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# Using Action Research to Determine and Resolve Team Issues for Courseware Developers

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**Final Project/Thesis**

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Using Action Research to Determine and  
Resolve Team Issues for Courseware Developers

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### Abstract

A department consisting of four teams of courseware developers and instructors had been experiencing a lack of team cohesiveness as evidenced by the exclusion of individuals and unwillingness to support group goals. Using action research, a collaborative team was formed and data collected using surveys, interviews and observations. The results of the data were fed back to the collaborative team for data analysis. A weeklong team training session was held that provided for interpretation and clarification of courseware editing procedures. Team structure and location were also modified to allow for closer communications with the customer/supplier.

## Using Action Research to Determine and Resolve Team Issues for Courseware Developers

An effective method for driving change in an organization is action research. Action research requires the collection of data, preferably by using several methods, then analyzing and implementing change. Through action research a qualitative approach can be taken to assess the problems among employees within an organization. Members of the organization participate collaboratively with the researcher to define the problem, initiate possible solutions, and evaluate the outcome (Regis University, 2000). In this particular case study of a group of courseware developers, action research is a viable option for determining the reasons for the group's symptoms. The action model selected allowed me as the internal researcher to continuously provide feedback and discuss future planning with the collaborative team.

### *Organizational Background*

Command Technologies Incorporated (CTI) is a professional and technical services firm founded in 1988. The company has risen from a one-man consulting firm to an award-winning and financially successful business. CTI is headquartered in Warrenton, Virginia and currently has three divisions located at San Antonio, Texas, Rockledge, Florida, and Springfield, Virginia. The company has grown to over 300 employees and believes that its success is due to the emphasis on integrity and the commitment to excellence provided to its clients. Historically the company has been awarded contracts with the government or military focusing on software development, development of automated data processing capabilities, computer based training, and logistics support analysis and planning. In recent years, commercial contracts have also been awarded and the company is optimistic about future growth in this area (Command Technologies, Inc. 2001).

Because military contracts are the bulk of the work awarded to CTI, most of the employees hired through the years have been retired military members. The founder of the company is a retired member of the United States Air Force. Vice-presidents, division managers and most of the mid-level and lower level managers have been and are presently retired military members. Most employees at all levels are also retired or prior service military personnel. This has resulted in a dramatic military influence on the organization. Many of the work sites are actually located on military installations. The requirements of the military contracts often call for expertise that few people have unless they are prior military service.

#### *Department Structure and Background*

The focus of this research project is on a satellite department to the San Antonio division, located in San Angelo, Texas at Goodfellow Air Force Base (AFB). This department develops training courseware and provides instructors for the military units located there. The department is currently working on three contracts.

One contract has two separate tasks and consists of two individual teams. One team is made up of the project manager and three employees. I am the project manager for this contract. The military provides computer hardware, software and systems support. Military Subject Matter Experts (SME) provide the training materials and the CTI developers convert it to computer-based training using Hyper-Text Markup Language (HTML) and JavaScript. This contract is known as the Joint Imagery Analysis Course (JIAC) Team.

The second team is referred to as the Intelligence Training System (ITS) Team. At the start of this project, this team consisted of 22 individuals but has since grown to over 30 employees with two project managers. The ITS Team development facilities are located in a separate building than that of the JIAC Team. The military provides the same support and

materials as mentioned above for the JIAC team. The CTI developers use ToolBook to convert the lesson materials to computer-based training. Much of the materials to be converted require the developers to be proficient in a second language. About three-fourths of the employees working on this team are prior military linguists.

Two additional contracts were awarded in October 2003. The first of these two contracts originally called for eight courseware developers to build lesson plans and plans of instruction (POI) for traditional “stand up” style instruction. Upon completion of the courseware, the contract requires the retention of three individuals for courseware update and maintenance. This team of developers is referred to as the IROC team. From October 2003 until April 2004 five employees were borrowed from the ITS team to support the courseware development for the IROC team. The development has since been completed and the IROC team now consists of three permanent team members.

The second of the new contracts requires eight language instructors. These instructors must be proficient in a language specified in the contract and also must be certified as instructors. Due to the difficulty in finding enough military linguists to fill the instructor billets, some of the employees from the ITS team were provided instructor training and moved temporarily or permanently to this team. The instructors are in individual classrooms and therefore do not have the continuous team interactivity as the other three teams.

There is an onsite program manager who is in charge of the operational functions of all three contracts. The department manager is located in an offsite office in downtown San Angelo with two executive secretaries. The department manager is responsible for all administrative functions and the overall success of the department.

### *Department Competitive Environment*

San Angelo, Texas is a small city with just under 100,000 people. There is minimum industry in the city and very little commercial demand for the type of work CTI's courseware developers perform. However, on Goodfellow AFB there is a growing demand for this type of work. Each year the military tends to rely more on contractors to support the training missions. Currently there are two other contract companies on base. One of these companies is a system support contractor and offers no competition. The other contracting company performs much of the same kind of courseware building as CTI and is a definite competitor. There is also always the chance of outside entrants.

Pearce and Robinson (2003) suggested that one of the most important factors when considering a firm's competitive position is its ability to attract capable employees (p. 82). Presently this is a definite challenge for the CTI department at Goodfellow AFB. An individual exiting the military must first have the desire to stay in the San Angelo area. Then according to contract activity at any given time, competition to hire this individual can be very stiff.

*Strengths.* Pearce and Robinson (2003) defined strength as "a resource advantage relative to the competitors and the needs of the market the firm serves" (p. 135). CTI's competitive advantage over its closest rival is its reputation with the customer. It has a reputation for doing quality work. The client has often remarked about the consistency of the CTI courseware over that of the competition. CTI thrives on exceeding the expectations of the customer and the department has never failed to deliver the product on time and within cost. The San Angelo department has received several military and small business awards during its 11-year history at this location. The organization has a reputation of being flexible and adaptable to meet the customers ever changing requirements. This reputation grows more and more important as the



trend has been for the government to put emphasis on past performance rather than overall cost of the product.

Although the expertise of the CTI employees cannot be thought as a competitive advantage when compared to the employees of other contract companies on base, it is a definite advantage over possible outside entrants. It would be extremely difficult for an outside contractor to round up personnel with the expertise and security clearances required of these contracts.

*Weaknesses.* As a firm's strengths are measured in relation to the competition, so are its weaknesses. CTI's current local competition is a much larger organization with "deeper pockets." This organization usually offers a higher starting salary to its employees than CTI can afford. Even though CTI feels it offers a better benefits package than the competition, the higher salary attracts some CTI would-be employees. On occasion a CTI employee will leave for a higher paying position with the local competitor or a competitor in another city or state.

