. Researchers (Johnson & Johnson, 1991; Scherer, 1992; Slavin 1990) agree that conflict is natural, resulting from human beings' natural differences. Human beings differ in gender, ethnic background, interests, intelligence, personality types, and many other ways. These differences cause conflict which results in the inability to work in a team. We are not born knowing how to resolve conflict, and therefore, we must be taught. Presently, because of the disintegration of family and other societal institutions, there are fewer people to model. Johnson and Johnson (1991) trace the disintegration of the family and proclaim that instruction in group dynamics will be the salvation of the family unit as well as the answer to some mental health problems and problems in the workforce.

It has been noted that competition increases and teamwork skills instruction decreases as the student progresses upwards by grade level. The teacher's awareness of college entrance requirements contribute to this occurrence. Brandt (1991, p. iii) stated,

Cooperation in the classroom runs counter to well-established routines and values that nearly all adults - including many educators -

take for granted. They do not object to occasional group work, but when it comes to final exams grade-point averages, and college admissions, they expect education to be a fiercely competitive enterprise.

Both Johnson and Johnson (1991) and Slavin (1990) criticize our educational system's emphasis on competitive learning. Competitive learning keeps us from working well as a team and does not offer students opportunities for interaction that will promote social learning experiences. Students need to be taught problem solving, conflict resolution, communication, and other small group skills. According to Kagan (1992, p. 2:4),

Nowhere are students learning how to work effectively with others. It is no wonder employers find a lack of social skills among employees the number one problem. The need for social skills in the economy and society of the future will be even greater.

At Larkin High School competitiveness is promoted with the practice of ranking students in a class by grade point average. Tracking students and having a weighted grade points system also gives students a competitive message, not to mention the message that those with less ability are not worthy of participating in the same class as those with higher ability. This trend is certainly not promoting a

critical component of teamwork skills; working with others different from yourself.

Historically, communication between business and education has been minimal. Because of the deficit in communication neither side, business or education, can respond to the needs of the other. There are differences between schools and the community that do not always become apparent at the School Board level. "The school's advisory committee structure is too limited. Schools' isolationist, 'ivory tower' approach is counter productive" (Workplace Basics Conference, 1989, p. 4.3).

Social skills are not typically taught in the classroom, because educators may not understand the correlation between the needs of business and classroom activities. The U.S. Department of Commerce (1988) interviewed representatives from education and business concerning current and future entry-level needs, the gap between entry level workers' needs and high school graduates' skills, and the roles of business and education. Educators are reported to state that their graduates are well prepared for entry-level positions; business maintains that they are not prepared. The methods education uses to document student performance is an indication of differences in what schools want to accomplish and what employees desire. It has been stated in a 1990 report by the Policy Information Center called "From School To Work":

...students are measured according to academic performance in traditional school subjects; there is little or nothing in the record on oral communication, listening skills, or interpersonal skills, motivation, or ability to work cooperatively. Mostly, these skills are not on the schools' formal agenda, although many do come into play in successfully negotiating a high school education. Whatever the extent to which such skills may be acquired in the schooling process, there is no record of these abilities that a young person can take to an employer. (Policy Information Center, 1990, p. 12)

Social skills and teamwork skills are high on the list of employer needs. "In fact, one might even say that a new kind of American worker is being ordered up. An this new worker will be expected to have broad set of skills that were previously required only of supervisors and management" (Van Ast, 1989, p. 11). As educators, we have neglected to communicate with employers about these changes. In 1988, of the 1.1 million students making the transition from high school to the world of work, one quarter did not find work immediately, indicating that

there was difficulty making the school to work transition (Alsalam & Stacey, 1990). These students have become known as "the forgotten half" Our educational system...

...is a \$3.5 billion dollar industry. Because of its size, it changes slowly -- even in the face of pressing needs. It is sluggish in responding to the growing need for improved training for both college and non-college bound students, but particularly for the non-college bound (Workplace Basics Conference, 1989, p. 3.2).

At Larkin High School and School District U-46 there has not been a great deal of time allotted to teachers for communicating with business and industry. The only time that has been allocated falls under the heading of staff development. It has been the trend for staff development days to primarily focus on teaching strategies, motivating students, and morale boosting sessions. Within the last seven years no time has been given to teachers to meet with local business and industry to discuss what each side does for or needs from the other. It should also be noted that the administrative position in charge of staff development has been eliminated. Larkin High School participates in a program with Hoffer Plastics, a local business. However, there seems to little or no time for teachers and business people at Hoffer to sit and communicate needs with each

other. A Washington Post editorial stated, "In no other industrialized country are the transitions from school to work...left so much to chance as in the United States" (Policy Information Center, 1990, p. 4).

In summary of the probable cause data for the problem gathered from the site and from literature, education needs to focus on including teamwork skills in curriculum and focus less on competition. Communication between business and education needs to be increased. Educators need to be cognizant of the changing family structure and teach material or used strategies which help compensate for the loss of modeling in those families.

CHAPTER 3

THE SOLUTION STRATEGY

Review of the Literature

Examination of the probable cause data suggested the reasons students have problems working as a member of a team: a. in the past students have not been trained in team skills because, business and industry did not previously demand these skills; b. the disintegration of the American family, causing an increased need for teaching teamwork skills in schools setting; c. educational emphasis on competitive rather than teaching social skills at higher grade levels; and d. lack of communication between business and education about changes in desired work related skills. The result is that students are not prepared for the changing dynamics of the workforce which increasingly accents a teamwork-based management system (see chapter one).

Our literature search for solution strategies was organized by our probable cause data. Analysis of these data suggested the following areas of concern: a need for graduates to be proficient in teamwork skills to meet changes in corporate structure; a greater emphasis on and use of teamwork situations in the classroom with less emphasis on competition between students; increase in communication between business and schools.

The entrylevel worker in today's market place must be proficient in more than cognitive and technical knowledge. Today's employees must be trained in interpersonal and teamwork skills. At Colgate-Palmolive's plant in Cambridge, Ohio new employees spend forty hours of interaction training during their first year (Wellins & George, 1991). Wellins and George (1991, p. 29) quote Carroll at Schreiber Foods in Arizona, "In a team environment, it's critical to know how to talk constructively with peers. That's something employees haven't had to do in past. Our job is to give them the skills and interaction opportunities." In 1991, Training and Development Journal (Wellins & George, 1991, p. 30) surveyed 74 companies using self-directed teams and discovered active team training in the following skills:

1. orientation to teams and teamwork
2. team design concepts
3. development and use of team mission and norms
4. listening and giving feedback
5. one-to-one communication
6. techniques for handling conflict and reaching consensus
7. valuing diversity
8. training and coaching others
9. presentation skills

10. meeting skills
11. meeting facilitation
12. selection of team members
13. assessment of the team's performance

Team members are also required to work within a changing cultural context. "They should know how to value diversity. They should know how to maximize each team member's different background skills and values" (Wellins & George, 1991, p. 29).

The third question asks how can communication between business and school be increased. For decades Vocational Educators have participated on Advisory Committees which consists of local business persons and vocational educators. The purpose of these committees is in fact to increase communication between business and education and to give both business people and educators the opportunity to experience each others' world. The downfall of this committee structure is that educators in academic areas are not included on these committees. It has been proposed that such committees be developed which include business persons, community leaders and educators from both vocational and academic areas. Committee activities will vary depending on the needs of the surrounding community. However, such activities might include:

1. assessing the numbers of qualified workers available for the jobs that need to be filled
2. participating in job fairs
3. disseminating information about labor shortages
4. advising local academic institutions about future needs
5. developing special educational programs such as programs to encourage literacy or mathematical competence (Summers & Harrison, 1992, p. 70).

It is the opinion of the National Alliance of Business (1987) that business has the power to initiate the change in education and has no other option if it is to survive in the world marketplace. Business has this leverage because they offer both financial and human resources to affect educational reform. In the same report it is recommended that the place where change is affected should be the educational institution, since young people spend from ten to twelve years of their lives in school. The National Alliance of Business recognizes that the more difficult side of the partnership is education's, because reforming the educational institution is more difficult than setting hiring goals. Educators who engage in this process of

change should be recognized by business leaders for their achievements.

In summary, once educators recognize the need to prepare students for entry into the workforce and that the requirements of business are always changing, educators will recognize the need to increase communication with business. This communication can be accomplished by the implementation of steering committees which include academic teachers, vocational teachers and business leaders.

The tradition of competition in education can be changed with the implementation of cooperative learning in the classroom. Johnson and Johnson recognized the importance of cooperation verses competition when they stated, unlike working independently or competing against each other, cooperation among peers promotes better psychological health, greater self-esteem and greater social competence (Johnson & Johnson, 1989).

"Slavin (1975) and Slavin, DeVries, and Hulten (1975) found that students in cooperative groups who gained in achievement improved their social status in the classroom, whereas in traditional classes such students lost status" (Slavin, 1990, p. 14). The competitive structure gives the message that attaining high achievement is for "nerds" or teacher's pet. This phenomenon also occurs in business and industry, those who are successful or considered "rate

busters" are mocked and scorned by fellow employees (Vroom cited by Slavin, 1990). In a cooperative structure teammates help each other succeed by encouraging each other thus creating a more favorable opinion of academic achievement, problem solving, and learning to think.

While cooperation tends to promote higher achievement and productivity, its superiority over competitive and individualistic learning is most clearly seen in conceptually complex problem solving tasks. Cooperation, cognition, and metacognition are all intimately related. Cooperative efforts provide the context within which cognition and metacognition best take place.(Johnson & Johnson, 1991, p. 90).

Through cooperative learning students learn to understand and cope with diversity. Slavin (1990, p. 35) notes that in The Nature of Prejudice(1954), Allport expounds on the negative effects of superficial contact, competition and status between people of various races. "However, he also cited evidence that when individuals of different racial or ethnic groups worked to achieve common goals, when they had opportunities to get to know one another as individuals, and when they worked with one another on an equal footing, they became friends and did not continue to hold prejudices against one another".

In summary, based on what experts and research has stated about cooperative learning, such a teaching strategy needs implementation in the classroom to help prepare students for entry into the workforce. The response and benefits for students will be an increase in cognitive learning, problem solving, metacognition, understanding diversity, higher self-esteem, psychological health, and the ability to work well within a group.

A summary of the literature which addressed the questions related to teamwork skills and teaching strategies, suggested that cooperative learning will teach most of the teamwork skills desired by business. These desired skills were elaborated upon previously in this chapter. The desired teamwork skills taught by cooperative learning are:

1. orientation to teams and teamwork
2. team design concepts
3. development and use of team mission and norms
4. listening and giving feedback
5. one-on-one communication
6. techniques for handling conflict and reaching consensus
7. valuing diversity
8. training and coaching others
9. presentation skills
10. meeting skills

11. meeting facilitation
12. selection of team members
13. assessment of the team's performance

The implication of this solution strategies for the local setting is inconsistent. Cooperative learning strategies are used by a few teachers on an occasional basis. However, group instruction and group processing procedures are inadequate.

Addressing the questions related to competition verses cooperation in the classroom literature discussing cooperative learning was further researched. Traditionally education functions with a comparative or normative evaluation system. Within this structure a student's success is based on the failure of others. Kohn has described this as MEGA (Mutually Exclusive Goal Attainment) or negative interdependence (Sherman, 1991). "Cheating and 'dirty tricks' are the usual examples of negative interdependence. Some have described this as the 'traditional' structure (Sherman, 1991, p. 5)." The worker who has been educated in this structural system will not work well in a company using a team corporate structure. It has been documented that the extremely competitive person can have an adverse effect in teamwork situations.

