

Running Head: BUSINESS MODEL IMPROVES COLLABORATIVE WORK

Improving Collaborative Skills with Hewlett-Packard's

*Mission: Project Management*

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28 February 2004

Abstract

A group of ninth grade students learned collaborative process skills with Hewlett-Packard's *Mission: Project Management*, which uses a business-based model to teach task listing, task scheduling, group roles and responsibilities, and time and project management. Pre and posttests, journal entries, peer and teacher assessments, self-assessments, and surveys support the author's findings that teaching the students the skills they need to succeed in collaborative teams results in increased cooperation, positive interdependence, and individual accountability. Student comments expressed enthusiasm about their increased understanding of both the way to work together successfully and the importance of learning these skills for school projects and future jobs.

Improving Collaborative Skills with Hewlett-Packard's *Mission: Project Management*.

The results of this research project are based on data obtained from forty-nine students in the author's English I classes at Paint Valley High School, a small, rural high school in southwest Ross County, Ohio, with 330 students in grades 9-12. The group of students included eight special-needs students. The researcher has taught English for seventeen years, the majority of which were Freshman English, and with students at all levels of learning abilities. The impetus for research on improving collaborative skills came from the teacher's observation of less than successful group projects with students, the students' dissatisfaction with group work, and the research that has proven that employers expect students to enter the workplace with effective teamwork skills and experience, which the students do not possess.

“In the workplace, the successful person must have oral and written communication skills, teamwork and collaboration skills as well as competence in technical skills . . . employees are often expected to work in teams and must have creativity, problem-solving and thinking skills” (School to Work Online Newsletter, 1999). Teachers and administrators at Skaneateles School District, near Syracuse, New York, participated in an exchange with managers from Welch Allyn, Inc., manufacturers of medical instruments. Observations of both groups confirm the findings of this researcher concerning the need for students to learn how to be effective team members of collaborative groups, both for success in current educational assignments, and for future jobs. A study by Lejk, Wyvill, and Farrow (1996), found that employers want people who

have both the personality traits and the skills needed to work in teams. Five benefits

students gain from working in collaborative groups are:

- Students gain insight into group dynamics.
- Group assessments allow the development of a more comprehensive assignment than is possible for individual assessments.
- Group assessments develop students' interpersonal skills.
- Students are exposed to other points of view.
- Students are prepared for the real world.” (Lejk et al.)

Hewlett-Packard has developed a unit for teaching collaborative skills to students using a business-based model that enables students to learn the skills and processes that make it possible for them to finish “complex, cooperative projects, meet deadlines, and to maximize the results possible for students at varying skills levels” (Mission: Project Management Team, 2004). This researcher agrees with the developers of the HP unit that it is critical for students to learn these working skills early in their academic careers, as many teachers in high schools assign group projects without providing training in the skills to work successfully in teams. Learning how to plan task lists, task schedules, and how to manage a complex project are skills that students will use in academic and professional environments.

“In the workplace, project management is a critical, essential skill . . .

industrial experience shows that well-planned projects are done on time, within resource constraints, and with high quality and well-motivated

participants. Poor planning leads to surprises: tasks are not done on time, dependencies are not understood, quality suffers, participants are frustrated and feel unsuccessful” (Mission: Project Management Team, 2004).

The goal of this research was to determine if using a business-based model would improve the quality of student work, increase student participation in teamwork, facilitate equitable assessment, and increase student satisfaction with the process and product of their teams.

#### Statement of the Problem

The purpose of this research is to determine the effects of teaching ninth graders how to work successfully in collaborative teams to complete projects, using an instructional module from Hewlett-Packard, *Mission: Project Management* [MPM]. This unit has detailed activities and information to explain the components of a collaborative project and the jobs that are a part of the process. The researcher’s students worked in teams to research some aspect of Elizabethan England, create an artifact such as props or costumes, and give an oral presentation using a poster or PowerPoint slide show. Students used the MPM modules on the computer for record keeping, instruction, and for submitting the completed parts of the module for grading. Resource books from the high school library, the researcher’s collection of material and books, and five computers were available in the room for student use. Each group was assigned one of the computers, with the teacher’s computer used for a team and for printing all materials, as four of the computers are not connected to a printer. All five computers had Internet connections. There is no computer lab available at the high school, and only four computers in the

library for student use, so time on the computers had to be used as efficiently as possible. Schools equipped with computer labs or classrooms with more computers would be able to have research projects proceed faster. The computers in the researcher's classroom were in constant use for various steps of the process.

Casual comments from students and a survey done before starting the research showed that an assignment to work in groups often elicits negative comments from students. Since working in teams for projects and problem-based work is an integral part of much of what they do in classes, this reluctance to work in groups presents a problem for students. On a pre test (Appendix A) of the roles of team members and the jobs involved in working collaboratively, all of the special-needs students failed (Appendix B), and 90% of all students failed (Appendix C). The inability to define the various jobs and roles, such as task lists, task schedules, team leader, and completion criteria, reflects the low rate of successful completion of previous projects by these students. When asked what they most disliked about group work and teamwork, every student listed team members who failed to work or contribute to the process, those who "goofed off" but received the same grade as those who did the work, and those who were difficult to work with because of personality clashes. Also cited was the difficulty of working in a group without a strong leader, and not knowing how to get started or how to use their time effectively. Most students recognize that knowing how to be productive members of a team is a crucial skill both in their present academic setting and for the future in college and jobs. During interviews with students, many mentioned that they had discussed the subject with their parents, who told them about their experiences in the workplace doing

projects with lazy or uninvolved team members who jeopardized projects on which they were working. Many students expressed their frustration at being required to use skills that they had never learned in a systemic way; they were told to cooperate, but had not been trained *how* to cooperate.