#### *History of the Problem*

Until 2002, the ITS development lab consisted of less than 10 employees. With the exception of one or two, all these employees were prior military linguists. These skills were necessary for fulfilling the contract at that time. With the award of the newest contract, several additional people had to be hired. Although having a second language was definitely a plus, it was not a requirement for all of the new positions.

Another requirement is for individuals to have had a past security clearance. Once individuals are hired, they must be processed for renewal of their security clearance. The JIAC team requires a lower level security clearance than that required of the ITS team. Whereas the lower security clearance can usually be received within a matter of days, the higher clearance can take months. During the build up time for the new contracts, it became necessary to rotate

employees in and out of the JIAC team as they received their security clearances. During this time, I became acquainted with many of the new hires as they rotated in and out of the JIAC team development facility. Most security clearance issues have been resolved and the current JIAC team has been intact for several months now.

Every month we hold a staff meeting, which involves all employees. It is customary prior to the staff meeting, for the project managers, the onsite program manager and the department manager to have a pre-meeting to discuss events and issues about the past month's occurrences. At one of these pre-meetings at the beginning of this action research project, the onsite program manager expressed concern about dissention between the linguists and the non-linguists. At that time, I believe it was just something he felt we needed to be aware of and possibly start thinking of what we could do to make things better.

#### *Problem Statement*

The CTI, San Angelo department has been experiencing a lack of team cohesiveness as evidenced by the exclusion of individuals and unwillingness to support group goals. The purpose of this action research project is to determine the root causes of these activities, provide recommendations, and assist in implementing appropriate interventions.

#### Method

#### *Action Research*

In action research the researcher and the client are both involved in researching and attempting to solve a problem. As a result, new knowledge continuously surfaces and is fed back into the system for yet, new problems or issues and new knowledge. This is known as the action research cycle. In traditional research, the main purpose is to explore a hypothesis and expand the knowledge and understanding of a specific issue (Coghlan & Brannick, 2001). It does not

demand that something be done with the output or results of the research. Action research as the name implies, provides that some action will be taken as a result of the research. The knowledge or findings are used to change the system that is being researched. As stated by Coghlan and Brannick, after the preliminary step of stating the purpose for the action research, there are four steps, diagnosis, planning action, taking action, and evaluating action, or as cited by French and Bell (1999) when discussing the Shewart cycle, these steps are “plan, do, check, and act (p. 139). Once the action is evaluated, a new diagnosis is made, a new action plan developed, and the cycle continues. During the action research cycle, the researcher is also conducting a separate action research cycle by constantly inquiring or reflecting on the action research cycle itself. One of the most powerful characteristics of action research is that the researcher can be a person or persons within the client group. This continuous cyclic approach lends itself very well to this particular case study for diagnosing the root causes of the problem by collecting data, discussing and planning actions as a result of the analysis of that data, taking appropriate interventions, then collecting additional data to evaluate the results of the interventions.

### *Action Research Model*

To guide a research project, it is recommended that an action research model be used. The course module for MSM694 lists several action research models that have been used over the years (Regis University, 2000). After looking at these models, I selected Burke’s Adaptation of W. L. French’s Action Research Model. The model consists of the seven steps: (1) perception of the problem, (2) enter consultant, (3) collect data, (4) feedback given to client, (5) joint action planning, (6) action, and (7) assessment with data collection and return to Step 4 for feedback.

*Perception of the Problem*

A collaborative team was formed consisting of the department manager, the onsite program manager, and myself. Although both managers are very supportive of the project, neither would commit to the involvement of other employees on the collaborative team.

Patton (2002) posed that collaboration varies along a continuum. At one end the collaborative team consists of professionals totally controlling the research, while at the other end the collaborative team consists of the people that are actually being studied. These people are involved in the inquiry, data collection, and analysis (p. 26). By involving the employees being studied along with the researcher and management, ownership of the suggested interventions occurs and therefore changes are more readily accepted. However, management must be committed to allow for the man-hours away from the work place and be willing to risk possible ridicule. After explaining the benefits of including some of the employees on the collaborative team, both managers agreed to reconsider during the life of the project if they saw the need.

The collaborative team discussed the symptoms of the problem. Who was doing what, when and where? What would happen if the problem were left un-addressed? The on-site program manager stated that more and more of the courseware development is requiring specific linguistic skills. There are times when the non-linguists are idle. They feel that they are being “left out.” With the current situation, resentment is growing. This could result in the loss of valuable employees.

*Enter Consultant*

I approached the department manager to ask him about a possible action research project for my MSM program at Regis University. I defined action research and described how it could be used in many different situations to address problems within an organization. The department

manager requested that I see what I could do with the linguists/non-linguists issue. As mentioned before, I have worked with and have been the project manager over many of these individuals in the past as they passed through the JIAC team development facility.

I discussed using the collection of qualitative and quantitative data using surveys, individual interviews, observations, literature reviews, and records reviews. The collaborative team agreed that I would be afforded the time to collect the data during work hours. I would be responsible for conducting the overall collection of data, however all actions needed their prior review and approval. I would also have access to personnel records if needed, but would not be allowed access to records showing employee salaries. We also discussed the confidentiality of the data that was to be collected. A professional project contract was drawn up and signed by the department manager.

#### *Data Collection*

Patton (2003) stated that data triangulation, the collection of data using several methods, adds strength to the research study (p. 247). By framing the survey, interviews, and observations to address similar questions, the collected data can be analyzed looking for common themes among the three methods.

*Questionnaire.* The first method of data collection used was a questionnaire. A questionnaire allows for the collection of data from a large number of individuals at once in a fairly short period of time (Nadler, 1977). The questionnaire allowed me to ask both qualitative and quantitative questions and then conduct quantitative comparisons between the different teams (Huszczo, 1996). Huszczo warned that while many standardized questionnaires are commercially available, not all have been sufficiently tested for reliability and validity. Nadler also discussed the strengths and weaknesses of standardized questionnaires. While standardized

questionnaires have been pre-tested and are usually more reliable and valid, finding one that is focused on the particular issues one wishes to address can be difficult.