First, the cooperative members begin behaving in competitive ways, violating trust, hiding information, and cutting off communication.

Second, the competitive person sees the formerly cooperative members as having always been competitive. Third, the cooperative members are aware that their behavior is being determined by the other's competitive behavior, but the competitive person is not aware of his or her impact on cooperative members (Johnson & Johnson 1991, p. 103 citing Kelley & Stahelski).

Cooperative learning is a teaching strategy that may place students in heterogeneous groups. Student groups work together to carry out assigned tasks. The teacher gives group instruction before the activity. Effective group processing which evaluates the teams' interactions takes place after the activity. Team rewards, individual accountability and equal opportunities for success are central to all cooperative learning methods.

Cooperative learning is a form of experiential learning. There is no better way to learn a skill than to experience it. Lewin theorized that in order to affect student's attitudes, values, and behavioral patterns, the teacher must provide experiences and simulations. Learning is more effective when it is an active rather than a passive process. Behavioral changes will be temporary unless attitudes underlying them are changed. If need be, it is easier to change a person's attitudes and behavioral

patterns in a group context rather than in an individual context (Johnson & Johnson, 1991, citing Lewin, 1935; and Lewin & Grabbe, 1945).

Cooperative learning is a vehicle through which teamwork and social skills may be experienced in the classroom. Kagan states,

Because cooperative teamwork, interaction and communication will characterized the workplace of the future, it is imperative that our classrooms include not only individualistic and competitive interaction, but also cooperative interaction (Kagan, 1992, p. 2:1-2:2).

In a little less than 90 years over 500 studies have been conducted about cooperative learning. The overall result of these studies is:

That working together to achieve a common goal produces higher achievement and greater productivity than does working alone [and] is so well confirmed by so much research that it stands as one of the strongest principles of social and organizational psychology (Johnson, Johnson & Holubec, 1988, p. 1:6).

These studies of cooperative learning found a positive effect on relationships despite differences in sex, ethnic background, social class and ability. Self esteem,

attendance, communication skills, motivation and satisfaction were also positively correlated with cooperative learning (Johnson, Johnson & Holuvec, 1988).

Cooperative learning is an ideal solution to the problem of providing student of different ethnic groups with opportunities for nonsuperficial, cooperative interaction.

Cooperative learning methods specifically use the strength of the desegregated school -- the presence of students of different races of ethnic backgrounds -- to enhance intergroup relations (Slavin, 1990, p. 35).

Project Outcomes

The terminal objective of this problem resolution is related to the social skills information presented in Chapter 2, student questionnaires, employer questionnaires, teacher surveys, and teacher observations. In the later part of Chapter 2, probable cause data suggests the need for teachers to implement strategies which will increase the learner's ability to work on a team at work and at school. Therefore:

As a result of cooperative learning, during September 1993 to November 1993 there will be a measurable increase in cooperation and teamwork skills among students in American Regional Foods and H.E.R.O. classes at Larkin

High School as measured by student questionnaires, employer questionnaires, student interviews, teacher surveys, and teacher observations.

In order to accomplish the terminal objectives of cooperation and teamwork skills, from June through November 1993, the teacher will adapt and develop lessons and activities that will deal with communication skills, problem solving skills, group roles and cooperative group evaluation. These activities will compliment course content as evidenced by teacher planbook.

In order to accomplish the terminal objective of cooperation and teamwork skills, the intermediate objectives from September through November 1993 in the American Regional Foods/H.E.R.O. class at Larkin High School have been proposed.

1. As a result of an increased need for student social skill development. Students will be regularly instructed in and practice written and oral communication skills, as evidenced by the teacher's planbook and sample activities in Appendix D.
2. As a result of business needing employees with good problem-solving skills, students will be regularly instructed in problem-solving skills, as evidenced by the teacher's planbook and sample activities in Appendix D.

3. As a result of an increased need for students to work with a diversity of people in a variety of situations, students will be regularly instructed in and practice various group roles, as evidenced by the teacher's planbook and sample activities in Appendix D.
4. As a result of an increased use of and need for effective teamwork by business, students will be regularly instructed in and practice evaluating students' cooperative groups as an integral part of the course content units, as evidenced by teachers' lesson plan book and classroom activities.

Proposal Solution Components

The major elements of the approach include: communication skills, decision making, group instruction, group processing, and an overall focus on the importance and advantages of working as a team, which will be taught using a cooperative learning strategy.

Chapter 4

ACTION PLAN FOR IMPLEMENTING THE SOLUTION STRATEGY

Description of Problem Resolution Activities

The action plan is designed to address three major solution components: student social skill development; changes to the instructional strategies within the curriculum delivery system; and assessment approaches.

The student social skill development phase of the plan will begin in the summer of 1993 by the two teachers involved in the plan. Using data collected, reflecting on student observation, and using teacher resource material, these teachers will design a scope and sequence plan which could be injected into the existing curriculum of various content areas. This plan will focus on the specific social skills desired by employers. The improvements sought in student social skill development will focus on: group roles and interdependence, group process and individual evaluation, communication skills, and problem solving/conflict resolution skills. Incorporating these topics will call for an increase in team work strategies.

Instructional strategies will focus on the use of teamwork and cooperative learning. These strategies will be incorporated into everyday lessons that are used to teach content material. Not only will social skills be the

focus of these strategies; but also, the information in the course outline. Instructional strategies will begin in November, 1993 and continue through December, 1993.

The assessment approaches will begin in August, 1993 and will continue through December, 1993. Assessments will include student interviews and student surveys, employer surveys and teacher observations. These assessments will occur in August and October, 1993. The purpose of conducting interviews, surveys and observations at this time is to question students and employers about teamwork skills or skills needed for employment before these topics are discussed in targeted classrooms or in other courses in a student's schedule. Students and employers will be interviewed and surveyed again in December, 1993 to determine if their views and feelings about working on a team have changed. Observations of teachers will be ongoing and kept in a journal.

The facilitating teachers will meet each Tuesday at 8:30 am or as needed. Teachers will discuss progress and activities of the current topic as described below.

The implementation plan is presented below in an outline form and in chronological order.

1. Focus on assessment of student attitudes about teamwork.

- A. Who: A random twenty-five percent of each class will be interviewed by the Home Economics teacher's aide. All students in Foods 3-4 and HERO will be given a written survey and teacher observations will assess teamwork skills used during selected activities.
- B. What: Each student interviewed will be orally asked a series of questions. The questions in the interview will pertain to the student's feelings about working in a group and what cooperative learning is to them (appendix B). Each student in Foods 3-4 and HERO class will take a written survey. The questions in the survey will pertain to how students feel they work in a group, what skills are needed to work in a group, will they need teamwork skills on the job and what teamwork skills they might need for employment (appendix A). Teacher observation of teamwork skills will include the Human Knot Activity and M & M Activity (see appendix D).
- C. When: The surveys, interviews and observation will occur during the first week and second week of school in the Fall 1993. The HERO interviews, surveys and observations will occur during the third and fourth periods of the school day, and the Foods 3-4 interviews, surveys and observations

will occur during the fifth period of the school day.

- D. Where: The student surveys and observations will be conducted at Larkin High School. The Foods 3-4 class surveys and observations will be conducted in room 59 and the HERO surveys and observations will be conducted in room 62. The student interviews will be conducted in a quiet room (room 55) away from the others in the class.
 - E. How: The written student survey will be handed out to each student during class and they will be asked to write their answers on the survey paper. The interviews will be video taped and conducted during class time by asking randomly selected students to go next door. The observations will be conducted during the activities specified above.
 - F. Why: The student surveys, interviews and observations will be used to document student's attitudes and behaviors while working in a group.
2. Focus on assessment of student teamwork skills by local business people.
- A. Who: The employers to be surveyed will be those who are employing HERO work students.
 - B. What: Employers will be given a survey (Appendix C) about their feelings on teamwork; how important it is to their business; and how they feel their

student employees work on a team.

C. Where: Employers in Elgin, Dundee, and St. Charles will be surveyed at their place of business.

D. When: The employers will be given the survey in October, 1993.

E. How: Employers will be given the survey when the HERO program coordinator calls on the employers to discuss the HERO students working at each particular business. Employers will complete the survey and give it back to the coordinator.

F. Why: The surveys will be used to document how well students in the HERO program work as a team member in their place of employment.

3. Focus on the importance of working in a group.

A. Who: The teachers of the Foods 3-4 and HERO classes will facilitate the activity with their classes.

B. What: An exercise called Winter Survival Activity will be used with each class.

C. When: This activity will be conducted by the beginning of November during the Fall 1993 semester. In the HERO classes it will be conducted during the third and fourth hours of the school day and in the Foods 3-4 class it will be occur during the fifth hour of the school day. Approximately

two class periods (90 minutes) will be used to conduct this activity.

- D. Where: The exercise will be conducted at Larkin High School in rooms 59 and 62.
- E. How: Students will be divided into small groups of three to four. Each student will receive a copy of the Winter Survival Activity sheet (appendix D). The teacher will orally go over the directions with the class. Students will be given time to complete the individual and group sections of the exercise. Then a whole class discussion will be conducted about the results of the activity.
- F. Why: This activity will be done to promote awareness of the importance of working in a group.

4. Focus on group roles and teamwork.

- A. Who: The teachers of the Foods 3-4 and HERO classes will facilitate the activities with their classes.
- B. What: The students will brainstorm likes and dislikes of working in a group and the need for role assignments within a group. Possible role titles and definitions will be discussed.
- C. When: The activities focusing on group roles and teamwork will be conducted by the beginning of November of the Fall 1993 semester. A minimum of

fifty minutes per week will be devoted to group roles and teamwork.

D. Where: The activities will take place at Larkin High School in rooms 59 and 62.

E. How: The exercises will be done in small groups using a T-chart. After each activity has been completed a whole class discussion will take place. The teachers will also focus on using the cooperative learning model of teaching to help reinforce and support teamwork.

F. Why: The activities will be used to help students learn to function in a teamwork situation. Students will become more aware of the functions of each person as a team member. Students will become aware of the importance of teamwork to achieve certain goals and complete certain activities.

5. Focus on group process and individual evaluation

A. Who: The teachers of the Foods 3-4 and HERO classes will facilitate the activities with their classes.

B. What: Students will brainstorm reasons for evaluating group work, determine desired group behaviors, discuss consequences of non-participation in group situations, and use group evaluation forms and other processing methods.

- C. When: These activities will be conducted during November in the fall of 1993.
 - D. Where: The activities will be conducted at Larkin High School in rooms 59 and 62.
 - E. How: The teachers will focus on the cooperative learning strategy of teaching to help reinforce and support teamwork and the need for evaluating group members. Students will work in small groups to determine reasons for evaluating behaviors and to determine desired behaviors. Whole class discussions about these concerns will evolve from these small group discussions. Teachers will provide evaluation forms (Appendix E) and students will practice processing group cooperation after foods labs and guided activities.
 - F. Why: The activities will be used to help students recognize desired behaviors in teamwork, evaluating themselves and others in a teamwork situation so that the team may become more effecient.
6. Focus on communications skills and conflict resolution skills.
- A. Who: The teachers of the Foods 3-4 and HERO classes will facilitate the activity with their classes.
 - B. What: The classroom teachers will present

activities will incorporate the following:
demonstrate to students the effects of
miscommunication on team efforts and problem
solving, reasons for conflict and ways of solving
conflict in a group situation, reaching consensus.