### Methodology

To measure students' knowledge, attitudes, and previous grades on group projects before teaching the collaborative skills, the researcher checked records for grades on team projects done in her class, conducted a pre test on collaborative skills terms, and had students complete a survey (Appendix D). The researcher observed students as they worked; noting problems and they were solved, and paid special attention to any students who were off-task. After using transparencies created from the MPM module showing fictional group projects, students were organized into groups and then practiced the skills with a short assignment such as planning a pizza party. Students had to fill in the Project Proposal (Appendix E), the Completion Criteria, the Task List (Appendix F), and the Task Schedule (Appendix G). After this, groups received the Project Guidelines (Appendix H) for their assignment, which was to conduct research on some aspect of the Elizabethan Age, using the MPM model to organize their work. Halfway through the work period, students completed the Project Status Update (Appendix I). After the final presentations, students took a posttest (Appendix J) on the same terms given before the project, another survey (Appendix K), journal entry assignments (Appendix L), and took part in interviews with the researcher. Students did peer and self-assessments using the

rubric (Appendix M), the Project Retrospective (Appendix N) and Personal Retrospective (Appendix O). The goal was triangulation of data from multiple independent sources, which provided reliable information about attitudes and performance concerning these questions:

- Will using the HP *Mission: Project Management* [MPM] instructional modules result in a higher rate of students completing projects successful and on time?
- Does the use of the computer with the MPM module increase the quality of the work and product?
- Will training in collaborative process skills with the MPM module increase student enthusiasm and motivation?
- Will learning the collaborative process skills using the MPM module enable students to assess their own and the group's work equitably?
- Will using the MPM module enable students to define the phases of a project and the responsibilities of each team member?

### Findings

The training in the MPM module increased the quality of the work and the project results. In a review of grades (Appendix P) on previous projects, 31% received an A, 47% received a B, and 22% received a C. After training with the MPM module, 67% received an A and 33% received a B. There were no grades lower than a B-. One encouraging finding is that the higher-functioning special needs students functioned well



as part of regular teams, and one team of the lowest ability students, in a team of five students, received a B- on the project, with their assessment coming from the same rubric used for all the teams. This group received some support from the special education teacher in the form of providing extra help with the poster and individual rehearsal time in the resources room. One of these students, who has a severe speaking disability and accompanying shyness, stood with her group and was the “pointer” who indicated the items that her team members were describing in their oral presentation. For her to be able to be in front of the class is a major step for her in building self-esteem and a feeling of being part of the group.

Students received an assessment from the teacher and their peers, using the same rubric. Peer assessments were very similar to the teacher assessment, as indicated in Appendix Q. This indicates careful attention to the rubric criteria as both a formative guide for the project work and a summative assessment at completion. In the pre-survey, when asked if rubrics were effective for self and peer assessment, 38% said they were very effective, 56% said they were somewhat effective, and 6% believed rubrics were not effective for assessment. After the project (Appendix R), 96% of the students said they used the rubrics for making sure they met all criteria and for peer and self-assessment. Students developed the criteria for the rubric, and the increased use of the rubric both during and after the project completion indicates that students were able to assess their individual and group work equitably. In the pre survey, 22% of the students indicated they were very satisfied with their grade on their last project, 69% said they were

somewhat satisfied, 6% were unhappy with their grade, and one student was angry about the grade he received. These findings reflect their experience with working in teams, where 17% said their group had excellent cooperation, and 83% indicated that only some members worked. In interviews with students, the researcher found that the biggest cause of dissatisfaction with grades on projects directly related to other team members not doing their share of the work, yet receiving the same grade, and working with team members who did not do their share of the work, resulting in a lower overall grade for the group. After the training with the MPM modules, 100% of the students expressed satisfaction with their grade. This satisfaction is also reflected in the post survey which found 90% of the students reporting excellent cooperation in their groups, 8% indicating that only some members worked, and one student stating that he did all the work. The researcher observed the group in which the student reported he did all the work, and found that this student was not accurate in his estimate; this student was working with people he didn't like and often was not cooperating himself with the other members of this team.

Training in the collaborative skills with the MPM module increased student enthusiasm. In the pre training survey, 38% reported enthusiasm as the prevailing group attitude, 59% said their group argued but got the work done, and 4% said their group was negative and non-productive. Post training, the students reported 53% of the group attitude as enthusiastic, 45% reported that although there was not a lot of enthusiasm, the group worked well and got the work done without arguing, and one student reported that the work got done, but there was arguing.

Students increased their use of the computers for research and record keeping for their project. All teams kept the record of the Project proposal, the Task List, the Task Schedule, the mid-project Review, the Project Retrospective, and the Personal Retrospective on the computers, and handed in a disc containing these records for assessment at the end of the project. In the earlier survey, 25% indicated they had access to a computer for research and record keeping on previous projects, 35% had access most of the time, and 40% had access some of the time. As mentioned earlier, the school does not have a computer lab for the high school, and there are only four computers in the library. The researcher has five computers connected to the Internet in the classroom, but these were recent additions and had not been available for previous projects. The post survey showed that 98% of the team members used the computers daily, and one student reported using it once or twice on the project. In interviews with the students, the researcher found that the students reported the availability of computers in the classroom, with easy access to the teacher for help, was a big help in doing the projects well and on time. The researcher noted during observations that there were only one or two occasions when students needed reminding to stay on task when using the computers.