Through discussions with the collaborative team, it was decided that the questionnaire should focus on overall team assessment. I conducted literature reviews for pre-tested model questionnaires that would provide both qualitative and quantitative data, focusing on team assessment. I found two models and presented them to the collaborative team for review. After reviewing the two models with the collaborative team members, the survey constructed by Sarah Charles and Webster Hull in Nadler (1977) was selected as our model. We inserted an additional question to code the survey according to teams/contracts so that possible disparities between teams would be easily recognizable. The questionnaire was Likert-type, in which the respondents reply according to varying degrees of agreement or disagreement (Nadler). A copy of the survey is included in Appendix A.

I attached a cover letter explaining the reason for the questionnaire. I conveyed to all employees that it was not mandatory to answer all questions or to even take the questionnaire for that matter, but everyone's candid opinions would be valued and this would be their chance to help create change. I addressed confidentiality and ensured the employees anonymity. The department manager signed the cover letter showing his total support for the questionnaire. I provided copies of the survey and cover letter with envelopes to each of the project managers and had them pass them out to all team members. I requested that the surveys be returned within two weeks.

*Interviews.* To further validate the data collected from the survey, I next conducted interviews. Interviews allowed me to probe further into areas of concern determined from the survey (Nadler, 1977). Patton (2002) recommended using an interview guide to ensure the same

subject areas are covered in each interview. I conducted literature reviews to find a reliable model to use as an interview guide that would continue to evaluate team assessment. After discussions with the collaborative team, it was decided to use a sample survey from Nadler as the guide. This particular interview guide was structured with open-ended questions, which allowed me to ask the same questions to each interviewee while affording the option to further explore areas as necessary. Nadler warns that the asking of questions can create assumptions that change is going to take place surrounding that particular question area. With that in mind, the collaborative team requested that I change the questions in the model interview concerning rewards and promotions to align them more with the abilities of local management to make improvements in that area.

In discussions with the collaborative team, I explained the advantages and disadvantages of using multiple interviewers (Nadler, 1977; Patton, 2002). The collaborative team agreed that it was very important that all questions on the interview be addressed as identical as possible among the interviewees. There were also time constraints that prohibited the assigning of other interviewers to the project. It was decided that I would conduct all interviews.

Individuals were randomly selected from each team with care taken to ensure a good sampling of newer employees as well as more senior employees. The size of the team also determined the number of employees that were selected from each team. I explained the purpose of the interview to each individual and ensured him or her of anonymity as shown in the interview guide in Appendix B. I took notes during the interview and added more detail immediately following each of the interviews (Patton, 2002).

*Observation.* Although I was limited on the amount of time that I could specifically allot to the observation process, over the past several months as a project manager I had frequented

the other team areas 2-3 times a week. This gave me a pre-existing knowledge of the job processes, customer relations and the basic structure of the teams. Also during this time I was enrolled in the Regis MSM program and as such I had applied much of the learned knowledge and had become more aware of the teams' interactions. However, to further validate the data already collected in the surveys and interviews, I spent approximately 2 hours per day for one week with each of the teams. I used the unstructured observation approach as defined by Nadler (1977). To prevent team members from behaving differently than they otherwise would have, I chose to stay covert as suggested by Patton (2002). Although the reason for my presence in the team areas was not formally announced I made no secret of it if asked. I looked over several suggestions for conducting observations in Patton and Huszczo (1996). To guide my observations I used questions that paralleled the surveys and interviews, specifically:

1. Is the group knowledgeable about its purpose and goals?
2. How do the group members work together?
3. How does the group handle their differences, how do they interact with one another, and how do they handle disagreement?
4. How are decisions made?
5. Is leadership shared? How?
6. Is there any type of reward system?
7. Is the group effective?

*Secondary data.* Nadler (1977) suggested that another rich source of data could sometimes be found in various documents, records, or other written materials. As an ISO auditor for our department, I had access to all quality control documents. I had pre-existing knowledge of overall customer satisfaction as well as employee job knowledge and qualification records.



During the observation process, I was able to review individual edit sheets, development standards, and customer feedback reviews.

#### *Data Analysis and Recommendations*

Nadler (1977) suggested that one method for providing feedback to the client is through the use of written reports. I consolidated the data from all the above sources and provided a summary to each member of the collaborative team. Collaborative team members were given the time to review the summaries before scheduling a time when we could get together and discuss the results.

*Survey results.* Out of the 31 surveys handed out, 27 were returned completed. Tasks assigned were certain and predictable. Skills, abilities, and knowledge were present to complete the assigned tasks. The highest ratings were “team members felt a part of the group” and “there are clear group goals.” Most were satisfied with the leadership. As for group effectiveness, all strongly agreed that the work gets done and all agreed that their teams were overall effective. While results showed that there might be some avoidance of conflict, responses to question #16 reflected that most agreed that those involved usually work it out on their own. Appendix C includes the results for question 16. Table 2 provides the question numbers from the survey with a brief description of each question and the mean and standard deviations for each question.

Table 2

*Mean Scores and Standard Deviation for the Survey*

Question	Mean	SD
1. Task Certainty	5.2	1.3
2. Task Complexity	4.9	1.1
3. Interdependence	4.8	1.4
4. Member Skills	5.8	1.1
5. Individuals Feel Part of Group	5.9	1.5
6. Members Involved in Group	5.2	1.8
7. Group Goal Clarity	5.7	1.1
8. Agreement on Goals	5.3	1.5
9. Even Participation	4.8	1.6
10. Everyone Listened To	5.5	1.7
11. Open Expression	5.2	1.8
12. Supportive to Each Other	5.7	1.3
13. Confront Each Other	4.5	1.4
14. Neg. Comments Taken Well	5.1	1.6
15. How Much Conflict	2.7	1.4
17. Leadership Roles Clear	5.6	1.3
18. Leadership Shared	5.0	2.1
19. Leadership Effective	5.9	1.6
20. Participation in Decisions	4.5	1.6
21. Planning Ahead of Time	4.5	1.8

22. Discuss Group Afterwards	3.4	1.8
23a. Problem-solving	5.9	0.9
23b. Making-decisions	5.3	1.4
23c. Getting work done	6.5	0.8
23d. Using member resources	5.7	1.1
23e. Meeting members needs	5.2	1.6
25. Overall Group Satisfaction	6.3	1.1
26. Overall Effectiveness	6.2	1.2

*Note.* The response scale rated from 1 (very little) to 7 (more than adequate).