C. When: The activities focusing on communication and
conflict resolution will be conducted during
November of the Fall 1993 semester.

D. Where: The activities will take place at Larkin
High School in rooms 59 and 62.

E. How: The teachers will focus on using the
cooperative learning model of teaching to help
reinforce and support teamwork. After each
activity has been completed a whole class
discussion will take place focusing on the
importance of communication and conflict resolution
in teamwork. The following activities (Appendix D)
were used: Tangram Activity, Wise Man and the
Elephant, Tug-of-war, Fighting Fair/You Call It.

F. Why: The activities used will help students
understand in importance of communication in
teamwork and how a lack of communication can
negatively affect a group. Activities will also be
used to help students understand why conflict arise
in groups, and how to solve conflicts within a
group.

7. Focus on positive teamwork/cooperative learning
- A. Who: The teachers of the Foods 3-4 and HERO classes will facilitate the activities with their classes.
 - B. What: The classroom teachers will use the cooperative learning strategy of teaching to instruct students in course content. The elements of teamwork focused on in earlier weeks will all be emphasized.
 - C. When: Cooperative learning strategies will be focused on most strongly during December and January of the Fall 1993-1994 semester. The HERO classes will execute the activities during the third and fourth periods of the school day. The Foods 3-4 class will execute the activities during the fifth period of the school day. A minimum of fifty minutes per week will be devoted to teamwork/cooperative learning activities.
 - D. Where: The activities will take place at Larkin High School in rooms 59 and 62.
 - E. How: Course content and information will be arranged, disbursed and adapted to fit the cooperative learning teaching method. Exercise will be done in small groups. The groups will not only focus on teamwork but also the elements of teamwork stressed in earlier weeks. Periodic

sessions with the entire class will be held to discuss working as a team: likes and dislikes, positives and negatives.

F. Why: The adaptation of curriculum for cooperative learning situations is to allow students learn in the structure and they may be working in, in the workforce after graduation. Business wants employees that can work and function in a teamwork situation. The emphasis here is for students to practice teamwork skills.

8. Conduct student survey observations and video taped student interviews.

A. Who: All students in Foods 3-4 and HERO will be given the same survey given in August, 1993. The same students who were orally interviewed in August, 1993 will be interviewed again.

B. What: All students in Foods 3-4 and HERO will be given the same survey given to them in August, 1993. The students who participated in the oral interview in August, 1993 will be video taped and asked the same questions again. The teachers will again observe students in teamwork situations.

C. When: The surveys, interviews and observations will take place during class time in December, 1993.

D. Where: The student surveys and observations will

be conducted at Larkin High School. The Foods 3-4 class surveys and observations will be conducted in room 59 and the HERO surveys and observations will be conducted in room 62. The student interviews from each subject will be conducted in a quiet room (room 55) away from the others in the class.

E. How: The student survey will be handed out to each student during class and they will be asked to write their answers on the survey. The interviews will be conducted during class time by asking the students who were selected previously to go one at a time next door and be interviewed by a teacher's aide. Teachers will observe students in teamwork activities as described in section 7 above.

F. Why: The student interviews, surveys and observations will be used to document any changes in students attitudes and behaviors while working in a group or team.

9. Conduct surveys of local employers.

A. Who: The employers to be surveyed will be those who are employing HERO work students.

B. What: Employers will be given a follow-up survey about their feelings on teamwork; how important it is to their business; and how they feel their

student employees work on a team.

- C. Where: Employers in Elgin, Dundee, and St. Charles will be surveyed at their place of business.
- D. When: The employers will be given the follow-up survey in December, 1993.
- E. How: Employers will be given the survey when the HERO program coordinator calls on the employers to discuss the HERO students working at each particular business. Employers will complete the survey and give it back to the coordinator.
- F. Why: The follow-up surveys will be used to document any change in how well students in the HERO program work in a team or group in their place of employment.

METHODS OF ASSESSMENT

A variety of data will be collected during the time period to assess the effectiveness of the intervention. Teacher observation will be recorded, in a journal, to document any changes. Pre and post-intervention student interviews will be done to note any change in attitude that might be attributed to the intervention. Pre and post surveys of students and employers will be conducted to record any changes that occur due to the intervention process.

Chapter 5
EVALUATION OF RESULTS AND PROCESS
Implementation History

Terminal Objective

The terminal objectives of the intervention addressed the cooperation and teamwork skills of students in H.E.R.O. and Foods 3-4 classes. Based on research and information given in Chapter Two, it was felt that a majority of high school students entering the workforce did not know how to work in a group situation and that it is the desire of corporate America for its employees to be able to work in a team/group situation. Therefore, the terminal objective stated: As a result of cooperative learning, during September 1993 to November 1993, there will be a measureable increase in cooperation and teamwork skills among students in American Regional Foods and H.E.R.O. classes at Larkin High School as measured by student questionnaires, employer questionnaires, student interviews, teacher surveys, and teacher observations.

Pre-Assessment Activities

In the fall of 1993 the participating teachers surveyed the American Regional Foods and H.E.R.O. classes at Larkin High School. The survey was to determine the students feelings and opinions about group work. Local H.E.R.O. employers were surveyed about their student

worker. The employer survey was to determine how students worked as part of a team while on the job.

Also during the Fall of 1993, several surveys and questionnaires were given. Students in each H.E.R.O. and American Regional Foods 3-4 class were given a survey dealing with their thoughts and feelings about teamwork and its place in the workforce. Approximately twenty-five percent of each participating class was video taped during an oral interview that also dealt with teamwork. Local employers were also surveyed to evaluate the current teamwork performance of H.E.R.O. students.

Interventions

The development of a curriculum plan was to address the lack of social skills and inability to function effectively in a teamwork setting. The plan was developed after research was done on the traits employers desire most of employees. This activity took place during the Summer of 1993.

In the Summer of 1993 the two teachers interested in cooperative learning, met to develop plans and strategies for developing social skills in their classrooms. These activities were carried out in the Fall of 1993.

In the classroom, teachers began to work with students by first focusing on the importance of working in a group. After focusing on the importance of the group, teachers helped students to realize various roles that can be held

while working in a group. Students were assigned to brainstorm likes and dislikes of working in a group and the roles that group members can play.

Next, students were to focus on group process and individual evaluation. Students discussed methods of evaluation and developed individual group evaluation sheets that the teacher could use to evaluate their group.

First students had to learn what it was like to work in a group, the roles of group members, and how they could be evaluated. Then teachers and students worked on communication skills and conflict resolution skills. Students did a variety of activities that allowed them to practice communication skills and conflict resolution.

Finally classes focused on the positive aspects of teamwork and cooperative learning. Students practiced working as a team. Course content and information was arranged, dispersed, and adapted to fit the cooperative learning teaching method.

Post-Assessment Activities

After the November completion deadline, students were given a post-survey, which was the same survey as the one given at the end of August. Also, if possible, the same students who participated in the video taped oral interview were interviewed and taped again. These students were asked the same questions as at the beginning of the semester.

Area employers were also again surveyed about their H.E.R.O. student employees. This survey was completed to see if employers did notice any difference in their student employees after participating in the program.

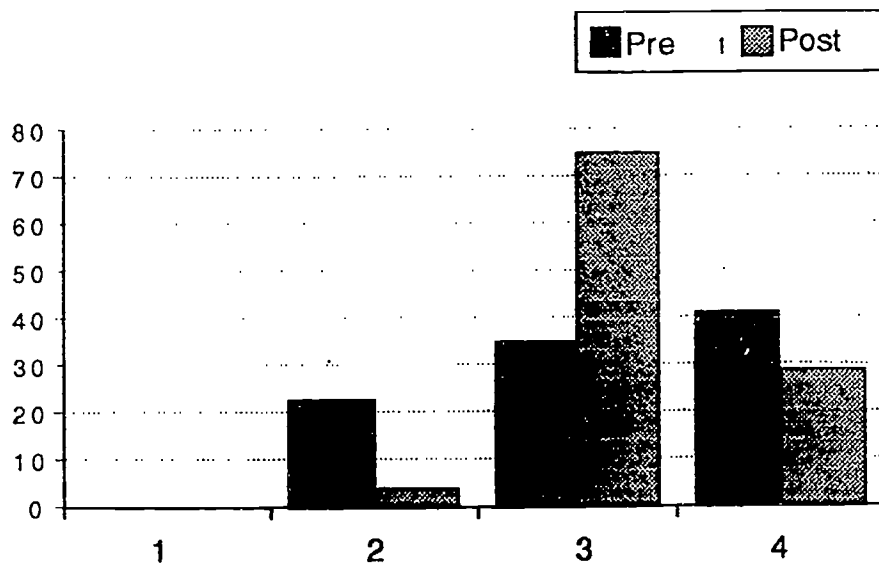
Presentation and Analysis of Project Results

In order to assess the effects of the planned program, students and employers were given a pre-survey and post-survey as stated in the problem resolution activities in Chapter 4. During the Fall 1994 semester the proposed activities were implemented. The results of the pre and post surveys are summarized in appendix F. Overall, all of the questions asked on both the student and employer post surveys had a higher positive response than the pre survey. The participating teachers found no significant differences in the results of the pre and post surveys. The lack of significant differences would indicate that students did draw any negative conclusions about cooperative learning or the program and activities used in their classroom.

First Assessment

There were 71 students who participated in the survey in the August, 1993 and 47 students who participated in December, 1993. All of the students who participated in the project had worked in a group at some point in their educational career.

When students were asked how well they felt they worked in a group, a larger number said they worked "very well" in a group on the pre-survey than on the post-survey. As can be seen in the figure 1. In the post-survey there was a 61% increase of students who said did "well" when working in a group. The participating teachers feel that more students ranked themselves in a slightly lower category on the post survey as a result of the program conducted in their classes. It is felt that the have a more realistic view of how they work with others.



vertical axis = % of students
horizontal axis = level of response

Figure 1
How Well Students Feel About Group Work

Based on our student survey, most students did not change their opinion about how much cooperation they felt would be used in the workplace. There were some students

who felt cooperation was not needed in the workplace on the pre-survey. However, on the post-survey there were no students who felt that cooperation was not needed in the workplace as presented in figure 2. It is assumed that due to the project design, that students became aware of how important cooperation is to the workplace.