One of the goals of the MPM module is that students will be able to define the phases of a project and understand the responsibilities of each team member. The results of a pretest on the terms used, such as task list and project manager, showed that none of the students received an A, B, or C, 2% received a D, and 98% received an F. The same

test (Appendix S) was given at the end of the project, without telling the students that it was going to occur. The researcher did not want the students to study the terms, but was interested in seeing how well the students had learned the terms by doing the jobs and completing the forms that used the terms. 38% received an A, 30% received a B, 15% received a C, 9% received a D, and 9% received an F. A comparison of pre and posttest grades with the special needs students showed that all of them received F's on the pre test. On the posttest, 13% received an A, 25 % received a B, 13% received a C, and 25% received a D, and 25% received an F. These grades, for both pre and post tests, were not used for grades, but only for an indicator of learning. The difference between the pre and posttest scores indicates that the MPM module helped the students learn the roles and responsibilities that need completed for a successful project. As one student (who had not done his part in any project done the entire year) said, "I have never worked in groups well; I always goofed off and no students wanted me in their groups. For the first time, I learned how important my part of the job is. It felt good to get praise from other people for doing what I needed to do instead of making excuses. I am glad Mrs. Hoyet made me do this and would not let me goof off. I will never be the lazy one in a group again."

Student journal responses were positive when asked to compare previous projects with the project for the research. Most indicated that the training helped them to organize the tasks, get a working schedule established, and to work efficiently instead of spending days without a clear plan as they had in the past.

Student Journal Responses

Compare your first two days with this project to other projects you have done in a group.

What is different?

“In this project, everyone has a specific task.”

“This project is more organized and will be more demanding because of the different project areas expected. Every person in the group has to work to make it a success because there is so much to do.”

“On this project, we have been organizing more and I am in a group with people I think I can get along with. This project seems to not only be focused on Elizabethan times, but on working with others in a group project.”

“The difference between this project and others I have done is that we’re organized and actually understand what we’re doing. Usually we don’t get this organized or plan as much.”

“A lot of things are different from other projects. You have to work more as a group, think about things very hard, and concentrate on the topic. You can’t goof off or mess around. You have to get your job done for other people to do theirs. It is very important.”

“Everyone wants to help out. Everyone was quiet, listened, and followed directions.

There is a leader in this group.”

This project is more organized, thought out more, more interesting, and we are working more efficiently.”

“I am more organized and more determined to do this one to the best of my ability.”

“This is different because we didn’t waste the whole first day.

“This is different because I am doing a PowerPoint slide show with a group. I have always done it by myself and am learning lots of ideas from other people.”

“We used a task list. I have never used one before. I think it will really help me keep my mind focused on this project. I never really planned ahead on projects like this.”

“What I did differently for this project is that I actually have a plan to know what and when I have to have things done.”

“The difference I have seen in planning for this project compared to projects in the past is that we never planned out what we would do. We just did what we had to do when we wanted to and sometimes it would not be done on time. Now we use task lists so we don’t get sidetracked and know what is most important.”

“Now that we’ve learned all the planning skills, it’s helping us. I think it makes it easier to put things together and have everything done on time. It’s a better way to do things.”

#### Action Plan

The results of surveys, pre and posttests, and the project products provide statistical proof that training students in collaborative skills using a business-based model like the Hewlett-Packard *Mission: Project Management* is a worthwhile classroom activity that increases student success when working in teams to accomplish a task. Students at all

levels of ability worked efficiently to finish well-rehearsed projects on time. More importantly, the students expressed satisfaction with a job well done, with less stress about non-working members. Since every team member had to participate in planning the project proposal, then creating the task list and task schedule, everyone knew from the first day what his or her part of the project was. When individual members of a team accept responsibility, the efforts of the team produce a better outcome. All students reported that it was the best project they had ever done, that they had more fun doing it, and that they learned, for the first time in their school careers, *how* to make a group project work successfully. One of the recommendations from my students was that these skills should be taught to my students next year within the first or second week of school. They indicated that the cooperative skills they learned would help in many classes and in many activities and assignments, even with work that was not collaborative work. I will incorporate this unit into the early part of the first semester for all my English classes from now on. Other teachers have been interested in the unit and I will give them details about it. The seniors in our school must complete a Senior Project to graduate, and they must work in teams to accomplish goals. I will give the materials to the teachers involved with the seniors to use in their seminars. My goal will be that starting with this year's freshman class, and continuing through the years, as students do projects and collaborative work in other classes, they will experience more success and build upon the skills I have taught them, culminating in Senior Projects that are great successes. I will present the results of my research to my principal and at a staff meeting. Other teachers

have often expressed the same frustrations with teamwork in classes that I have seen before, with limited success and many students not working. If most of the teachers use the same forms and procedures, the students will be continually growing in skills that will serve them well in further education and future jobs. My contact at Hewlett-Packard will receive a copy of my report, and I will be available to other teachers through the HP web site for information about how I use the unit in my classes. Teaching my students these skills, and giving them many opportunities to practice, may be some of the most important work we do in class all year. Students learned from each other, and many mentioned in the interview (Appendix T) and journal entries that seeing how other people think and do things was one of the best parts of the project. The day of the presentations was one of the most positive days I have ever experienced as I watched every group confidently present their work, using a poster or a PowerPoint for illustration. In the past, most oral work consisted of students reading from note cards or their posters, and not all members participated. For these presentations, few students needed notes at all, and all members spoke, could answer questions, and were enthusiastic about telling the class about what they had learned. I saw a pride of ownership that had been missing from other project work, and I will do all I can to help other students experience that success.