The last section of the questionnaire was for open comments on team strengths and weakness. I received an abundance of input in this area. While the teams appeared to be healthy, there were suggested areas that could be improved. The most common referenced strengths revolved around the skills and experience in the different teams and the willingness of those individuals to share their knowledge as well as individuals' willingness to ask for help. The majority of the weaknesses noted revolved around growing pains that the department had incurred over the past year. There have been lots of new hires and lots of shifting people into different teams as the need arises. Development procedures and standards were not clear to all team members and there appeared to be inconsistencies in the editing process. A list of the most often mentioned strengths and weaknesses is contained in Appendix C.

*Interview results.* During the interviews I discovered that while there were variations in how the courseware is developed from team to team, all interviewees had an excellent working knowledge of how the work was accomplished. In three out of the four teams, materials provided by the military subject matter experts drove the workload. Once the materials are provided, the

team leaders are instrumental in ensuring the work is doled out to the developers. All interviewees agreed that there is an equal division of labor.

All interviewees stressed that the work gets done. There was common agreement that all were there to get the job done and were dedicated to putting out the best product. Adjectives such as “intelligent,” “industrious,” and “self-starters” were commonly used in describing fellow team members. All interviewees felt they were a part of the team. No one felt left out, however, there were a couple of individuals that felt that they were not as much a part of the team as they used to be prior to the growth that has taken place over the past 1-2 years. Employees were also knowledgeable about promotions, bonuses, and the selection process in the contract world. All interviewees felt they were properly compensated for the work they perform.

The nature and structure of all teams allows constant contact with the team leaders and supervisors. Developers are therefore afforded the possibility of communicating with their supervisor at any time. JIAC team members expressed that while the team leader offers direction when needed, group input is constantly solicited. All employees were pleased with the feedback they receive from their respective supervisors. All individuals stated that overall they were satisfied with their job; however, the following items were listed as possible areas for improvement:

1. There appears to be a lack of communication on how things are to be done (standards) and how decisions are made in this area. Editors do not appear to be following identical standards during the editing process. There is some concern that too much is left up to the opinion of the editor.
2. The JIAC and IROC teams mentioned that more could be accomplished if the military subject matter experts provided the materials in a timelier manner. The team is stuck

with whatever subject matter experts the military gives them. At times these individuals lack the necessary skills to be considered experts in the field. At other times SMEs are apathetic, totally unmotivated about their work. Members of the ITS team stated that this had also been a problem in the past for them, but currently was not an issue.

3. Knowledge of the specific language being worked is a must in the development of some of the lesson materials. In the past there were times when not enough materials were provided that did not require the skills of a linguist. The non-linguist felt left out.
4. Some personality conflicts exist, but most felt this was minor especially when considering the number of newer employees on the teams.

Upon interviewing two individuals from the instructor team, I found that overall they function quite differently than any of the courseware development teams. Because they are instructors in their individual classrooms, there is very little daily team interactivity. Therefore most of the interview questions tended to not apply. Results from the survey and two interviews showed no similar problems to that of the courseware developers. I discussed this with the collaborative team. It was decided that due to the unique function and structure and the type of data being solicited, the Instructor Team would not be included in the observation process.

*Observation results.* The ITS development facility has 25 computer terminals set up in rows of 3 to 5 positions each. Developers sit side by side and develop lessons that they have retrieved from the priority list. The group as a whole was very knowledgeable about their purpose and goals. The newer employees appeared to have no problems with asking questions of the more senior developers. The senior developers also were more than glad to offer their assistance when asked. Overall the working environment was very informal.

Project managers were responsible for developing and maintaining the priority list of lessons as well as tracking overall development completion. Out on the floor with the developers, there were a few more senior individuals that interacted with the customer when questions arose concerning the courseware materials that could not be answered within the development facility. Because the lessons being developed pertained to specific languages, these individuals were linguists. While they required that their specific language developers come to them with development problems, they had no issues with including them in conversations with the customer when needed. The more senior individuals were also editors as well as developers. The editing process calls for two edits to be conducted on each lesson by different individuals. It is then returned to the developers for corrections. After corrections are made it goes through the editing process again, and preferably is edited by yet two different individuals. When looking over some of the edit sheets, I did notice some inconsistencies between the write-ups of the different editors. While this process worked extremely well for catching the majority of errors, I could see where it could be rather frustrating for the developers. Beyond the above mentioned leadership roles, actual courseware development solicited group decisions. Many times questions were vocalized so that all in the development facility could hear. If there was a clear-cut answer, it was given; if no precise standard had been established for the particular situation, the group would discuss it and decide among themselves.

Employees were knowledgeable about department reward system such as employee of the quarter and understood promotions, pay raises, and bonuses were based on contract awards. Senior developers and editors handed out “pats on the back” to developers for doing a good job. I noticed “smiley faces” and other kudos on the edit sheets given back to the developers.

Overall, I found the ITS team to be a very efficient team. Employees were happy and appeared to have a feeling of job accomplishment at the end of a lesson. I saw no indication of cliques or conflicts between linguists and non-linguist. I asked the project managers and some of the more senior individuals about this. All agreed that since the awarding of the new contract, all were very busy; there was plenty of work for all. In the past, the customer/supplier had been slow at times in providing materials. At times when materials were finally provided, the linguists were the only ones qualified to develop the lesson.

The IROC development team is now left with three employees. As the courseware development cycle is now complete, their function is to update and maintain the courseware. All three individuals were very knowledgeable as they had been members of the original development team. Again, as with the ITS team, the project manager handled the managerial functions as well as helped with the updates and maintenance of the courseware. All three individuals interacted very well. It was a very informal environment with lots of humor. With such a small team, there tended to not be any real leadership roles. All individual ideas and suggestions were listened to and questions/issues were openly discussed. All individuals were aware of the department reward system; employee of the quarter and promotions/pay raises based on contracts. They also provided a lot of encouragement to each other. The team was very efficient. According to customer satisfaction surveys, the customer is extremely pleased with the courseware delivered.

The JIAC team consists of four employees. I am the project leader for this team. While I acknowledge that acting as an observer for my own team may have introduced bias in the data, I feel that I am also the most qualified to identify strengths and weaknesses that I observe on a daily basis.

While the specifics of what the customer/supplier wants has changed almost weekly over the past year, the group understands its overall purpose and goals. Over the past year the customer/suppliers (the subject matter experts) have asked the JIAC team to build several new lessons for them. All courseware materials are to be provided by the SMEs. Currently this material is being provided sporadically at best. From my direct observation and discussions with team members, current issues include:

1. The military command assigns the SMEs to other tasks unrelated to courseware development.
2. There is not enough direct communication between the SMEs and members of the JIAC team.
3. Some of the SMEs have a tendency to be apathetic about the new course and are slow in providing courseware materials.