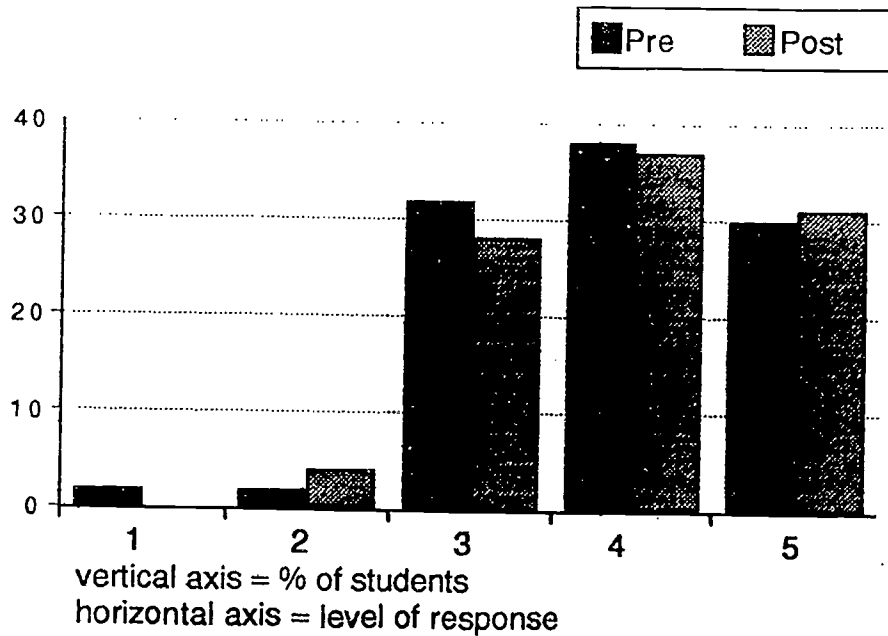
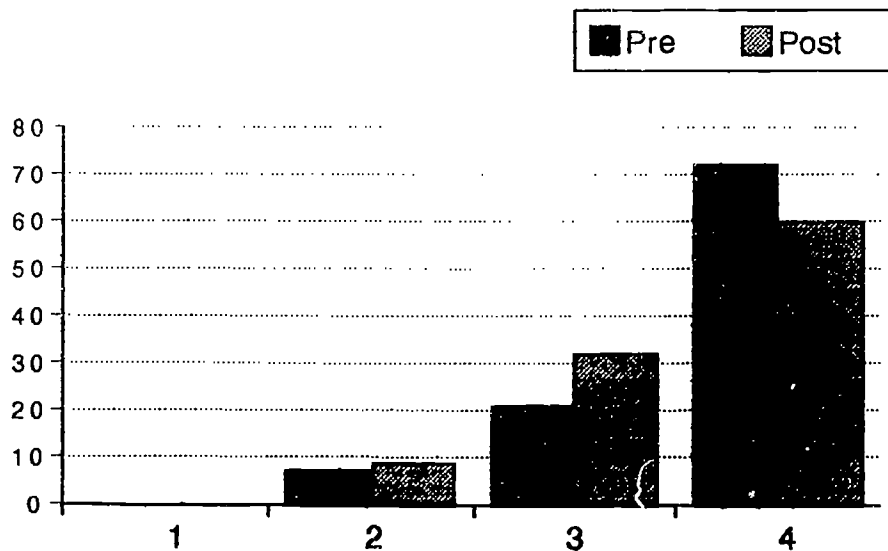


Figure 2
Cooperation in the Workplace

Student's opinion did change somewhat when asked how important cooperation was to their success in the workplace. As presented in figure 3, on the pre-survey 72% of the students answered that cooperation was very important to success in the work place and 21% said it was almost always important. However as shown in the chart below, in the post-survey, there were fewer students who thought it to be very important and more students who thought it to be almost always important. It can only be speculated that students changed their minds during the program because other factors besides cooperation were mentioned as being important to success in the work place.



vertical axis = % of students
horizontal axis = level of response

Figure 3

Cooperation and Success in the Workplace

Students were asked to rank themselves in a variety of areas that affect group work. Overall, the results of the pre and post surveys (figure 4) was that students felt they had improved in the following areas when working in a group: courtesy, cooperation, productivity, flexibility, problem solving, friendliness, tolerance, contribution, conflict resolution, enjoyment of group work, and working with people different from themselves. There were some students who did not answer some of the questions in the pre-survey (appendix F). It is felt by the participating teachers that perhaps some students did not understand the terminology/vocabulary used in the question. On the post-survey, the only question that a small number of students did not answer was related to conflict resolution. Again, the participating teachers feel that perhaps some students did not understand what "conflict resolution" meant. It is assumed that the decrease in the number of students who did not answer questions meant that during the course of the semester and the program, that students became familiar with the survey terminology and their meanings, as these were addressed in the program.

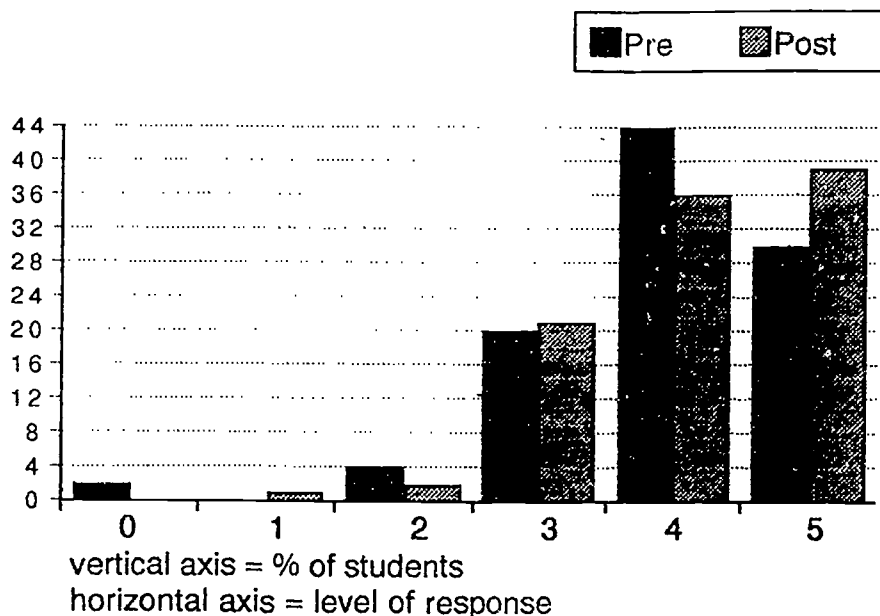


Figure 4
Student Self-ranking

Students were then asked in relation to working in a group, how important did they feel the following factors were to the whole group: courtesy, cooperation, productivity, flexibility, problem solving, friendliness, tolerance, conflict resolution, contribution, working with people different from themselves and enjoyment of group work. All areas showed an increased percentage of positive answers in the post-survey (figure 5). There were more students who completed this question on the post-survey than on the pre-survey. However there is still a significant percentage of students who did not answer parts of the question. As mentioned in Chapter Two, there was a mistake made by clerical aides which accounts for the large number of students who did not answer this question on the pre-survey. The participating teachers question why so many students did not answer the question in the post-test.

The teachers pointed out to the students that even though several of the questions on the post-survey looked the same, if the students read them they would see the difference in the questions. Despite this verbal instruction, an average of 10% of the students did not answer parts of this question. What is puzzling to the teachers is that students answer the other questions using the same terminology so they are assuming that on the post-survey the reason for not answering was not the vocabulary used in the question.

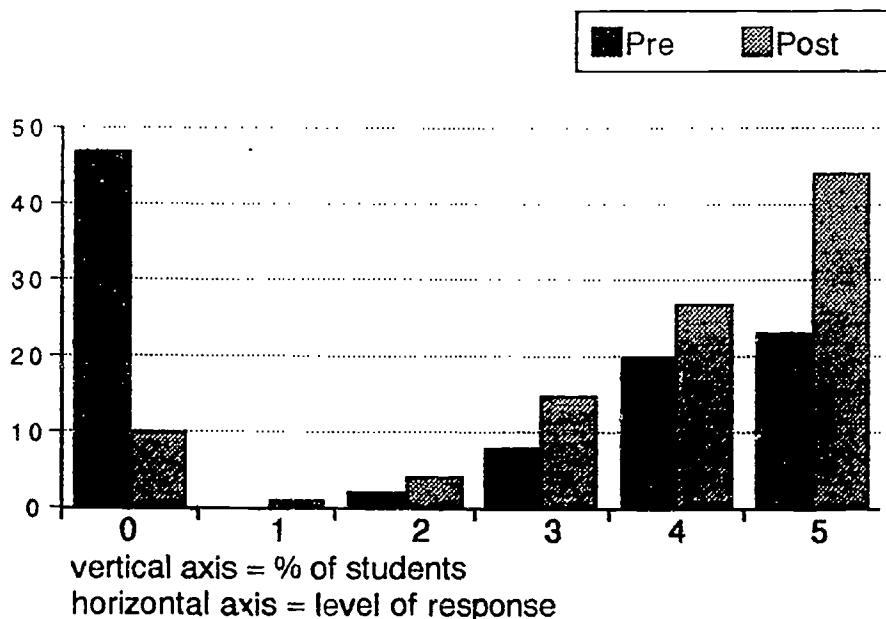


Figure 5
Group Characteristics

Students were again asked to list advantages of working in a group. The top two answers that got the majority of response in the post-survey were the same ones

that got the majority of the answers in the pre-survey. There were students who did not answer this question. The following is a list of answers from those students that did answer:

Table 13

Student Responses to Advantages of Working in a Group on the Post-survey

Kind of Response	Number of Responses
more can be achieved in a short time/work goes faster	22
that they get more ideas	19
meet new people	5
work can be divided	4
get more help	4
learn to work with others	3
cleaning goes faster	2
working with others is fun	1
helpful	1
learning about each other	1
a lot easier	1
more economical	1
more encouragement	1
teamwork	1
stay on task	1

Students were then asked again to list the disadvantages of working in a group. The top answers on the pre and post-survey were similar in that they dealt with group members not doing what they should and arguing. The following is a list of the student answers from the post survey:

Table 14

Student Responses to Disadvantages of Working in a Group on the Post-survey

Kind of Response	Number of Responses
sometimes group members do not cooperate	13
lazy partners	10
can not get along	10
people goofing off	2
attendance	2
tolerance	1
people do not know what to do	1
attitude	1
working with someone you do not like	1
not getting stuff done	1
takes longer	1

On the pre and post-survey most students who responded to the question of resolving conflict in a group said talking was the best way. The following list is a break down of what students answered:

Table 15

Student Responses to How to Resolve Conflict Within a Group on the Post-survey

Kind of Student Response	Number of Responses
talking about the situation	19
listen to opinions	4
compromise	4
everyone should get together and resolve it together	2
as calmly as possible	2
just get up and do it	1
let me be the leader and I'll solve it	1
switch groups	1
vote	1

Students were again asked on the post-survey to list the advantages and disadvantages of solving conflict in a

group. It is the opinion of the participating teachers that students did not read this question carefully. They feel that the answers are more of a nature of advantages and disadvantages of working in a group rather than solving conflict with in a group. The following is a list of their answers:

Table 16

Student Response to the Advantages of Solving Conflict on the Post-survey

Kind of Response	Number of Responses
work out problems	5
get work done	4
more ideas	4
everyone has different points of view	1
things get better	1
like people you work with	1
working together	1
more people	1