References

- Hewlett-Packard *Mission: Project Management Team*. (2004). *Mission: Project Management*. Retrieved December 21, 2003 from [http://grants.hp.com/us/education/mission\\_proj\\_mgmt.html](http://grants.hp.com/us/education/mission_proj_mgmt.html)
- Lejk, M., Wyvill, M. & Farrow, S. (1996). A survey of methods of deriving individual grades from group assessments. *Assessment and Evaluation in Higher Education*.21:3,267-268.
- School to Work Newsletter. (1999, March). Skaneateles workplace exchange is a real eye-opener for educators and business people. Retrieved January 24, 2004, from <http://www.emsc.nysed.gov/workforce/stw/skaneat.html>

## Timeline

January 6, 2004	Research Topic
January 16, 2004	Literature Review
January 19, 2004	Problem Statement
January 26, 2004	Data Collection Plan
January 26, 2004	Data Collection Matrix
January 26, 2004	Pre and Post Test Preparation
January 27, 2004	Group and Self Assessment Rubrics Preparation
January 28, 2004	Survey Preparation
January 28, 2004	Interview Questions Preparation
January 28, 2004	Journal Topics Preparation
January 28, 2004	Consent Form for Paint Valley High School
January 28, 2004	Checklist for Teacher Observation Preparation
January 28, 2004	Data Collection-Pre Test Administered to Students
February 6, 2004	Data Collection-Survey Administered to Students
February 10, 2004	Data Collection-Teacher Interviews with Random Students
January 29-February 10	Students Complete Project
February 13, 2004	Data Collection-Student Journals
February 13, 2004	Data Collection-Post Test Administered
February 12-13, 2004	Data Collection-Group and Self Assessments with Rubric
February 12-13	Students Present Projects
February 14-20, 2004	Data Analysis
February 28, 2004	Research Paper Completed

Checklist for Teacher Observation of Collaborative Groups

Behavior	Group Number	Student
Information Giving		
Initiating work		
Clarifying task		
Harmonizing disagreements		
Encouraging others in group		
Arguing		
Composing at computer		
Researching at computer		
Researching with print materials		
Creating artifacts for project		
Off-task within group		
Off-task outside group		
Negative behavior to team member		

## Appendix A

### **Collaborative Skills Pretest**

**Define the duties of each of these group work roles:**

Recorder:

Timekeeper:

Runner:

Researcher:

Project Manager:

Key Communicator:

Materials Specialist:

Technical Support:

Team Member:

What are project dates?

What are completion criteria?

What is a project task list?

What is a project schedule?

What is a project objective statement?

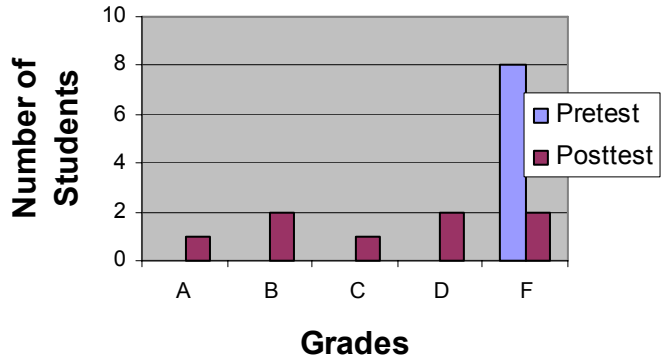
What is a project proposal?

What is a project status update?

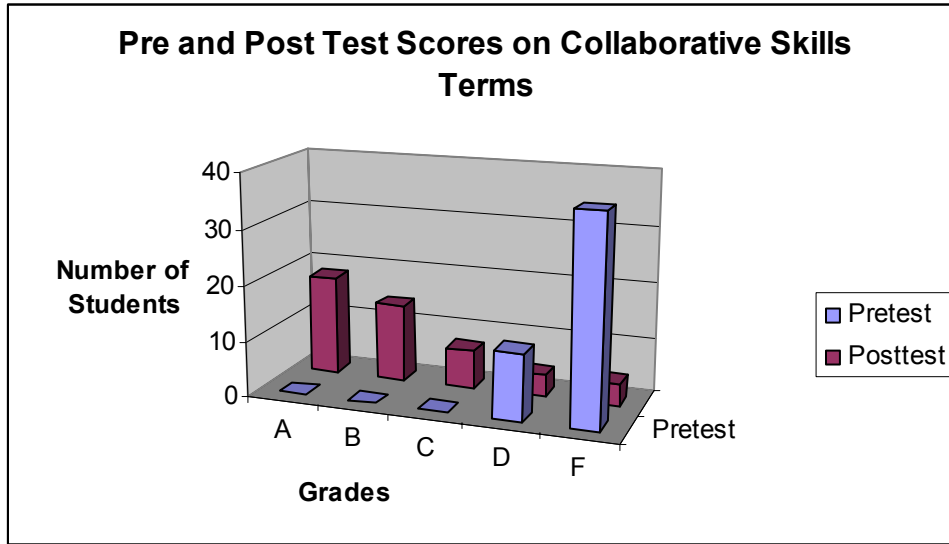
What is a project analysis?