While the above issues are very frustrating for the JIAC courseware developers, the work has also been very creatively rewarding. Overall the team members have done an outstanding job of “showing the customers what they want.”

The group is highly effective. The major issue we are having is a problem that the ITS team has had in the past; the subject matter experts do not provide the courseware materials in a timely or acceptable manner. Most of the ideas and much of the research for the new courseware has come from our developers rather than the SMEs. The team could be much more efficient if it received sufficient support.

*Secondary data results.* During and after the observation process, I also collected secondary data as defined by Nadler (1977). Our organization became ISO 9001 certified approximately 2 years ago. I am currently one of the internal quality auditors for our department.



The last external ISO audit for the department found no discrepancies or notes for improvement and department growth, contract renewals, and new contract awards were indicative of total customer satisfaction. Customer satisfaction surveys revealed overall excellent ratings. Another source of secondary data mentioned earlier was the edit sheets. During the observation process, I reviewed and compared edit sheets.

### *Joint Analysis and Planning*

Nadler (1977) suggested that it is important to recognize the feedback of data as a starting point to further explore possible problem areas. The collaborative team met and reviewed the data summaries. All members of the team agreed that overall the teams appeared to be in good health. However, the consolidated data revealed two areas that the collaborative team believed could be partially to blame for the stated problem.

The first area concerned the courseware development standards. Courseware standards consist of written guidance agreed upon between the customer and our organization. The standards are published as part of the project management plan at the start of the project and are part of the contract agreement. The ITS Team has seen the most growth over the past year and it appeared that they were having the most issues with the standards. Huszczo (1996) listed “reasonable and efficient operating procedures” as one of seven key components of effective teams (p. 16). He further suggested using a 4-A problem-solving model: awareness, analysis, alternatives, and actions, to address team issues (pp. 112-120). While the team was aware of the problem with editing inconsistencies, further analysis needed to be conducted with the team to define the root causes, discuss alternatives, and implement corrective actions.

The collaborative team agreed to designate one week for training and team discussion. All members of the ITS Team would be involved. The first part of the week was reserved for

presenting, interpreting, and training the course development standards. The remainder of the week would be used for discussion using Huszyczko's (1996) 4-A model as a guide. Because much of the discussion would be concerning questions on acceptable development and editing practices, it was necessary to hold the training session in the development facility where examples could be easily presented.

The second area the collaborative team wished to address was the lack of support and untimely delivery of courseware materials provided by the military Subject Matter Experts (SME). Data collected from three of the four teams suggested that this was a problem, at times leaving team members idle or unclear as to precisely what the customer wanted in the lesson. This was a particular touchy issue as the SMEs are our customers as well as our suppliers. After discussion, it was decided that the task leaders for the ITS and JIAC Team would further explore this issue with the military leaders in charge of the SMEs and provide possible solutions. Guidance for discussions with the military leadership was to focus on ways that we could help the SMEs provide timely material support and establish better communications between the developers and SMEs.

During discussions the military leaders agreed that many times the SMEs are pulled for other jobs that have nothing to do with providing courseware materials to the contractors. Also the nature of the military is that individuals are rotated in and out every 3 to 4 years, creating the need to constantly train new individuals on SME matters. Military leadership agreed that a process for better communications between the SMEs and the courseware developers needed to be established and were open to suggestions.

After listening to the military leadership issues, the task leaders brought the results back to the collaborative team for discussion. Because most of the employees on each team had years

of military experience as SMEs, the collaborative team offered the military leadership assistance in researching for courseware materials and building lesson plans. This first had to be cleared with the contract monitor to ensure it was still within the description of the contract tasking.

The ITS Team selected three individuals to become technical writers based on their background that moved into the operations area with the SMEs. The individuals would conduct research for updates to lessons and write lesson plans. This would also provide additional continuity during SME rotation.

As the JIAC team only consists of four employees, it was decided to move the entire team into the SME operations area. As in the ITS Team, the JIAC Team members have many years of military experience and are able to offer a lot of assistance in conducting research for new materials and provide guidance on lesson formatting. By working in the operations area with the SMEs the JIAC Team can make optimum use of the time the SMEs are available and closer communications can be established between the JAIC Team and the SMEs.

#### *Implementation of Training Improvements*

The first implementation that took place was the weeklong training session. This was a first order change as discussed by Coghlan & Brannick (2001), in that training improvements were needed to define and clarify courseware standards. The team task leader spent the first day presenting, interpreting, and training the courseware development standards. He explained to the team that the standards were purposefully flexible to allow for personal creativity. While standards could not be altered at this time, suggestions for improvement were noted for possible inclusion in future contract negotiations.

*Group involvement to reduce resistance to change.* While training and interpreting the development standards addressed some of the editing inconsistencies, further analysis was

necessary. Examples of past edit sheets were provided and discussed. Team members were afforded the opportunity to provide specific examples of inconsistencies they had noted in the past. Editors openly discussed their reasoning for noted corrections. Corrections that could be directly correlated to the courseware standards were pointed out and explained by the task leader, reaffirming the correct use of the standards checklist. To further address editing inconsistencies, a process for handling courseware development practices and procedures not specifically mentioned in the standards was established. As recommended by French & Bell (1999), the entire team was involved to encourage ownership of the process and thereby reduce resistance to change. Most solutions were decided by consensus. Where consensus could not be achieved, the task leader made the final decision, after hearing all points of view (Huszczko 1996).

*Defining responsibilities and developing accountability.* Zachary (2003) suggested that steps in managing change include clearly defining responsibilities and developing accountability. The process that was implemented assigned responsibilities to the editors to correlate suggestions and corrections during the edit process to a specific courseware development standard. In order to bring new hires quickly up to speed on the standards, editors were required to sit down with the individuals and go over the lesson along with the edits. If there were no correlations to the standard, the editor would discuss their findings with other editors as well as the courseware developer. If consensus could not be reached, the issue would be taken to the task leader to make a ruling. To ensure all team members were constantly aware of “in-house” guidance, all findings would be recorded and further discussed in a weekly team meeting.

*Measurement of the implementation.* Cummings and Worley (2005) recognize the importance of a method to evaluate the implementation process. To ensure that the new process was working, the task leader was assigned the responsibility to randomly select lessons and

review all edit sheets comparing for consistency. This review would also help the task leader in determining the need for additional training among the developers. Customer feedback and quality reviews would continue to be monitored and compared with historical data.