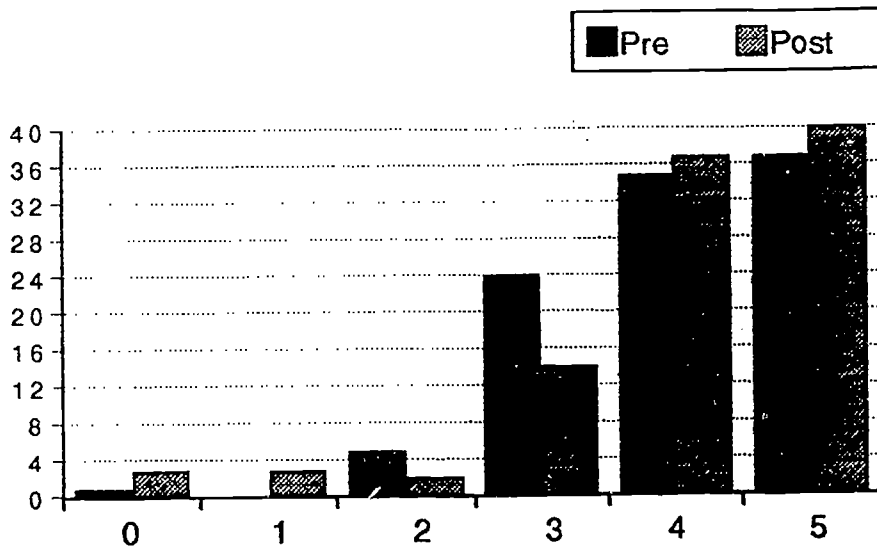
Table 17

Student Response to the Disadvantages of Solving Conflict on the Post-survey

Kind of Response	Number of Responses
somebody may not agree	11
not able to use everyones ideas	3
everyone has different opinions	1
not getting work done	1
people argue	1
not resolving problems	1
attitude	1
feelings hurt	1
brainstorm	1
takes up time	1

Second Assessment

The pre and post employer surveys were then compared to see if they noticed any change in their student employees in relation to working in a group. There was slight differences in the pre and post survey results (figure 6). There were fewer employers who chose not to answer various question. The most significant change was in the "sometimes" choice on the survey. Figure 6 shows that 24% of the employers on the pre-survey said that their students sometimes participated in group work and only 14% said their student employees participated in group work on the post-survey. It should be noted that there were fewer employers surveyed in the post survey than in the pre-survey. There were 33 employers surveyed with the pre-survey and 29 with the post-survey. Not all of the employers surveyed in the post-survey were the same employers that participated in the pre-survey. During the course of the semester some of the students participating in the H.E.R.O. program changed jobs for a variety of reasons. It is assumed by the participating teachers that these factors contributed for the differences in the survey results.



vertical axis = % of students
horizontal axis = level of response

Figure 6
Employer Surveys

Reflections and Conclusions

The participating teachers feel that overall the project was a positive experience. As mentioned earlier they would double the amount of time allotted on the program. Most of the students who participated in the project gained a better understanding of the dynamics of groupwork and team building. Some transfer of teamwork skills was seen by the participating teachers among groups of students. Teachers noted students taking it upon themselves to divide group work between the members then sharing the answers among themselves.

The participating teachers feel that it is too early to really see any results. The participating teachers will continue to communicate with H.E.R.O. employers and upper level foods teachers to determine if the program has had any effect on how students perform in workplace situations.

Chapter 6

DECISIONS ON THE FUTURE

The Solution Strategy

The data indicates that the cooperative learning emphasis should be continued. However, modifications need to be made in the program. Rather than a one semester program schedule, a two semester program is recommended by the implementing teachers. It is felt by the teachers that

- a. they had trouble completing required course curriculum because of the amount of time they decided to spend on cooperative learning during the first semester;
- b. they had difficulty upholding the timeline (at least 50 minutes per week) they had set-up in the fall for cooperative learning; and activities due to unexpected school events, class work.
- c. they still needed to continue working on cooperative learning (team work) skills during the second semester.

The participating teachers will use this program again. However, as mentioned earlier, they will extend the schedule of time allotted for activities. Instead of spending 50 minutes per week on cooperative learning activities for one semester, they will spend 50 minutes every two to three weeks for two semesters. Some of the students who participated in this program did not take it seriously. Often during planned activities they did not or would not stay on task or they did not or could not

understand the reason for the activity. During the fourth quarter of the school year, teachers were still having to work with students on cooperative learning skills, especially conflict resolution.

The participating teachers feel that some of the student's problems with the program were caused by the movement of students in and out of a class. Students, for a variety of reasons, enrolled in and dropped out of the participating classes. (This movement by students is common in these classes.) As a result students may have missed a foundation activity, or participated in the foundation activity but left the class, and therefore could not benefit the class by using their learned skill or knowledge in class activities.

The teachers feel that they also need to become more skilled in implementing a cooperative learning classroom. Both participating teachers are relative novices at using cooperative learning in their classrooms. They feel that they were learning as much, if not more, than the students. To teach cooperative learning takes just as much learning and practice for teachers as it does for students to learn in the cooperative classroom. The teachers feel they need more staff development/education in conflict resolution in the classroom. Many of the problems that the teachers witnessed were due to conflict in the classroom.

Despite the problems, teachers did see some positive application and results. Students were seen to divide work on their own to complete an assignment more quickly and easily. Students, who did not like each other and ended up in the same group, did work together without fighting. Because of the focus on cooperative learning, there were some students who did come to realize the importance of team work.

Additional Applications

The participating teachers will continue to try new activities that might be of more interest to student. Beginning this program in some of the beginning level Home Economics classes would be a step the participating teachers feel would enhance the results they will observe in their classes.

Dissemination of Data and Recommendations

The participating teachers have been asked by Barbara Bonner, Vocational Director in School District U-46 to present a staff development activity about cooperative learning methods. A specific date has not yet been arranged.

The participating teachers would be interested in meeting with local businesspersons to discuss the program developed for school and the teamwork training programs facilitated in local industries.

The information will be on display at an exhibition in May, 1994. The exhibition will contain all of the action research projects completed during the Fall, 1993 for the Saint Xavier Fieldbased Masters Program.

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APPENDICES

Appendix A

STUDENT SURVEY QUESTIONS

Please answer the following questions to the best of your ability.

1. Have you ever worked together in a group?

_____ yes _____ no

2. How well do you feel you work in a group?

1 2 3 4
poor average well very well

3. How often do you feel you will work in a group requiring cooperation in the workplace?

1 2 3 4 5
never almost occasionally almost always
 never always

4. How important do you feel cooperation is to success in the workplace?

1 2 3 4
not at all somewhat almost always very
important important important important

5. Is attendance important to working in a cooperative group?

1 2 3
never sometimes always

6. In relation to working in a group, rank yourself in the following areas:

	never	occasionally	sometimes	almost always	always
a. courtesy	1	2	3	4	5
b. cooperation	1	2	3	4	5
c. productivity	1	2	3	4	5
d. flexibility	1	2	3	4	5
e. problem solving	1	2	3	4	5
f. friendliness	1	2	3	4	5
g. tolerance	1	2	3	4	5
h. contribution	1	2	3	4	5
i. conflict resolution	1	2	3	4	5
j. enjoyment of group work	1	2	3	4	5
k. working with people different from self	1	2	3	4	5

7. In relation to working in a group, how important do you feel the following is to the whole group?

	never	occasionally	sometimes	almost always	always
a. courtesy	1	2	3	4	5
b. cooperation	1	2	3	4	5
c. productivity	1	2	3	4	5
d. flexibility	1	2	3	4	5
e. problem solving	1	2	3	4	5
f. friendliness	1	2	3	4	5
g. tolerance	1	2	3	4	5
h. conflict resolution	1	2	3	4	5
i. contribution	1	2	3	4	5
j. working with people different from self	1	2	3	4	5
k. enjoyment of group work	1	2	3	4	5

The following questions ask for your OPINION. There are no right or wrong answers.

8. List advantages of working in a group.

9. List disadvantages of working in a group.

10. How do you think conflict should be resolved in a group situation?

11. List advantages and disadvantages of solving conflict in a group.

Appendix B

INDIVIDUAL STUDENT INTERVIEW

1. What is cooperative learning?
2. Is working in a group important? Why or why not?
3. What do you need to do to improve your group working skills?
4. Do you prefer to work with a group an assignment or on your own?
5. What do you think you will learn from working with a group? Anything else?
6. How do you like groups to be formed?
7. Do you think you will face conflicts working in a group? If yes, how will you resolve the conflicts?
8. Do you feel cooperative learning experiences will better prepare you for a job? If yes, how?

Appendix C

Student Name _____

Place of Employment _____

Evaluator's Name _____

HERO EMPLOYER SURVEY

This year a special effort is being made with HERO students to help them increase their social and conflict resolution skills. In order to evaluate the effectiveness of this part of our program, we need you to complete the following survey.

In relation to working in a group, rank your STUDENT-TRAINEE in the following areas:

	never	occasionally	sometimes	almost always	always
a. courtesy	1	2	3	4	5
b. cooperation	1	2	3	4	5
c. productivity	1	2	3	4	5
d. flexibility	1	2	3	4	5
e. problem solving	1	2	3	4	5
f. friendliness	1	2	3	4	5
g. tolerance	1	2	3	4	5
h. contribution	1	2	3	4	5
i. conflict resolution	1	2	3	4	5
j. enjoyment of group work	1	2	3	4	5
k. working with people different from self	1	2	3	4	5

Appendix D

HUMAN KNOT

OBJECTIVE: Students will analyze various group roles assumed during this problem solving activity.

PREPARATION: None.

PROCEDURE:

1. Divide students into groups of 10-14.
2. Have members of each group hold hands and form a circle.
3. Drop hands and each member places his right hand in the right hand of another member.
4. Now, have each member place his left hand in the hand of a different member.
5. Direct students to untangle their knot without dropping hands.
6. Teacher should observe various roles students assume, i.e. authority, leader, follower.

WRAP-UP DISCUSSION:

Ask members of each group what types of roles they saw during the activity. Discuss characteristics of each role. Discuss how each was important to the functioning of the groups.

M & M CONCENSUS ACTIVITY

OBJECTIVE: Students will acknowledge skills needed in order to work in a group.

PREPARATION: Count a large number of M & M's into a clear jar. If this activity will be done with more than one class, it is recommended that the number of M & M's be changed from class to class.

- PROCEDURE:**
1. Ask each student to guess how many M & M's are in the jar and write the number on a piece of paper.
 2. Ask students to get into groups of two. In these groups, students must reach a consensus about the number of M & M's.
 3. Now ask student pairs to join another pair. In these groups of four, students must reach a consensus about the number of M & M's.
 4. Ask student groups of four to join another group of four. In these groups of eight, students must reach consensus about the number of M & M's.
 5. Now, ask groups of eight to join another group of eight or bring the whole class together. In this group students must reach a consensus about the number of M & M's.

WRAP-UP DISCUSSION:

Reveal the number of M & M's. Poll students about the accuracy of their guess as a single person and as various size groups. Discuss positive and negative aspects of working in a group. Ask students if various people assumed different roles within the group. Discuss the importance of cooperation, communication, being open minded, etc.

THE WISE MEN AND THE ELEPHANT

Conflict is as old as time itself. People have always tried to make sense of their world and understand each other. At times, this is difficult because not all people see a problem in the same way. As you read this old Indian tale see if you can discover the cause of the wise men's misunderstanding.

Once upon a time, there were six wise men who lived together in a small town. The six wise men were blind. One day, an elephant was brought to the town. The six men wanted to see the elephant, but how could they? "I know," said the first man. "We will feel him!" "Good idea," said the others. "Then we'll know what an elephant is like." So the six men went to see the elephant.

The first one touched the elephant's big, flat ear. He felt it move slowly back and forth. "The elephant is like a fan," the first man cried.

The second man felt the elephant's legs. "He's like a tree," he cried.

You're both wrong," said the third man. "The elephant is like a rope."

This man was feeling the elephant's tail.

Just then the fourth man pricked his hand on the elephant's sharp tusk. "The elephant is like a spear," he cried.

"No, no," cried the fifth man. "He's like a high wall."

As he spoke he felt the elephant's side.