Appendix B

**Comparison of Special Needs Students  
Performance on Test**



Appendix C



Appendix D  
Collaborative Projects Survey

Dear Students:

This survey about your experiences with and attitudes about working in groups for projects will help me to compile data for my Collaborative Research Project course. This survey is voluntary and all information will remain confidential.

Please answer the following questions as completely as you can. The goal of the survey is to find out what group work skills you feel confident about, what skills you feel you need more training in, what experiences you have had working in groups, and how you feel about working in groups.

1. Approximately, how many times during the school year have you been assigned a group project?

1-2 times      3-4 times      5-6 times      More than 6 times

2. On most of your projects, what grade did you receive?

A                  B                  C                  D                  F

3. On most of your projects, did your group finish on time?

Always      Most of the time      Some of the time      Never

4. On most of your projects, did you have access to a computer in class to keep records and do the work?

Always      Most of the time      Some of the time      Never

5. On most of your projects, what has been your experience with your team members?

Excellent cooperation      Only some members worked      I did all the work

6. On most of your projects, what was the prevailing group attitude?

Enthusiastic      Arguing, but got work done      Negative, non-productive work

7. On most of your projects, were you satisfied with your grade?

Very satisfied      Somewhat satisfied      Unhappy      Angry

8. If you were less than very satisfied with your grade, what was the major cause of the low grade?

My own fault      Other members didn't do their share and group got low grade

9. How do you think collaborative projects should be graded?

Individual grade only      Both group and individual grades

10. How effective are rubrics for self and group assessments of projects?  
Very effective                  Somewhat effective                  Not effective

What do you think are the critical phases of the collaborative process?

What are some of the different tasks or roles that group members perform during the collaborative process?

Why do you think teachers assign group projects?

What specific skills do you think would be beneficial for students to learn that would enable them to achieve success in doing collaborative projects?

What do you like best about doing collaborative projects?

What do you dislike most about doing collaborative projects?

Thank you for your help!



Appendix E  
Project Proposal

Date:

Project Title:

Project Team:

Name:

Role:

Project Dates:

Start:

Completion:

Projective Objective Statement:

Completion Criteria:

Notes:

Appendix F  
Project Task List

Instructions:

Brainstorm a list of tasks you need to do in order to complete your project.

List and number each task below.

Assign a team member to each task.

Describe how you will complete the project tasks.

Date:

Project Title:

Number:	Task:	Owner's Initials:	How will this task be completed?
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## Appendix H

# *From Serving Wenches to the Queen- Life in Elizabethan England*



We will soon begin reading *Romeo and Juliet* and *A Midsummer's Night Dream* by William Shakespeare. For many of you, this will be your first experience with Shakespeare. Years of teaching Shakespeare have shown me that you will get more out of the play if you understand as much as you can about the times in which William Shakespeare lived.

Queen Elizabeth I, her reign, and her England, gave the name of a time of great change in England. The Renaissance swept throughout Europe, and England experienced major changes in all areas of work and society. The printing press had been invented, the feudal system was abolished, and towns and cities grew. The theater was one of the favorite forms of entertainment for rich and poor alike. Opportunities for education and financial gain opened to people in all ways of life. Elizabeth's father, King Henry VIII, whose conflicts with the Church and whose marital adventures in search of a male heir rocked English law and life, was dead. Elizabeth was the queen and ruled with a firm hand and wisdom.

However, not all of Elizabethan England was about the queen and her Court. Farmers, merchants, schoolchildren, guildsmen, politicians, soldiers, doctors, actors, writers, fencing masters, tavern owners, serving wenches, and a multitude of others made England hum with activity and enterprise.

## *Your Task*

Your group will research some aspect of the Elizabethan Age. You must find out at least fifteen facts about your subject, with proper citation of your sources. The final product will be a 3-5 page paper, an oral presentation by your entire group, some kind of 3-D artifact, and a poster. You will be teaching the rest of the class about what you have learned-you will be the experts on that subject.

Your group can increase your understanding and your grade by adding any of the following:

Costume

PowerPoint Presentation

A skit using authentic dialogue, speech, and circumstances of a meeting of some of the people you researched.

A journal with entries of a day in the life of a person you research, true to the time in speech, activities, and concerns. For example, if your group is researching medicine and diseases of the time, your journal entry could be the diary of a city doctor, or a country doctor and his assistant.

A model of the home or workplace of a person you are researching, or perhaps the Globe Theater or a bear baiting arena if you are researching what Elizabethans did for entertainment.

Be creative and tell me what ideas you have; get approval from me for some other way to add to your presentation.

What will be the most beneficial for your group is to dive into your subject and enjoy the work-you will find many ways in which our society and people have many of the same dreams, sins, and good points of the people you will discover from that era.

## *Resources*

I have an extensive library of books about Elizabeth, England, the Globe Theater, social classes of the Elizabethan Age, material on the new Globe Theater that was built in London a few years ago, etc.

You may also use the HotList at the following location:

This is a list of sites that have valuable information with descriptions of what is on the sites. This is a time saver for you, as I have already checked out the sites for authenticity.

Appendix I  
Project Status Update

Date:

Project Title:

Project Team

Name:

Role:

Milestone Update: What major tasks from your Project Schedule have been completed to date>

Project Changes:

What has changed within your project?

How will you compensate for the changes in your project in order to meet your scheduled completion date?

What is going well with the project?

What needs improvement?