#### *Implementation of Communications Enhancements and Team Restructure*

Implementation of the second change required CTI team members to move into the operations area with the military subject matter experts to help research for materials, build lesson plans, and establish closer communications. Coghlan & Brannick (2001) stated that implementing change requires (a) determining the need for change, (b) defining the future state, (c) assessing the present in terms of the future, and (d) managing the transition (pp. 85-86).

*Determining the need for change.* Huszczo (1996) suggested that assessing the current situation, recognizing the current problems, and communicating the need for change are important criteria for becoming aware of the need for change. Additional duties required of the SMEs and lack of continuity as a result of normal military rotations was prohibiting timely materials delivery and needed communications between the military SMEs and the CTI team members. While the initial data suggested that the lack of SME support was considered an issue by the CTI teams, the need for change was further communicated by the interviews and discussions conducted with the military leadership. This buy in from the military leadership was very important in driving needed changes and reducing the resistance to change from the subject matter experts.

*Defining the future state.* As the military continues to downsize, the phrase of “doing less with more” is becoming a cliché. While in some instances those that are left behind are able to pick up the slack, many times work goes unfinished or is contracted out. It was important that the CTI Teams show the government that they were not only willing to take on a bigger role in

courseware development, but also that the skill sets were available to get the job done. Moving the team members into the operations areas with the SMEs would allow more involvement with developing courses from the ground up, decrease developer idle time, produce a higher quality product, and deliver the courseware in a timelier manner. This would likely lead to the reunification of the team, the awarding of future contracts, and the hiring and promoting of personnel.

*Assessing the present in terms of the future.* Project communications management requires determining what materials, information, and communication is required of all stakeholders in a project and making the information available in a timely manner PMBOK Guide (2000, p. 117). For several reasons the SMEs are currently not able to provide courseware in a timely manner. At times this leaves team members idle. Lack of communications has resulted in numerous changes during and after courseware development. Providing individuals from each of the CTI teams to work directly with the military SMEs would make optimum use of time the SMEs are in the area. SMEs hopefully would become more encouraged and involved as they watched their course come together. Communications and relations between the SMEs and CTI team members would be closer and decrease the number of changes required after courseware development.

*Managing the transition.* Several meetings were held to discuss the advantages of the proposed changes. Sometimes these meetings were for the CTI Team members only, at other times the SMEs and the military leadership were also involved. The new team structures allowed for spontaneous meetings and discussions to occur in the development facility.

After the move took place, teams of two or three individuals consisting of one SME per team were organized and assigned a course. Coghlan & Brannick (2001) recognize that change

takes commitment by the right people. The military leaders were extremely committed in providing the needed support and enforcing the new work structure. Managing change includes clearly defining responsibilities and developing accountability (Zachary, 2003). While it was important as the project leader for the JIAC Team that I assign responsibilities to my team members and hold them accountable, it was just as important that the military leadership do the same for the SMEs.

Group meetings were scheduled for once a week with all members of the JIAC Team and the military SMEs to discuss the past weeks activities, plan for the upcoming week, and address team conflicts. Huszco (1996) recognized that team conflicts are a source of creativity. Conflicts are a predecessor to change and are indicative of caring, however they must be managed constructively (p. 152). To manage conflicts the team adopted a concept known as the “reflective thinking procedure” (Folger, Poole, & Stutman, 2001, p. 271). The five steps involved in this process are: problem definition, problem analysis, possible solutions, solution selection, and implementation (pp. 271-272). To help assess team behaviorisms and conflicts over an extended period, minutes of these meetings are recorded.

### Results

The action research project was successful in identifying two underlying areas that were affecting team performance and cohesion. Through repetitive cycles of data gathering, feedback, and analysis, the collaborative team was successful in planning and implementing changes that enhanced team members’ understanding of the development standards and established better communications with the customer/supplier.

#### *ITS Team Training*

Through follow on interviews conducted with members of the ITS Team and the project manager, most of the editing inconsistencies and misinterpretations of the development standards have been erased. Many of the team members provided positive comments and feedback and expressed the desire to have similar sessions on a routine basis. Monthly team discussion groups are now the norm. Developer training has also become more standardized. Computer based developer-training sessions at the basic, intermediate, and advanced levels have since been created. Developers are encouraged to review these sessions when they need a break in routine courseware development.

#### *Enhancing Communications with the Subject Matter Experts*

Moving selected members of the ITS Team, as well as moving the entire JIAC Team to the SME operational area resulted in a team structural change. All three members of the ITS Team and one member of the JIAC Team were promoted to senior technical writers. Their assistance in building lesson plans, researching for supporting materials, closely communicating with the SMEs and acting as a liaison between the courseware developers and the SMEs has resulted in additional work and contract modifications on both teams. In the JIAC development area, spontaneous discussions between the SMEs and the developers are now commonplace. JIAC Team members are more aware of the numerous military activities that the SMEs are expected to attend. Prior to the move, lack of support was more readily contributed to SME apathy.

#### Discussion

Coghlan and Brannick (2001) emphasized the importance of constant collaboration between members of the organization being studied and the researcher. In this case study the collaborative team initially consisted of the department manager, the program manager, and



myself as the researcher. While the managers had the power to authorize and enforce the needed changes, after the initial collection of data, it became necessary to solicit the knowledge and experience of several other organizational members for planning and implementation. When it became apparent that the lack of support from the SMEs was a contributing factor, military leadership also became involved with the collaborative team effort. The joint analysis, planning, and agreement of these key stakeholders played an integral part in the acceptance of the changes and overall success with the implementation.

Coghlan and Brannick (2001) discussed the importance of the “who, what, when, and where,” as it relates to creating confidence and validity in the data source. Patton (2003) and Nadler (1977) further supported this with the concept of data triangulation. In this case study, using surveys, interviews, and observations were an excellent choice for collecting the data and comparing the results received from the different sources. This facilitated the ability of the collaborative team to discover the initial issues common in all data sources and begin formulating an action plan. The data further pointed out to management that the lack of materials support from the SMEs was not only an issue of production and timely delivery, but also affected team wellness. While the action research project allowed me to collect data within my own organization, I was not permitted to collect data from the SMEs. A more conclusive set of data could have resulted.

The courseware development environment calls for such close communications and relationships between the JIAC Team members and the SMEs that the SMEs themselves are part of the team. Folger, Poole, & Stutman (2001) recognized that communication problems can be a source of conflict. While the “reflective thinking procedure” continues to resolve many of the

conflicts within the teams, formal conflict management classes for all members prior to the implementation would have made for a smoother transition.

