Quality circles in education

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Abstract
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QUALITY CIRCLES IN EDUCATION

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It has been cited that, (Decker & Baum, 1986) "in the past years, business and industry have been criticized for authoritarian management styles that have lowered morale, hurt production rates, and ultimately raised prices on consumer items. Many journals have predicted the collapse of American business due to poorly equipped, and poorly trained managers." (p. 72)

A growing body of research has indicated that in an effort to find out what determines excellence in management techniques due to beneficial practices (Decker & Baum, 1986; Chase, 1983; Dunne & Maurer, 1983) Quality Circles were mentioned, and prescribed.

This paper examines the operations of Quality Circles, and how Quality Circles are applied to the "business of education"?

Given the proper presentation, and preparation, it is stated that great success will come of the Quality Circles in the educational setting. Since the success of many companies are due to management practices, then assume that those same practices could be applied to education. Some investigators (Decker & Baum,
1986), believe that school systems are business, and often the community's largest employer.

The publication of, *A Nation at Risk*, has caused the American public to question, as never before, the quality of public education. As a result, (Howley, 1984) educators have rushed to formulate plans for excellence in schools, plans that provide for tighter controls over curriculum, textbooks, and graduation requirements.

The attainments of excellence may not be clearly defined or addressed by such action alone, for some educators believe that the key to higher quality education lies in the people within the organization. Quality Circles show promise as a way to tap energy, creativity, and expertise of the people who work in schools for the benefit of both the organization and the individuals involved.

Today, it is estimated, (Hawley, 1984) that more than 200 of the "Fortune 500", companies use Quality Circles, and the concept is quickly finding its way into the schools. One reason Quality Circles are so popular with school administrations (Dunne & Maurer, 1982) is that it
is a people motivator. Research indicates that Quality Circles motivate because they create a positive work climate in which cooperation, mutual respect, recognition, and challenge go hand in hand (Dillon & Brown, 1983).

**Quality Circle Concept**

The Quality Circle is a small group of people (6-12) with a common interest who meet on a regular basis (usually one hour a week) with the encouragement of the administration. Quality Circle members are trained in group process, and problem-solving techniques by a facilitator as they identify, document, and recommended solutions to problems within their work area and range of authority. Research suggests Quality Circles meet during work hours or receive compensatory time off for meeting outside of work hours, (Decker & Baum, 1986) as they do in the Charles City, Iowa schools.

The Quality Circle process is based on the idea that teachers teaching can best diagnose problems in their work and recommend possible solutions. The purpose is to increase efficiency, quality, and morale by giving employees more
control over their work environment. Quality Circle membership is an excellent way for helping the employees achieve at an advanced level. Chase cites, (1983) "the employees basic needs will be met through the job, but the highest level of needs can be met best through quality circles." (p. 22)

A Theoretical Basis

During the past forty years, a number of theorists have suggested that leaders can best maintain influence by working with employees to satisfy their needs as well as the needs of the organization.

By definition of Quality Circles, (Hawley, 1984) the people involved choose their own problem to work at. That element of choice, of what is important to the group means that the group might choose to work on something as safety issues, (which would be a lower order need) as opposed to actualization issues or social and personnel-related issues. The fact they can move within that hierarchy is a real strength.

If Herzberg's theory holds true regarding motivation and hygiene factors, (Hawley, 1984)
then clearly giving people the opportunity to problem-solve around those factors ought to lead to increased motivation in their work environment.

Also coming out of McGregor's theory X, theory Y ideas, (Hawley, 1984) has been some work in participative management and work enrichment that would seem to indicate that if you give people some time to problem-solve about their work and give them some choice about their work, that motivation will be increased.

The Quality Circle Process

Quality Circles in education are different from the committees or task forces usually used in education (Ball, 1983) in that, circle leaders and members are carefully trained in techniques and procedures for communicating and problem-solving. Circle members receive up to fifteen hours of training from a facilitator, and leaders receive even more training. This training is carried out while the group is working at solving a problem. (Chase, 1983).

The Circle begins by identifying problems it is presently facing, that are within their span of control. One problem is then selected for
attention, and the Circle moves ahead to analyze the probable causes of the problem. Once the most important causes have been identified, the circle turns its attention to identifying, and selecting preferred solutions. These solutions are proposed to the administration in a "management presentation," (Ball, 1983).

Quality Circle Techniques

Throughout the Quality Circle process, the members use specific techniques that are vital to the process. William Ouchi, the author of Theory Z, underscores the need for specific training when he states that an organization can realize the full potential of its employees, "only if it both invests in their training and then shares with them the power to influence decisions. Without training, the invitation to participate in decision making will lead only to frustration and conflict."

Hawley cites, (1984) "the essential techniques that are part of the Quality Circle training are:" (p. 12)

1. Brainstorming.

A technique used to produce the maximum
number of alternative ideas on a given topic. Each member in turn, voices an idea. Because criticism is not permitted, negative feelings that might cause creative ideas to be stifled do not exist. The group continues to generate ideas until all members exhaust any new ideas. Brainstorming is normally used to identify problems, causes, and solutions.

2. Voting for consensus.

While the intent of brainstorming is to produce a large quantity of ideas, voting for consensus begins the process of narrowing to the best ideas. There are three steps. First, circle members vote by show of hands, to indicate which ideas from the brainstorming session warrant further consideration. Members may vote for as many ideas as they wish; ideas are then ranked by number of votes. Next, the circle discusses the ideas to develop a common understanding of each, and individuals are given the opportunity to promote the worth of a particular idea. Finally, the circle votes
again to determine which ideas have the most support, but the number of times each individual may vote is limited (typically, to one vote for each five ideas remaining.) Voting for consensus usually follows each brainstorming session.