Appendix J  
Collaborative Skills Posttest

**Define the duties of each of these group work roles:**

Recorder:

Timekeeper:

Runner:

Researcher:

Project Manager:

Key Communicator:

Materials Specialist:

Technical Support:

Team Member:

What are project dates?

What are completion criteria?

What is a project task list?

What is a project schedule?

What is a project objective statement?

What is a project proposal?

What is a project status update?

What is a project analysis?

Appendix K  
Collaborative Project Post Survey

Dear Students:

This survey about your recent experience with the research project using the Project Management unit will help me to compile data for my Collaborative Research Project course. This survey is voluntary and all information will remain confidential.

Please answer the following questions as completely as you can. The goal of the survey is to find out what you've learned about the collaborative process, if you feel more confident about your skills, and how this experience might have differed from other group work you have done in the past.

Did your group finish on time?

Yes    No

Did you feel your final group grade was appropriate?

Yes    No

Did your group use the computer for the project work?

Daily                  Once or twice                  Never

What was your overall experience with your team members?

Excellent cooperation                  Only some members worked                  I did all the work

What was the prevailing group attitude?

Enthusiastic    Got work done, not a lot of enthusiasm                  Arguing, but got work done  
Negative, non-productive

Did your group read the rubric and make sure that all criteria were met?

Yes    No

Compare to group work you have done in the past, how would you rate this experience?

What are one or two major things you have learned about the collaborative process that you will apply to group work in other classes or future jobs?

Are there any areas in which you have individually experienced growth or a better understanding of how to succeed because of learning the group process skills? Did you develop skills that you have not used as effectively before in group work or other work?

Do you think I should teach these skills at the beginning of the freshman year to all students, and then reinforce them throughout the year as groups do projects? What advantage, if any, do you think this would give to my students?



## Appendix L

### Journal Assignments for Collaborative Project

Daily: During the last five minutes of class, you will enter information about what you did in your group that day, what problems you faced, and how the problems were solved.

There will be specific days when I direct you to write journal entries about the collaborative process skills you are using, your level of satisfaction with how your group is performing, and problems or frustrations your group is experiencing.

These journals will be read by me and extracts may be part of my research report. All information and quotes will be kept confidential. You may write freely and I hope that you will do so, being as open as you can.

Appendix M

**Collaborative Work Skills : Self Assessment for Elizabethan England Project**

Teacher Name: **Mrs. Hoyet**

Student Name: \_\_\_\_\_

CATEGORY	4	3	2	1
<b>Contributions</b>	Routinely provides useful ideas when participating in the group and in classroom discussion. A definite leader who contributes a lot of effort.	Usually provides useful ideas when participating in the group and in classroom discussion. A strong group member who tries hard!	Sometimes provides useful ideas when participating in the group and in classroom discussion. A satisfactory group member who does what is required.	Rarely provides useful ideas when participating in the group and in classroom discussion. May refuse to participate.
<b>Quality of Work</b>	Provides work of the highest quality.	Provides high quality work.	Provides work that occasionally needs to be checked/redone by other group members to ensure quality.	Provides work that usually needs to be checked/redone by others to ensure quality.
<b>Time-management</b>	Routinely uses time well throughout the project to ensure things are done on time. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Usually uses time well throughout the project, but may have procrastinated on one thing. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Tends to procrastinate, but always gets things done by the deadlines. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Rarely gets things done by the deadlines AND group has to adjust deadlines or work responsibilities because of this person's inadequate time management.
<b>Problem-solving</b>	Actively looks for and suggests solutions to problems.	Refines solutions suggested by others.	Does not suggest or refine solutions, but is willing to try out solutions suggested by others.	Does not try to solve problems or help others solve problems. Lets others do the work.
<b>Attitude</b>	Never is publicly critical of the project or the work of others. Always has a positive attitude about the task(s).	Rarely is publicly critical of the project or the work of others. Often has a positive attitude about the task(s).	Occasionally is publicly critical of the project or the work of other members of the group. Usually has a positive attitude about the task(s).	Often is publicly critical of the project or the work of other members of the group. Often has a positive attitude about the task(s).
<b>Focus on the task</b>	Consistently stays focused on the task and what needs to be done. Very self-directed.	Focuses on the task and what needs to be done most of the time. Other group members can count on this person.	Focuses on the task and what needs to be done some of the time. Other group members must sometimes nag, prod, and remind to keep this person on-task.	Rarely focuses on the task and what needs to be done. Lets others do the work.

<b>Preparedness</b>	Brings needed materials to class and is always ready to work.	Almost always brings needed materials to class and is ready to work.	Almost always brings needed materials but sometimes needs to settle down and get to work	Often forgets needed materials or is rarely ready to get to work.
<b>Monitors Group Effectiveness</b>	Routinely monitors the effectiveness of the group, and makes suggestions to make it more effective.	Routinely monitors the effectiveness of the group and works to make the group more effective.	Occasionally monitors the effectiveness of the group and works to make the group more effective.	Rarely monitors the effectiveness of the group and does not work to make it more effective.
<b>Working with Others</b>	Almost always listens to, shares with, and supports the efforts of others. Tries to keep people working well together.	Usually listens to, shares, with, and supports the efforts of others. Does not cause "waves" in the group.	Often listens to, shares with, and supports the efforts of others, but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others. Often is not a good team player.
<b>Timeline</b>	Met all deadlines	Met all but one deadline	Missed two deadlines	Did not meet deadlines

Appendix N  
Project Retrospective

Date:

Project Title:

Project Team:

Name:

Role:

Schedule and Task Evaluation:

All major tasks from your Project Schedule should be completed by this date. How well did your team meet the schedule you predicted? Were all major tasks met on time? If not, why not? List any that are not completed and why.