The sixth man was holding the elephant's trunk. "You are all wrong," he said. "The elephant is like a snake."

"No, no, like a rope."

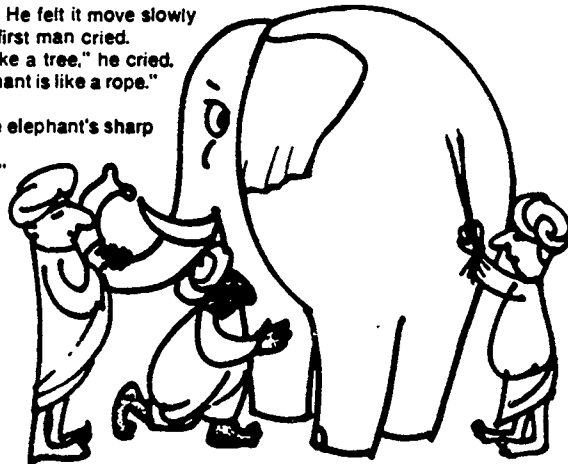
"Snake!"

"Wall!"

"You're wrong!"

"I'm right!"

The six blind men shouted at each other for an hour. And they never found out what an elephant was like.

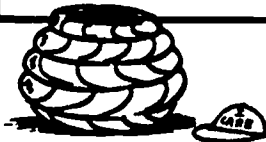


You probably laughed as you read this story. What was the problem? You're right! Each man could "see" in his mind only what his hands could feel. As a result each man was sure that he had the truth and knew what an elephant looked like. No one wanted to *listen* to what the others had to say. Were the Wise Men really wise?

These men had a *conflict* based on differences in *perception* (what they thought they "saw"). Fortunately, their conflict did not end in violence. But, unfortunately, they still did not know what an elephant looked like.

YOUR CHALLENGE!

How could the wise men have discovered what an elephant really looks like? Rewrite the ending.



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2

TANGRAM TASK

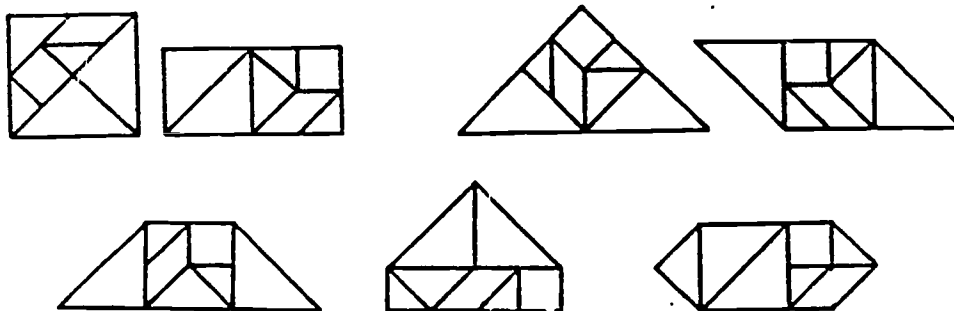
PURPOSE: To improve your communication skills at giving written instructions.

TASK: As a team, write one set of instructions on how to assemble the puzzle pieces into the seven following different shapes diagram within one hour using only the written instructions.

OBJECTIVE: One set of complete, clear and concise instructions that another team will use to successfully assemble the seven puzzle pieces into the seven following different shapes diagram within one hour using only the written instructions.

INSTRUCTIONS:

- The puzzle pieces are in the envelope.
- Everything must be in writing; Nothing can be drawn or sketched.
- **No** not write or mark the puzzle pieces in any way.
- When you've finished, replace the puzzle pieces in the envelope and give your instructions and the envelope to the workshop facilitator.
- You will be able to observe, but not talk to or otherwise communicate with, the other team as they attempt their task. You are a textbook.
- Do NOT let the other team see these instructions.
- You have thirty (30) minutes to write your instructions, starting now.
- Good luck!



SITUATION

You have just crash-landed in the woods of northern Minnesota. It is about Noon in mid-January. The light plane in which you were traveling crashed on a lake. The pilot and co-pilot were killed. Shortly after the crash, the plane sank into the lake with the crew's bodies inside. None of you are seriously injured, and you are all dry.

The plane crashed before the crew had time to radio for help or inform anyone of your position. Since your pilot was trying to avoid a storm, you know the plane was considerably off course. The pilot announced shortly before the crash that you were about 20 miles northwest of a small town.

You are in a wilderness area of thick woods with many lakes and streams. The snow depth varies from ankle-deep to waist-deep. The last weather report indicated that the temperature would range from -20 degrees Fahrenheit in the daytime and -40 at night. There is plenty of dead wood and twigs in the immediate area. You are dressed in winter clothing appropriate for city wear - suits, pantsuits, street shoes, and overcoats.

While escaping from the plane, members of your group salvaged 12 items. Your task is to rank order these items according to their importance to your survival, starting with 1 as the most important and 12 as the least important.

You may assume that the number of passengers is the same as the number of persons in your group, and that the group has agreed to stick together.

	<u>Mine:</u>	<u>Army:</u>	<u>Difference:</u>
ball of steel wool	_____	_____	+ _____
newspapers (1 per person)	_____	_____	+ _____
compass	_____	_____	+ _____
hand ax	_____	_____	+ _____
cigarette lighter (without fluid)	_____	_____	+ _____
loaded .45 caliber pistol	_____	_____	+ _____
sectional air map made of plastic	_____	_____	+ _____
20' x 20' piece of heavy duty canvas	_____	_____	+ _____
extra shirt and pants for each survivor	_____	_____	+ _____
can of shortening	_____	_____	+ _____
quart of 100-proof whiskey	_____	_____	+ _____
family-size chocolate bar (one per person)	_____	_____	+ _____
		TOTAL:	_____

Average	Most Accurate	Team	Dif from	Diff. from
Indiv.	Individual	Consensus	Average	Most Accu.
Score:	Score:	Score:	Individ:	Individual:
				<u>Synergy?</u>

(Synergy is defined as the Team Consensus Score being lower than the Average Individual Score.)

WHAT HAVE YOU LEARNED?

- * What have you learned about working on a team?

- * How is a team different from a committee or group?

- * Did your team discover its information resources? If so, how did the team use them?

- * Who were the influential members? How and why were they influential?

- * What have you learning about decision making in teams?

- * What patterns of decision making occurred?

- * What are the implications of consensus-seeking and synergistic outcomes for intact task groups such as work teams, teaching staffs, management staffs, committees, church groups, etc.?

This is an exercise in team decision making. Use the consensus method in reaching your decisions. This means that the ranking of each of the 12 survival items must be agreed upon by each team member before it becomes a part of the team decision. Consensus can be difficult to reach. Therefore, not every ranking will meet with everyone's complete approval. As a team, try to make each ranking one with which all members can at least partially agree. Here are some guidelines to use in reaching consensus.

- * Present your positions as clearly and logically as possible. Listen to other members' reactions and consider them carefully before you press your point.
- * Avoid changing your mind just to reach agreement and avoid conflict. Yield only to positions that have objective and logically sound foundations.
- * Avoid conflict-reducing procedures such as majority voting, tossing a coin, averaging, and bargaining.
- * Seek out differences of opinion. They are natural and expected. Disagreements improve the team's decision because a wide range of information and opinions improves the chances of the team to hit upon more adequate solutions.
- * Don't assume that someone must win and someone must lose when the team reaches a stalemate. Instead look for the next most acceptable alternative for all members.
- * Discuss underlying assumptions, listen carefully to one another, and encourage the participation of all members.

	<u>Team:</u>	<u>Army:</u>	<u>Difference:</u>
ball of steel wool	_____	_____	+ _____
newspapers (1 per person)	_____	_____	+ _____
compass	_____	_____	+ _____
hand ax	_____	_____	+ _____
cigarette lighter (without fluid)	_____	_____	+ _____
loaded .45 caliber pistol	_____	_____	+ _____
sectional air map made of plastic	_____	_____	+ _____
20' x 20' piece of heavy duty canvas	_____	_____	+ _____
extra shirt and pants for each survivor	_____	_____	+ _____
can of shortening	_____	_____	+ _____
quart of 100-proof whiskey	_____	_____	+ _____
family-size chocolate bar (one per person)	_____	_____	+ _____
		TOTAL:	_____

WINTER SURVIVAL ANSWERS AND RATIONALE

According to Army experts who teach winter survival, the first problem you face is protection from losing body heat. This problem can be met by building a fire, minimizing movement and exertion, using as much insulation as possible, and constructing a shelter. Once kept warm, your next problem is to attract the attention of search parties. All the items you have salvaged must be assessed for their value in signaling.

1. Cigarette lighter (without fluid). Your gravest danger is exposure to the cold. The greatest need is for the source of warmth and the second greatest need is for signaling devices. Building a fire is the first order of business. Without matches something is needed to produce sparks to start a fire. Even without fluid, the cigarette lighter can be used to produce sparks. The fire will provide warmth and also smoke for daytime signaling and firelight for nighttime signaling.

2. Ball of steel wool. To make a fire, you need a means of catching the sparks made by the cigarette lighter. Steel wool is the best substance with which to catch a spark and support a flame, even if it is a little wet.

3. Extra shirt and pants for each survivor. Clothes are probably the most versatile items one can have in this situation. Beside adding warmth to the body, they can be used for shelter, signaling, bedding, bandages, string when unraveled, and tinder to make fires. Even maps can be drawn on them.

4. Can of shortening. This item has many uses. The most important being that a mirror-like signaling device can be made from the lid. After shining the lid with steel wool, use it to produce an effective reflector of sunlight. A mirror is the most powerful tool you can have for communicating your presence. In sunlight, a simple mirror can generate 5 to 7 million candlepower. The reflected sunbeam can be seen beyond the horizon. Its effectiveness is somewhat limited by the trees, but one member of the group could climb a tree and use the mirror to signal search planes. If you had no other means of signaling than this, you would still have a better than 80% chance of being rescued within the first 24 hours.

Other uses for the item include: Rubbing the shortening on exposed areas of the body such as the face, lips, and hand for protection from the cold. In desperation it could be eaten in small amounts. When melted into an oil, the shortening is helpful in starting fires. When soaked in a piece of cloth, melted shortening becomes an effective candlewick. The can is useful in melting snow to produce drinking water. Even in winter, water is important as the body loses water in many ways such as through perspiration, respiration and shock. This water must be replenished because dehydration affects one's ability to make clear decisions. The can is also useful as a cup.

5. 20' x 20' piece of heavy-duty canvas. The canvas can be part of a shelter, holding heat and protecting you from the weather. Its squareness contrasting with the surrounding terrain might also be spotted in an air search.

6. Hand ax. You need a continuous supply of wood to maintain a fire. The ax is useful in obtaining wood, and also for clearing a sheltered campsite, cutting boughs for ground insulation, and constructing a frame for the shelter.

7. Family-size chocolate bars. Chocolate will supply energy to gather wood and set up the shelter. It contains mostly carbohydrates and will supply energy without making digestive demands on the body.

8. Newspapers (one per person). Newspaper can be used for starting a fire. When wrapped around your arms and legs under their clothes, it provides dead-air space thus serving as an insulator. They can be used for recreation by reading, memorizing, and games. Rolled into a cone, they become a megaphone for signaling. They can also be spread around an area to help signal a rescue party.