3. Cause and effect analysis.

Brainstorming a list of causes of the problem using a popular technique called the fishbone technique. This is broken into four categories: methods, machines, materials, and people power. The fishbone diagram serves to lay out the probable causes of the problem in an organized manner.

4. Data gathering and analysis.

Circle members learn a variety of ways to gather hard facts to support their ideas. This might include use of check sheets, check lists, surveys, interviews, and so forth. Circle members are taught simple statistical techniques as they are needed to explore problems at a practical level.

5. Decision analysis.
This is a systematic procedure for separating an important few from a larger number of problems. The most common decision analysis technique used by Quality Circles is Pareto analysis. The assumption underlying the Pareto method is that twenty percent of the variables in any situation causes eighty percent of the results. A person can get eighty percent of their work done in twenty percent of their time. The completed analysis is represented on a Pareto chart, a bar graph with columns arranged in descending order. It is a striking visual representation of the most likely causes of a problem.


Once the most important causes of a selected problem are identified, brainstorming or voting for consensus are used to generate and select solutions to the problem, and to consider the possible effect of each alternative solution.

7. Presentation techniques.

Circle members are trained in the basics of
public speaking and the fundamentals of preparing visual aids for use in presentation. The primary purpose for this training is to prepare for a smooth presentation to the administration.


The circle is trained in self-evaluation procedures so that the group can critique its operation after each cycle. This formative evaluation is vital if the circle is to learn and grow through its experiences.


Training is presented periodically throughout the process to enhance accurate communication and good listening skills. Other group process skills are taught as needed.

**Why Do Quality Circles Work?**

Basically, it humanized the work place (Dunne Maurer, 1982). A principal belief of participatory management is that, given opportunity to participate in developing solutions to his or her work related problems, a person
thereby becomes personally committed to the effective implementation to those solutions. Management thus need not confront a problem so often faced in traditional organizations: how to motivate the worker to do what you believe necessary to solve a problem (Dunne Maurer, 1982)

**Elements Essential To A Successful Quality Circle Program**

1. Management commitment—at all levels.
2. Compatible organizational philosophy.
3. The right of employees to participate or not participate.
4. Training in Quality Circles principles and operations for Quality Circle leaders and group members.
5. Freedom of member to participate in Quality Circle related activities.
7. Code of Conduct to operate by to ensure effective problem solving oriented activity.
8. Support group backup.
9. Reward Quality Circle members (extrinsic, intrinsic.)

10. Cost commitment at the outset, do it well, or don't start Quality Circle.

11. Union involvement through preparation and participation of union personnel is critical.

Research suggests, (Lindner, 1984) it is easier to run a school with the help of those who work for you than trying to do it alone. People in schools, people who are administrators, people who are teachers, are more committed, more motivated to take on problems and work on them if they have a hand in attempting to resolve them. The Quality Circle method is one way of involving faculty to share the burden in building and maintaining school policy (Torrance, 1982). The plan is submitted to the building principal as a proposal for action. The principal has the final word on the decision. The principal does not have to give up power. He or she is using the Quality Circle to gather the best information and advice before making a decision (Decker & Baum, 1986).
The Quality Circle is not a "quick fix" solution. It takes time to organize; it takes time to examine problems thoroughly, set priorities, and develop strategies; and it takes time to implement any plan effectively (Hawley, 1985).

The staff may be skeptical at first. They will probably question, directly or indirectly, behind the safety of the faculty room door, whether or not you will use any of their ideas.

As research suggests, there are many positive features in Quality Circles: They develop the problem-solving capacity of the staff (Bacon, 1983). They provide input on problems and potential opportunities from all corners of the school. They provide different perspectives on major issues. They establish an ongoing system for solving critical problems (McMullen & Gaily, 1984). They increase the collaboration between teaching faculty and administration. They help everyone focus on results. They turn the powerlessness, felt by many teachers and administrators, into result-oriented activities. They can develop from reactive problem-solving to
active goal-setting groups. They help you solve problems (Browne, 1982).

**Steps In Establishing A Quality Circle**

1. Be sure that you are comfortable and are willing to turn over some responsibility to others on your staff. Be willing to take suggestions and recommendations from a group of teachers. Give total commitment to the Quality Circle, so that it can be effective.

2. Learn all you can about Quality Circles. The Quality Circle will become a living part of your school only if it is introduced slowly and allowed to find its place in the day-to-day operation of the school.

3. Consider hiring a competent consultant to advise on planning and establishing the Quality Circle.

4. Involve your staff in planning for Quality Circle activities.

5. Form the Quality Circle as a mandatory obligation the first year, then from volunteers the second year.

6. Provide training for the members.

7. Establish a steering committee to provide
guidance for the Quality Circles's performance.

8. Establish meeting time and place.

The most significant contribution Quality Circles gives to education is that they are "people building." (Hawley, 1984) The kind of skills and knowledge, and experience, as well as those of the school. Everything that members are taught as skill or technique in the circle process is transferable to any other group in which they participate. These are usually state-of-the-art skills: how to listen; how to lead; how to analyze information; how to communicate; how to make good presentations. Circle members deal with all of this and it becomes absorbed for them and their schools.

Quality Circles is a unique organizational model that uses members practical knowledge and creativity to increase productivity, improve efficiency, and build morale. There is every reason to believe that Quality Circles can work in our schools.
References


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