Project Changes:

What has changed within your project?

What went well with the project?

What could have been improved?

## Appendix O

### Personal Retrospective

This form will only be read by your teacher, and will not be viewed by your team members.

Name:

Project Title:

Project Evaluation:

What were your greatest personal contributions to the project? What did you feel went well?

From a team perspective, what about the project do you feel could have been improved?

Evaluate your team:

List your team members below.

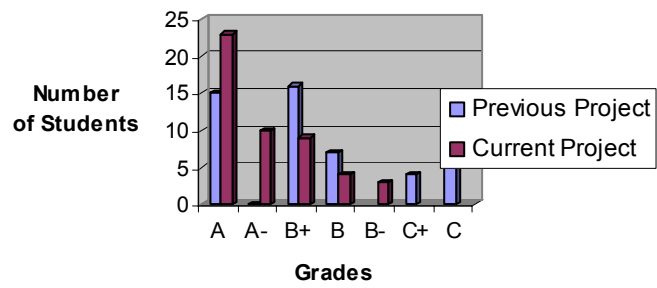
Determine the percentage of the total project that you feel each individual team member contributed.

Circle the letter grade you'd give to each member's contributions.

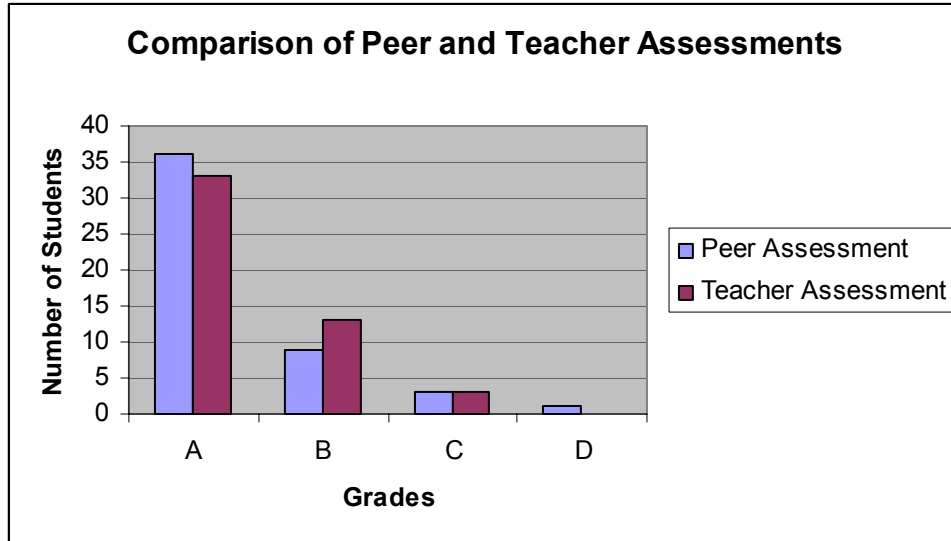
Team Member:	Contribution to Total Project	Grade
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## Appendix P

**Comparison of Grades on Projects Before and After Learning Collaborative Skills**



## Appendix Q



## Appendix R

### Collaborative Project Initial Survey Results

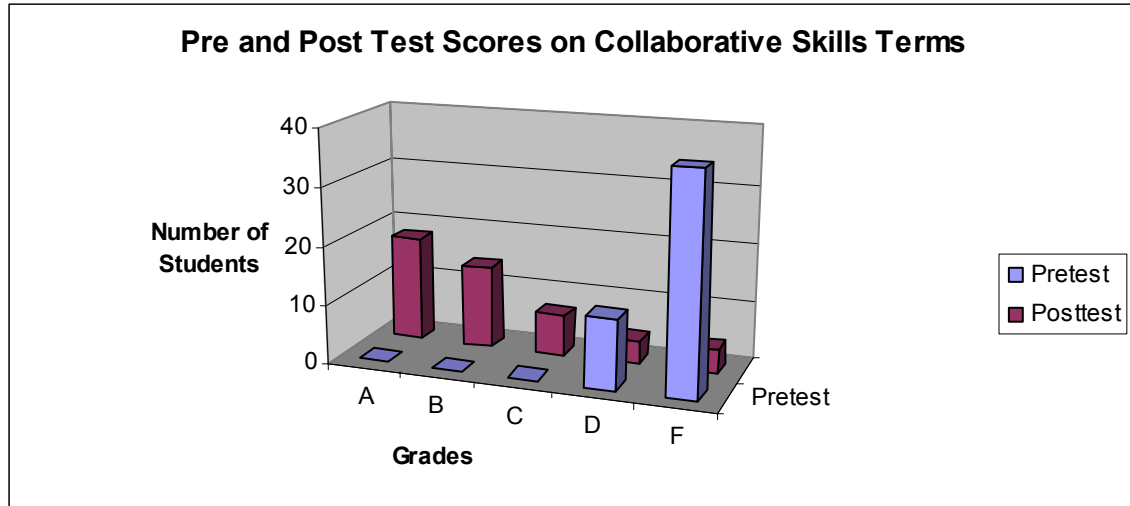
How many times during the school year have you done a group project? 1-2 times=3   3-4 times=13   5-6 times=9   More than 6 times=24
On most of your projects, what grade did you receive? A=8   B=25   C=16
Did you finish your project on time? Always=19   Most of the time=28   Some of the time=2
Did you have access to a computer in class to keep records and do the research? Always=12   Most of the time=17   Some of the time=19
What has been your experience with team members? Excellent cooperation=8   Only some members worked=40
What was the prevailing group attitude? Enthusiastic=18   Arguing but work done=28   Negative, non-productive=2
Were you satisfied with your grade? Very satisfied=11   somewhat satisfied=34   Unhappy=3   Angry=1
If you were less than very satisfied with your grade, what was the cause of the grade? My own fault=11   Other members didn't do their share and group got lower grade=36
How do you think collaborative projects should be graded? Individual grade only=14   Both group and individual grades=36
How effective are rubrics for self and group assessment of projects? Very effective=18   Somewhat effective=27   Not effective=3