### *Implications*

The ITS Team training sessions followed many of the standard practices and suggestions for building high performance teams (Huszczko, 1996). However the team restructuring and the move to the supplier/customer operational area provides for a more organizational specific situation. While the military subject matter experts are considered our supplier in that they provide us with the course materials to develop, they are also our customers in that the finished courseware is returned to them for acceptance and use. The timely delivery and quality of the product therefore depends on the customer. When discussing the value-added chain, Harris (1998) suggested that the primary role of each chain is to add value or produce (p. 84). To add value to the customer, it was necessary for our team members to take on some of the responsibilities of the supplier.

While issues with CTI team members and SME communications had been addressed to the military in the past, solutions offered were temporary at best. The moving of the CTI team members to the same proximity as the SMEs not only provided for better communications between the two entities, but also made all members aware of the need to interact. The move drove this interaction. As the two entities continue to work together, an important part of the continuing change process will be managing team conflicts. This will be exceptionally challenging as military members are routinely rotated.

### *Lessons Learned*

*Organizational learning.* The department manager has often stated one of his main goals is teamwork. Members of the collaborative team were afforded the opportunity to assess this

goal, determine areas for improvement and plan accordingly. Providing for effective teams requires the total and constant support of management. Huszco (1996) provided seven key components of effective teams (p. 16). While assessing and striving to improve on these key components, the collaborative team learned how external forces such as the lack of support from the supplier not only affects the production cycle, but also directly influences the well being of the teams. While the ability to create change is not as readily available as issues from within the organization, it is still vitally important that management engage these roadblocks if total team effectiveness is to occur. The department as a whole learned the benefits of involving all stakeholders and constantly communicating the vision. This provided department wide ownership of the process and reduced the resistance to change.

*Personal lessons.* I enjoyed and learned from my position as the researcher. I was amazed at the abundance of data that is available through surveys, interviews and observation. The analysis of this data solidified the use of triangulation as a means of ensuring validation. Data analysis also pointed out many previously unknown personal biases. While I feel that I have just scratched the surface in the art of interviewing, my listening skills and attention to interviewee expressions are more finely honed.

As the project manager for the JIAC Team I was afforded the opportunity to plan and implement a major team change. As a retired non-commissioned officer from the Army, I learned that my leadership style had changed over the years since retirement. Rosen (1996) stated that rank and position do not automatically make an effective leader in today's market place. Leaders must be able to inspire, motivate, and mobilize. Rosen further recognized that different situations require different styles of leadership (p. 55). The Regis MSM program has provided me with several styles of leadership. The research project and my current job as a

project manager have afforded me the opportunity to draw on my knowledge of these various leadership styles. For the twenty-first century, Rost (1993) suggested that leadership is an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes. He further stated that four essentials must be present. These essentials are, relationship is based on influence, leaders and followers are the ones involved in the relationship, leaders and followers intend real change, and leaders and followers develop mutual purposes. This style of leadership emphasizes the followers as well as the leaders. The idea is to include everybody and get everyone's agreement for the need for change. Then work toward that purpose. While still leading from the front I have learned the value of soliciting input from all team members and really listening and caring about what they have to offer.

While my military experience provided many opportunities for the use of similar leadership styles as those learned and discussed in the Regis MSM program, the competitive environment was absent. This adds a definite dimension to the art of leadership. Rosen (1996) stated, "In business there are three fundamental values: (a) a commitment to satisfy customers, (b) a commitment to developing a mature and motivated workforce, and (c) a commitment to earning excellent returns for stock holders or the public. Research shows that companies that focus on all three of these values outperform their competitors" (p. 18). The MSM program provided the additional leadership knowledge needed to succeed in a competitive business environment.

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## Appendix A

## Group Effectiveness Survey

**Instructions:** This survey is designed to collect information on the functioning of your group. As you read the questions, think about how your group has been working and check the response that you feel is most appropriate.

Many of the questions ask about things that “group members” do. Obviously different people act in different ways. Therefore, when answering the questions, think about how group members have behaved in general during the period that you have been working together.

Your individual responses will be confidential.

The Group Task and Composition

1. In general, to what degree are group tasks certain and predictable?

The group tasks are very unpredictable; we never know what we we're going to have to do next	[1]	[2]	[3]	[4]	[5]	[6]	[7]	The group tasks are very predictable; we always know exactly what we are going to have to do next
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2. In general, how complex are the tasks the group has to do?

Very simple; most of the work does not require advanced skills, abilities or knowledge	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Very complex; most of the work requires advanced skills, abilities, or knowledge
--	-----	-----	-----	-----	-----	-----	-----	--

3. How interdependent are the different parts of the group's task?

Very independent; each part of the task can be done independently of the other parts	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Very interdependent; each part of the task is highly related to other parts of the task. Getting one part done is dependent on having other parts done
--	-----	-----	-----	-----	-----	-----	-----	--

4. Do group members have the appropriate skills, abilities, and knowledge to do the task?

No members do not have skills, abilities, and/or knowledge needed to do the task	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Yes members do have skills, abilities, and/or knowledge needed to do the task
--	-----	-----	-----	-----	-----	-----	-----	---

How the Group Members Work Together

5. Do you feel like you are really a part of the group?

No, I do not feel like part of the group	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Yes, I am very much a part of the group
--	-----	-----	-----	-----	-----	-----	-----	---

6. Do all group members appear to be involved in the activities of the group?

No most members don't seem to care what happens with the group	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Yes most members are very concerned about the group
--	-----	-----	-----	-----	-----	-----	-----	---

7. How clear are the goals of the group?

Unclear. the group is not sure what it is supposed to do	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Clear; the group knows exactly what it is supposed to do
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8. Is there general agreement with the goals of the group?

No, different people have very different goals for the group	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Yes, everyone shares the goals of the group
--	-----	-----	-----	-----	-----	-----	-----	---

9. How even is participation by members?

Uneven. a small number of people do all the talking	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Even, everyone talks about the same amount
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10. Do everyone's opinions get listened to?

No, many members' comments are ignored	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Yes all members seem to be listened to by others
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11. How open are group members in expressing their feelings in the group?

Group members are very closed, guarded, do not express feelings	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Group members are very open and express their feelings freely
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12. How supportive are group members toward each other?

Not supportive at all	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Very supportive
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13. Are group members willing to confront each other or to respond negatively to others?

Group members are not confronting	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Group members are very confronting
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14. How well do members receive negative comments?