9. Loaded .45-caliber pistol. The pistol provides a sound-signaling device. (The international distress signal is 3 shots fired in rapid succession.) There have been numerous cases of people going undetected because they were too weak to make a loud enough noise to attract attention. The butt of the pistol can be used as a hammer. The powder from the shells will assist in fire building. By placing a small bit of cloth in a cartridge emptied of its bullet, a fire can be started by firing the gun at dry wood on the ground. At night the muzzle blast of the gun is visible providing another means of signaling.

Although the pistol could be used for hunting, it would take a highly skilled marksman to kill an animal with it. Even then, the animal would have to be transported through the snow to the camp site, which would probably consume too much energy.

The pistol has dangerous disadvantages. Anger, frustration, impatience, irritability, and lapses of rationality may increase as you wait to be rescued. The availability of a lethal weapon is a substantial danger under these conditions.

10. Quart of 100-proof whiskey. The only uses for the whiskey are as an aid in fire building and as a fuel. A torch could be made from a piece of clothing soaked in the whiskey. Alcohol take on the temperature it is exposed to, and a drink of it at -30 degrees would freeze a person's esophagus and stomach and do considerable damage to the mouth. Drinking it warm would cause dehydration. Alcohol mixes badly with cold because it dilates the blood vessels in the skin. This results in chilled blood being carried back to the heart contributes to a rapid loss of body heat. An intoxicated person is much more likely to get hypothermia. The bottle may be used to store heated water.

11. Compass. This is a dangerous item because it may encourage some to try to walk to the town. The glass top could serve as a reflector of sunlight to signal search planes.

12. Sectional air map made of plastic. The item is dangerous because it may encourage people to attempt to walk to the nearest town, resulting in certain death by freezing.

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Tug O' War _____

Concept: People in a conflict need to work together to solve a common problem.

Vocabulary: opponent

Teaching Suggestions:

1. Have a tug of war. **Discuss:** What determined which side won? (physical strength)
2. Discuss the worksheet:
 - a. Would you like to have all your conflicts resolved like a tug of war? (The strongest always wins.) Would it be fair? **Explain.**
 - b. Tie two students up in knots with the same rope. **Ask:** Are both of you responsible for finding a solution? **Why?**
 - c. Compare the "Tug O' War" with "Tied up in Knots." How are they alike? Different? (One has an opponent, the other shared the conflict.)

Closure: When conflict is dealt with like a Tug O' War, the opposing forces waste energy and create a win/lose situation. What does the winner "win?" Will the loser accept this position? What happens when someone loses face? Is the problem resolved?

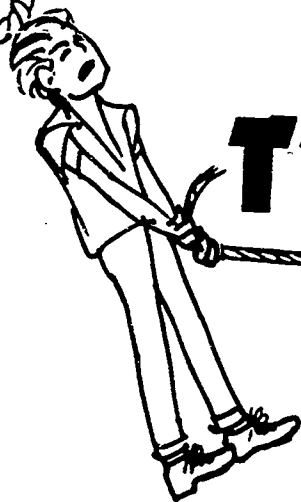
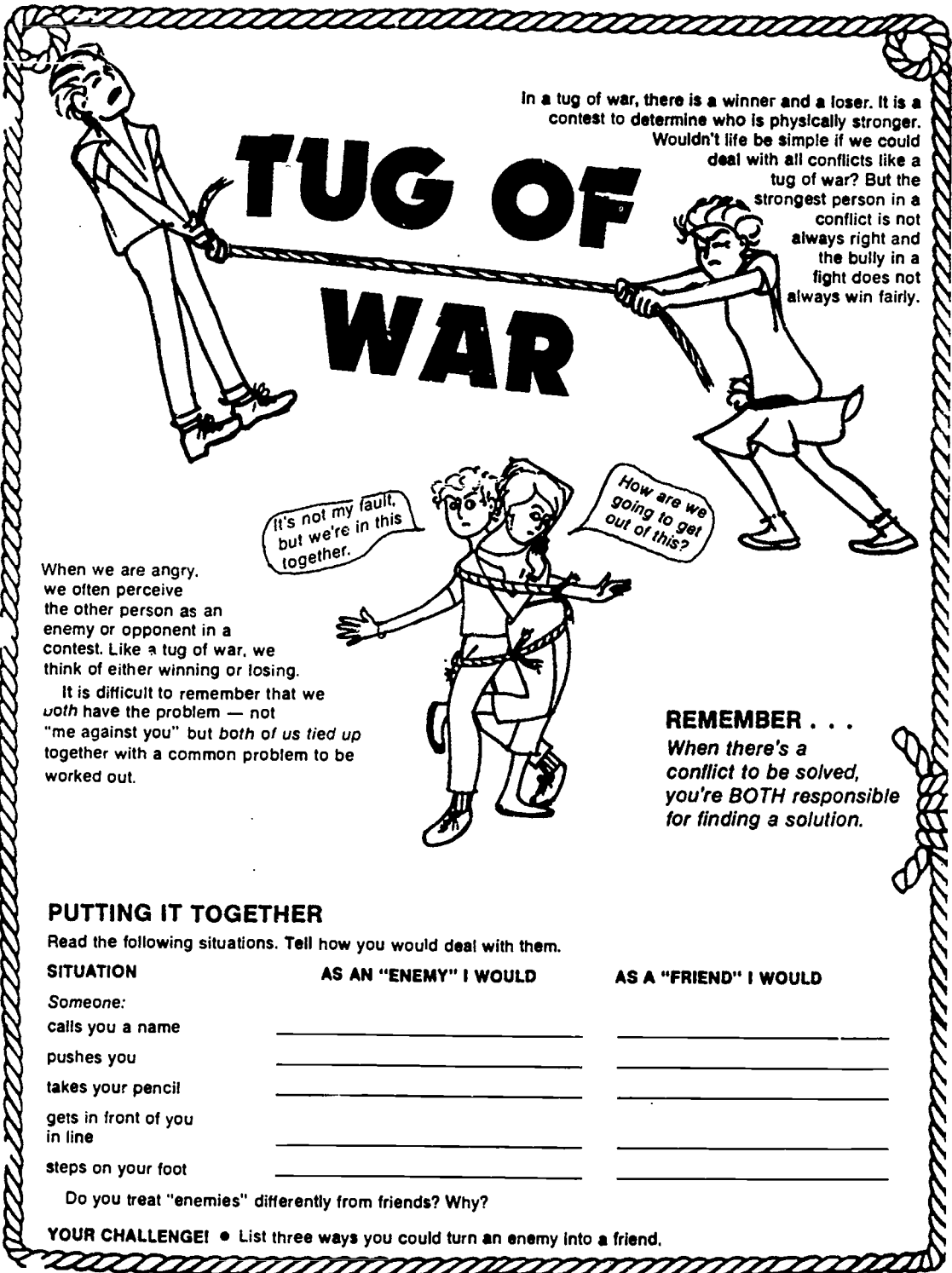
It is important that students begin to perceive conflict as a common problem to be resolved by pooling energy and working together as partners. This is a win/win situation.

3. Tell what the words "enemy" and "friend" mean to you.
4. Complete Putting It Together and share.

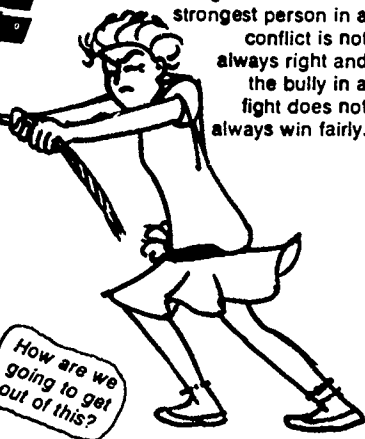
Extending Activities:

1. Brainstorm ways that governments might change "enemy" nations into "friends." (Students may not know that at one time the United States was at war with England, Germany, Japan, and Italy. Now they are our friends. During World War II the Soviet Union was our ally, but now there is conflict between the two countries.)

(Schmidt & Friedman, 1985)



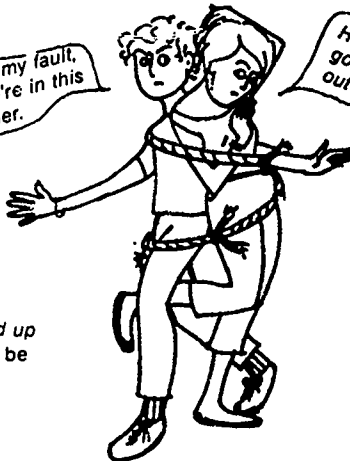
TUG OF WAR



In a tug of war, there is a winner and a loser. It is a contest to determine who is physically stronger. Wouldn't life be simple if we could deal with all conflicts like a tug of war? But the strongest person in a conflict is not always right and the bully in a fight does not always win fairly.

It's not my fault, but we're in this together.

How are we going to get out of this?



When we are angry, we often perceive the other person as an enemy or opponent in a contest. Like a tug of war, we think of either winning or losing.

It is difficult to remember that we *both* have the problem — not "me against you" but *both of us tied up* together with a common problem to be worked out.

REMEMBER . . .
When there's a conflict to be solved, you're **BOTH** responsible for finding a solution.

PUTTING IT TOGETHER

Read the following situations. Tell how you would deal with them.

SITUATION	AS AN "ENEMY" I WOULD	AS A "FRIEND" I WOULD
Someone: calls you a name	_____	_____
pushes you	_____	_____
takes your pencil	_____	_____
gets in front of you in line	_____	_____
steps on your foot	_____	_____

Do you treat "enemies" differently from friends? Why?

YOUR CHALLENGE! • List three ways you could turn an enemy into a friend.

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Fighting Fair _____

Concept: Conflicts can be handled fairly and constructively by learning some rules. The goal of fighting fair is to make everyone a winner.

Vocabulary: open mind, threatened

Teaching Suggestions:

1. Give class a game to play without rules. Discuss: Why do we need rules?
2. Read and discuss worksheet:
 - a. Why do people need rules to fight? Are there any rules that you would like to add? Take out?
 - b. "What Do You Win?" Do you agree with the listing? If not, why? What would you add?
 - c. When a conflict is handled unfairly, what happens? What do you lose? (List responses on board.)
3. In small groups, complete **Putting It Together**. Share, act out, discuss.

Extending Activities:

1. Create a **Rules for Fighting Fair** bulletin board.
2. Report the effectiveness of using rules for fighting fair with brothers, sisters, classmates, etc.
3. Andrew, a 7th grade student, asks, "Why should I have to fight fair when other kids don't?" How would you answer Andrew?

(Schmidt & Friedman, 1985)

FIGHTING FAIR

RULES FOR FIGHTING FAIR

1. Identify the problem.
2. Focus on the problem.
3. Attack the *problem*, not the person.
4. Listen with an *open mind*.
5. Treat the other person's feelings with respect.
6. Take responsibility for your actions.

In a tug of war or a boxing match it's *you against me* with rules for fighting fair. However, a real conflict situation should not be like a tug of war, but *you and me together* against a common problem.

It's difficult to fight fair when we are fighting mad. We feel threatened and often our angry emotions block our good judgments. Fortunately, there are rules we can learn to fight fair in a real conflict situation. By learning these rules we can become capable conflict solvers and be more caring people.

Remember, the goal of fighting fair is to make everyone a winner!

WHAT DO YOU WIN?

There is better understanding.
Feelings are brought into the open.
People respect each other.

There is a feeling of trust.
Everyone feels good about the solution.
No one is hurt, physically or emotionally.

PUTTING IT TOGETHER:

Solve the following conflicts, first unfairly and then fairly.