### Collaborative Project Post Survey

Did your group finish on time? Yes=49   No=0
Did you feel that your final grade was appropriate? Yes=49   No=0
Did your group use the computer for the project records and research? Daily=48   Once or twice=1   Never=0
What was your overall experience with your team members? Excellent cooperation=44   Only some members worked=4   I did all the work=1
What was the prevailing group attitude? Enthusiastic=26   Got work done, not a lot of enthusiasm=22   Arguing, got work done=1
Did your group read the rubric and make sure all criteria were met? Yes=47   No=2
Compared to group work you have done in the past, how would you rate this experience? The overwhelming response was that this was the best group work and project results that all students had ever experienced. Many noted that it was the best-planned and most efficiently executed project they had ever done. Also noted was that everyone in the group was working and contributing important parts to the result.



Appendix S



## Appendix T Interview Results

### **What specific skills do you think would be beneficial for students to learn that would enable them to achieve success in doing collaborative projects?**

- “Work well with other people and finish your part of the project on time.”
- “Learn to listen to other people and their ideas.”
- “Learn to cooperate and get along with everyone, not just your friends.”
- “You can’t always be the boss and if you’re lazy, you’ll have to learn to pull your weight.”
- “Be patient; don’t get distracted.”
- “Learn to work with other people even if you don’t like them.”
- “Work together to accomplish the goals. Figure out how to get the work done, but have a good time working.”
- “Learn to read the rubric and stay on task.”
- “Voice your own thoughts and accept others’ ideas, too.”
- “Learn to listen to other people’s ideas.”
- “Read fast and increase your knowledge of how to find good information on the Internet.”
- “Try to get along in the group, and never quit trying.”
- “Learn to share, be nice, be a good listener, and be cooperative.”
- “Work on your communication skills.”
- “Stay with your group; don’t be visiting your friends in other groups and wasting time.”
- “Don’t blame others for things that are your responsibility. Join in the project even if it is not interesting to you. Go about the project with enthusiasm and don’t take part in negative gripe sessions.”

### **What do you like best about collaborative projects?**

- “You don’t have to work alone.”
- “Working with my friends.”
- “No homework most of the time.”
- “You don’t have to do all the work.”
- “Being able to share our ideas and cooperate with each other.”
- “Getting different ideas and trying new things.”
- “It’s fun, and we don’t have to be sitting in our seats all the time.”
- “All the pressure isn’t on me.”
- “You get to bond with others while working.”
- “Collaborative projects are fun because you get to work with others, do something different than all paperwork.”
- “You get to hear different opinions.”
- “You get to know a lot about how different people work, and learn from that.”
- “You always have help if you need it.”

### **Why do you think teachers assign group projects?**

“So a big task can be split up and you can learn to work together.”

“So that people know how to work together in real life doing real jobs.”

“Easier to grade, to see how we work together, experimenting.”

“They’re fun.”

“Just to put more stress on us than we already have.”

“So that we can count on each other for getting the work done in a limited time period.”

“To see if we can put our own differences aside and work together.”

“I think that teachers assign group projects to help prepare us for our futures. We will always have people who won’t help with the project and we need to learn how to handle that situation.”

“So people will learn to get along and take on responsibilities.”

“To have fun, see how students interact, to see what we have learned.”

“To help students learn interactive skills.”

### **What are one or two major things you have learned about the collaborative process that you will apply to group work in other classes?**

“Making a task list and a task schedule are crucial.”

“It’s great to be prepared, and a team that works well together will produce a good result.”

“I’ve learned that you can work hard and have fun at the same time.”

“Having someone to lead and be looking at what everyone is doing helps keep the group functioning smoothly.”

“To help each other as much as possible.”

“If you don’t get along with your team members, it probably won’t be a good project, because it is all about the teamwork.”

“Goofing off with you put you back a day and good cooperation is good for the team.”

“Make sure you don’t goof off and do everything on a schedule.”

“Focus on the task at hand.”

### **In what areas have you experienced individual growth or better understanding of how to succeed because of learning the group process skills?**

“I can rely on others to help with a project.”

“I was able to learn how to make a PowerPoint slide show because one of my partners knew how to do it and taught me.”

“I learned to be more responsible to the other people in my group, instead of riding on their work.”

“I learned how to do citations better because Mrs. Hoyet had time to sit with me and make sure I understood how to use the MLA guide.”

**“I have never worked in groups; I always goofed off and no one wanted me in their groups. For the first time, I learned how important my part of the job is. It felt good**

**to get praise from other people for doing what I needed to do instead of making excuses. I'm glad Mrs. Hoyet made me do this and wouldn't let me goof off. I will never be the lazy one in a group again."**