Poorly; people seem threatened by negative comments and react defensively	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Well; people listen to, value, and make use of negative comments
---	-----	-----	-----	-----	-----	-----	-----	--

15. How much conflict is expressed in the group?

Little conflict; the group rarely has conflicts expressed	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Much conflict; the group is constantly dealing with conflicts among members
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16. In general how is conflict dealt with? (check only one)

[1] Forcing (person with power wins)  
 [2] Smoothing (denial of the conflict)  
 [3] Withdrawal (by one side or member)  
 [4] Confrontation (those in conflict directly work it out)  
 [5] Arbitration (a third party decides)  
 [6] Other \_\_\_\_\_

17. Are leadership roles and assignments clear?

No; it's not clear who is supposed to do what; who is in charge, etc.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Yes; it is very clear who has what leadership responsibility
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18. How much is leadership shared?

Little; one person does all of the leadership functions	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Much; each person performs different leadership functions as appropriate
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19. In general, how effective has the formal leaders been in getting the group to work together effectively?

Ineffective; the leaders have not helped the group to work effectively	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Effective; the leaders have greatly aided the group in working effectively
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20. How much do group members participate in decision making?

Very little; a few people make all the decisions while others are not involved	[1]	[2]	[3]	[4]	[5]	[6]	[7]	A great deal; the whole group is involved in making most decisions
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21. When faced with a task (or a problem to solve) does the group usually plan how it will work on the task ahead of time (i.e., before beginning to work on it)?

Usually not; the group tends to jump right into doing the task, rather than discussing how it will be done first	[1]	[2]	[3]	[4]	[5]	[6]	[7]	Usually yes; the group tends to discuss how it will do the work before starting
--	-----	-----	-----	-----	-----	-----	-----	---

22. After the group has done work, does the group spend any time discussing how well group members worked together?

Usually not [1] [2] [3] [4] [5] [6] [7] Yes, frequently

### Assessing Group Effectiveness

23. How effective would you rate the group along the following dimensions, with [1] being the least effective and [7] being the most effective?

1) Problem solving	[1]	[2]	[3]	[4]	[5]	[6]	[7]
2) Making decisions	[1]	[2]	[3]	[4]	[5]	[6]	[7]
3) Getting the work done	[1]	[2]	[3]	[4]	[5]	[6]	[7]
4) Making use of member skills, abilities, and resources	[1]	[2]	[3]	[4]	[5]	[6]	[7]
5) Meeting individual needs	[1]	[2]	[3]	[4]	[5]	[6]	[7]

24. Currently, which contract or group are you working with?

JIAC ITS IROC Instructors

25. All in all, how satisfied are you with being a member of this group?

Very dissatisfied [1] [2] [3] [4] [5] [6] [7] Very satisfied

26. Overall, how effective is this group?

Ineffective [1] [2] [3] [4] [5] [6] [7] Effective

### Strengths and Weaknesses of the Group

Briefly list the major strengths of this group (what things about the group members and how they work together help the group to work well?)

Briefly list the major weaknesses of this group (what things about the group members and how they work together get in the way of the group doing the job?)

## Appendix B

## Interview Questions

State reason for interview:

Recently a questionnaire was conducted to solicit data about team effectiveness and interrelationships. I am conducting this interview with several employees randomly chosen from each team to further validate the data collected. Your name was one that was chosen. I have a set of questions that I will be asking you as well as all other employees that are randomly selected. I will be speaking with individuals at different levels among all the department teams. I would like to speak with you for just a few minutes about your job, the department/organization, and how you feel things are around here. If for some reason you do not feel comfortable answering any of these questions, please say so and I will move on to another question. Please be as open and frank as possible. The contents of this interview are strictly confidential. No one but you and me will know what was said here. The information you volunteer will be used in a summarized form to help management assess our overall department condition/situation.

Do you have any questions before I start? Do you mind if I take notes as we speak?

The Person and the Job

1. What is your job title?
2. How would you describe your job to someone not familiar with this type of work?
3. Length of time with CTI\_\_\_\_\_ In this position\_\_\_\_\_ Other jobs with CTI\_\_\_\_\_

The Work

4. How does the work get done on your team?
5. How does your job fit into getting the work done?
6. Who do you have to talk to in order to get your work done?

7. What kinds of communications (reports, memos, instructions, etc) do you receive or send out as part of your job?

8. Do you see any major problems that get in the way of getting the work done?

#### Groups

9. What kinds of people belong to your team?

10. How well does your team get the work done?

11. How well do members on your team get along with each other?

12. How well does your team get along with other teams in the department?

13. Do you feel like you are a part of the team?

14. How are decisions made on your team?

#### Supervision

15. Supervisor\_\_\_\_\_

16. How often do you communicate with your supervisor?

17. What does your supervisor do to help you do your job?

18. In general, how much input do you have in the decisions that your supervisor makes?

19. How well do you get along with your supervisor?

#### Rewards

20. Do you feel properly compensated for the work you perform?

21. Do you understand how advancement occurs in the contracting world?

#### Satisfaction

22. How satisfied are you here?

23. What things are you most satisfied with?

24. What things are you most dissatisfied with?

Problems and Change

25. What are the departments/teams major strengths?

26. If you could make any changes at all on your team or within the department, what changes would you make and why?

27. What do you see as the major obstacles blocking needed change on the team/ department?

Do you have any questions or anything you would like to expound on?

## Appendix C

Survey Question #16. In general how is conflict dealt with? (Number of responses for each area listed below)

1 - Forcing (person with power wins)

0 - Smoothing (denial of the conflict)

3 - Withdrawal (by one side or member)

8 - Confrontation (those in conflict directly work it out)

2 - Arbitration (a third party decides)

Other - 1 - open discussion, 1 - avoidance

### Team Strengths

Various strengths, wide variety of skills

Several core developers that have desire, experience, and drive to ensure product meets highest standards

Willingness to help; experienced people willing to teach and share ideas

Members not shy about asking for help

Enjoyable work center, workplace is fun

New people willing to learn

Good personality mix

Flow of information up and down hierarchy is excellent

Members work together to get task done

Everyone pitches in and pulls their share of the load

Diversity (background, experience, and approaches)

Great teamwork

Everyone knows the importance of the task and that it takes full commitment from all

Fantastic group humor

Criticism always constructive, disagreements rarely end with animosity

Each person has a niche or skill set that provides for overall objective accomplishment

Overall drive to be successful

#### Team Weaknesses

Lot of new people

Lots of people sent to other areas

Several new developers that still need to achieve desired level

Many new people need brought up to speed on procedures and standards – makes for long edit procedure

Haven't seen any