SITUATION	UNFAIRLY	FAIRLY
Two kids want the same book.		
Someone calls your friend a bad name.		
You want to go to the movies; your mom wants you to do chores.		

YOUR CHALLENGE!

Reread the above situations. Tell what both people "won" when the conflict was resolved fairly.

What is the other person's side of the story?

Ancient history doesn't count.

Blaming won't do any good

We both have the same feelings even if we disagree.

Name calling doesn't help.

What is making me angry?

You Call It! _____

Concept: Fouls make it difficult, but not impossible, to resolve conflicts fairly.

Teaching Suggestions:

1. Read and complete introduction. Share and discuss.
2. Visualization: Close your eyes and visualize a tiny referee on your shoulder who helps you fight fair and calls the fouls. (Wait 30 seconds.) Think about a conflict that you had recently. Ask your little referee to help you fight fair to resolve it. Draw a comic strip showing what happened. Share.
3. Putting It Together: Act out skits. Assign *Be a Referee*. Identify characters who used fouls or fought fair. How did the fouls affect the conflict? (It depended on whether or not the other person fought fair.) It is important for students to realize they have the power to change the direction of a conflict, from fouls to fair.
4. Discuss: What would the world be like if everyone acted unfairly?
5. Jane and Leroy did not respond to Lisa and William's fouls because they knew the rules for fighting fair. Now that you have learned the rules for fighting fair, try "fighting fair" with someone who uses fouls. Report the results to the class.

Extending Activities:

1. Games People Play:

- a. Write the following game titles on the chalkboard and ask students to tell how each "game" is played. Discuss how these "games" may cause conflict. Ask students to suggest ways of dealing with people who play these games.

The Blame Game- "It's not my fault." (never takes responsibility for behavior)

The Name Game- "You & % * \$ % c." (likes to give it out but often can't take it)

The Fame Game- "I'm Number One." (the big-shot)

The Claim Game- "It's mine." "I was here first." (things are more important than people)

The Shame Game- "You're so dumb." (ridiculing or humiliating others makes this person feel important)

- b. Discuss: Are we born knowing these games or do we learn them? Can these habits be changed? If so, how? (Have your little referee listen to see if you play any of these games and call foul when you do.)

Focus: these patterns are as difficult to break as biting nails, over-eating, smoking, etc., but people can change them if they really want to.

(Schmidt & Friedman, 1985)

YOU CALL IT

- GETTING EVEN •
- BRINGING UP THE PAST •
- PUSHING, HITTING, ETC. •
- NOT LISTENING •
- BLAMING •

FOUL

- BOSSING
- THREATS
- PUT-DOWNS
- NAME-CALLING
- MAKING EXCUSES FOR YOUR BEHAVIOR

Everyone likes to be treated with respect. Yet when we are frustrated and angry, we sometimes forget to fight fair. Study the FOULS. How do they make you feel? _____

Do you think that the other person feels the same way? _____

How do FOULS affect a conflict? _____

A referee makes sure that everyone follows the rules and is treated fairly. When you are having a conflict you are the referee. It is your responsibility to make sure that you follow the rules for fighting fair.

PUTTING IT TOGETHER

BE A REFEREE! Read the following scenes. Underline words and actions which show FIGHTING FAIR. Circle words and actions which show FOULS.

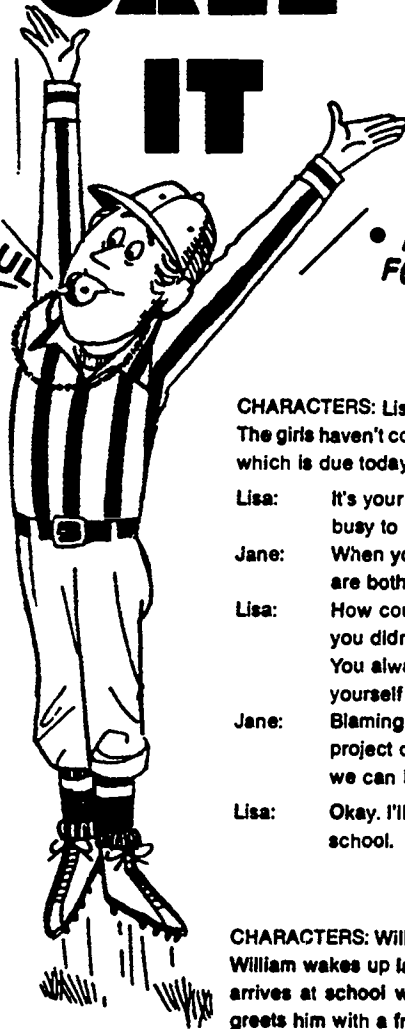
1

CHARACTERS: Jose and Alberto, teammates. Alberto and Jose are playing baseball. Alberto keeps missing the ball.

- Jose: What's the matter with you? Why can't you hit the ball?
- Alberto: Shut up, stupid. You're not so perfect yourself.
- Jose: (pushes Alberto) Who you calling stupid?
- Alberto: I'm telling. (rubs his arm)
- Jose: You tell and you're dead after school.

YOUR CHALLENGE!

- Re-write the first skit so that either Jose or Alberto uses the Rules for Fighting Fair. Share.



2

CHARACTERS: Lisa and Jane, classmates. The girls haven't completed their science project which is due today.

- Lisa: It's your fault. You were always too busy to do anything.
- Jane: When you blame me, I feel mad. We are both responsible for the project.
- Lisa: How could I do the project when you didn't give me the materials? You always want everything for yourself and you never share.
- Jane: Blaming isn't going to get our project done. Let's ask the teacher if we can bring it in tomorrow.
- Lisa: Okay. I'll come over right after school.

3

CHARACTERS: William and Leroy, good friends. William wakes up late. His mom yells at him. He arrives at school without his homework. Leroy greets him with a friendly slap on the shoulder.

- William: Keep your hands to yourself!
- Leroy: Hey, man. I'm sorry. I only wanted to say hello. What's wrong?

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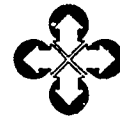
How Productive Were We?

1. Effective Use of Time:						
1	2	3	4	5	6	7
Much time spent without purpose		Got off track frequently		Did well, once we got our ideas clear		No wasted effort - stayed on target
2. Development of Ideas:						
1	2	3	4	5	6	7
Little done to generate ideas		Ideas were imposed on the group by a few		Friendly session but not creative		Ideas were encouraged and fully explored
3. Ability to Decide Issues:						
1	2	3	4	5	6	7
Poor resolution of difference		Let one person rule		Made compromises to get the job done		Genuine agreement and support
4. Overall Productivity:						
1	2	3	4	5	6	7
Did not accomplish our goal		Barely accomplished the job		Just did what we had to		Held a highly productive session

Adapted for: Lee, K., Oakes, J., Cohn, J., Webb, N. & Farivar, S. "Helping behaviors handbook." Los Angeles: Unpublished Manuscript, Graduate School of Education, University of California, Los Angeles, Ca. 1985

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Reflection Form: Secondary



1. What one word would you use to describe how the group was today?

2. What one word would describe the way you would like the group to be?

3. Is everyone participating?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
If not, why not? _____
4. Are you (everyone in group) trying to make each other feel good?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
5. Are you trying to help each other feel able to talk and say what you think?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
6. Are you listening to each other?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
7. Are you showing you are listening by nodding at each other?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
8. Are you saying "That's good" to each other when you like something?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
9. Are you asking each other questions?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
10. Are you listening and really trying to answer these questions?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
11. Are you paying attention to each other?
Yes, always ___ Usually ___ Occasionally ___ Rarely ___ No, never ___
12. Is any one person talking most of the time? Yes ___ No ___

Adapted from: Aronson E., Blaney, N., Stephan, C., Sikes, J. & Snapp, M. *The Jigsaw Classroom*. Beverly Hills, Ca: Sage. 1978.

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Mrs. Potter's Questions

- What were you expected to do?*

- In this assignment, what did you do well?*

- If you had to do this task over, what would you do differently?*

- What help do you need from me?*



(Bellanca & Fogarty, 266)

Appendix F

Pre and Post Survey Results Percent of Student Answers

1. Have you ever worked together in a group?

		YES		NO	
		PRE	POST	PRE	POST
		100	100	0	0

2. How well do you feel you work in a group?

		POOR 1		AVERAGE 2		WELL 3		VERY WELL 4	
		PRE	POST	PRE	POST	PRE	POST	PRE	POST
		0	0	23	4	35	75	41	29

3. How often do you feel you will work in a group requiring cooperation in the workplace?

		NEVER 1		ALMOST NEVER 2		OCCASIONALLY 3		ALMOST ALWAYS 4		ALWAYS 5	
		PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
		2	0	2	4	32	28	38	37	30	31

4. How important do you feel cooperation is to success in the workplace?

		NOT AT ALL IMPORTANT 1		SOMEWHAT IMPORTANT 2		ALMOST ALWAYS IMPORTANT 3		VERY IMPORTANT 4	
		PRE	POST	PRE	POST	PRE	POST	PRE	POST
		0	0	7	9	21	32	72	60

5. VOID

6. In relation to working in a group, rank yourself in the following areas:

	NO RESPONSE 0		NEVER 1		OCCASIONALLY 2		SOME- TIMES 3		ALMOST ALWAYS 4		ALWAYS 5	
A. Courtesy												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	0	0	0	0	3	8	13	17	54	34	31	40
B. Cooperation												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	0	0	0	0	1	0	10	17	54	34	35	57
C. Productivity												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	1	0	0	0	1	2	17	15	48	37	32	36
D. Flexibility												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	1	0	0	0	3	2	20	28	51	36	27	34
E. Problem Solving												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	1	0	0	0	4	2	35	28	41	38	18	32
F. Friendliness												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	1	0	0	0	2	2	11	13	34	36	52	49
G. Tolerance												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	3	0	1	4	7	4	35	21	32	40	21	28
H. Contribution												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	3	0	0	0	0	0	15	17	48	32	34	51
I. Conflict Resolution												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	3	2	0	0	13	2	18	28	46	45	20	23
J. Enjoyment of group work												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	3	0	3	2	6	2	18	23	41	38	30	34
K. Working with people different from self												
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	1	0	0	0	8	2	27	25	32	23	31	49

7. In relation to working in a group, how important do you feel the following is to the whole group?

NO RESPONSE		NEVER		OCCASIONALLY		SOME- TIMES		ALMOST ALWAYS		ALWAYS	
0		1		2		3		4		5	
A. Courtesy											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
48	9	0	2	3	0	6	13	20	36	24	40
B. Cooperation											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
46	9	0	0	0	4	6	11	17	28	30	49
C. Productivity											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
46	9	0	0	1	6	7	6	20	32	25	47
D. Flexibility											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
48	11	0	0	1	0	7	19	27	21	17	49
E. Problem Solving											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
48	11	0	0	0	4	10	21	20	23	23	40
F. Friendliness											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
46	9	0	0	1	2	8	15	14	32	30	43
G. Tolerance											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
51	11	0	0	6	6	10	11	21	21	13	49
H. Contribution											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
46	9	0	0	3	4	6	23	25	25	20	38
I. Conflict Resolution											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
48	11	0	2	1	4	3	13	15	28	32	43
J. Enjoyment of group work											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
45	9	0	0	6	4	15	17	17	25	17	45
K. Working with people different from self											
PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
44	9	0	2	3	4	10	17	20	28	24	38