# Teamwork: Implications for New Faculty

**By Stephanie G. Adams, Karan L. Watson, Ph.D.;**
**Texas A&M University**

*Abstract*

*In recent years, organizations in the United States have searched for ways to improve their overall effectiveness. No topic has garnered more discussion as an option than that of teams. There are many types of teams being utilized in organizations. However, in the last decade work teams have become one of the most popular types of teams. Work teams have been credited with increasing productivity, reducing costs, boosting moral, improving organizational flexibility and a flattening of the organizational structure.*

*The cornerstones, research and teaching, of the faculty culture are dominated by individuals, not teams. The nature of higher education is to place emphasis on the accomplishments of the isolated individual rather than on team efforts. The emergence of teams in the academy will cause an increase in the administrative responsibility of faculty, a redistribution in the power and authority of faculty members and a reprioritization of work load and philosophy about teams.*

*Engineering faculty members are often uncomfortable with the collaborative nature of teamwork. Indeed, the personality traits that characterize some engineering faculty interferes with their ability to be effective contributors in team ventures.*

*This article will chronicle the evolution of teams, the emergence of teams in higher education and the expectations for engineering faculty members with regards to teamwork. This information will be beneficial for new engineering faculty as they embark on a new career where the infrastructure is changing.*

## *Introduction*

In recent years, organizations in the United States have searched for ways to improve their overall effectiveness. No topic has garnered more discussion as an option than that of teams. The results from the use of teams are numerous. Teams are often recognized as an effective way to manage change, improve overall effectiveness, reduce costs, increase productivity and increase employee satisfaction. Teams have been key organizational elements in the design and execution of strategic management initiatives[1].

The *Wall Street Journal* reported in April, 1995, that 67 percent of large American companies assign workers to teams, compared with 28 percent in 1987 [15]. USA Today reported in February, 1997 that every company in the Fortune 500 has some version of team on it's roster[11]. The most popular type of team in the last decade has been the work team. Work teams consist of individuals working together, on an ongoing, full-time basis, responsible for producing products or providing services.

The hallmark of work teams is the participation of all team members in decisions that were formerly made by supervisors and managers. In work teams, team members negotiate their individual and collective roles, assign duties and responsibilities, and choose their own leaders. In many cases the leader serves as the facilitator of the team and members take turns sharing this position.

Work teams can be used in many situations where people work interdependently and can be made collectively responsible for producing a product or providing a service to an internal or external customer. Proctor & Gamble, General Motors, Texas Instruments, and the Aid Association for Lutherans, a Wisconsin based insurance firm, are just a few of the companies that have successfully implemented work teams [8]. The diversity in the type of companies cited illustrates the wide applicability of work teams.

This article will chronicle the evolution of teams, the emergence of teams in higher education and the expectations for engineering faculty members with regards to teamwork. This information will be beneficial for new engineering faculty as they embark on a new career where the infrastructure is changing.

*The Evolution of Teams*

Teams in the work place are not new. Formally or informally they have existed for hundreds of years[6]. Gustafson and Kleiner (1994) argue that teams have been around as long as man and are not a new phenomenon discovered and set into action by management. In their article entitled "New Developments in Team Building," they present the following anecdote.

> Pre-historic man: if he had to kill a mammoth or do without supper, there was not time to draw up an organization chart, assign tasks, or delegate authority. Basically, the person who saw the mammoth from the farthest away was the Official Sighter, the one who ran the fastest was the Head Runner, whoever threw the most accurate spear was the Grand Marksman, and the person all the other's most respected and listened to was the Chief.

The spontaneity shown in this example is exactly the type of behavior so desperately sought in today's environment.

Although teams have been around for years, they were not formally introduced in the business sector until the 1960s[4,9]. In the 1960s, American management began a long journey toward greater employee involvement. The first step was the Quality of Work Life movement. In this era mangers asked employees for ideas that would make their jobs easier and more pleasant.

In the late 1970s, employee involvement groups called quality circles began to be utilized. Quality circles were comprised of small groups of employees and supervisors, who received basic training in problem solving, and met regularly to study problems in their work and make recommendations to management[5]. Although a number of companies were successful with quality circles, in the 1980s, most organizations abandoned them and moved to total quality management.

Total quality management (TQM) is a management system whose basic elements were customer focus, quality planning, process measurement, continuous improvement cycles, quality goals and objectives, and total participation within an organization. It can be tailored for a

particular environment and there are as many ways to implement TQM as there are organizations adopting it.

The next stage in the evolution of teams was the emergence of work teams. Although there is evidence suggesting work teams began in the 1960s, it was not until the late 1980s/early 1990s that they became an industrial phenomena. During the past decade, the use of SMWTs has increased drastically in organizations[10]. A 1994 survey sponsored by the Society for Human Resources Management and CCH, Inc. found that 64 percent of companies surveyed report developing self-directed work teams[15]. By the end of the twentieth century, it is estimated that 90 percent of all North American organizations will have some type of self-managed work teams [2].

Historically, SMWTs have been used in manufacturing in various types of companies, i.e. petrochemical, electronics, consumer products and pharmaceutical. During the 1990's, the use of SMWTs has spread to other areas. Most recently, SMWTs have been introduced in service industries, public/government industries and other "white-collar" or knowledge-based work settings. "White-collar" or knowledge-based work settings comprise work that isn't considered blue-collar manufacturing.

The following categories can be included under the "white-collar" label: clerical, support, production, technical, and professional. Clerical refers to the entire office staff in a factory or corporate headquarters. Support refers to functions supporting the production process, i.e. sales, marketing, research and development, human resources, etc. Production refers to large scale processing of data, i.e. insurance claims. Technical refers to technicians and engineers supporting production. Professional refers to jobs requiring people with higher degrees, and may include functions in an organization like engineering, research and development, legal, and finance[12].

Knowledge-based work includes product development, concurrent engineering, proposal writing, technical sales, publishing and system development [10]. Given these "white-collar" and knowledge-based work settings descriptions the placement of higher education under the label of "white-collar" or knowledge-based work settings seems logical. Penetration into "white-collar" and knowledge-based work settings seems to be the next step in the evolution of SMWTs[8].

*Faculty and Teamwork*

The emergence of SMWTs in the academy will cause an increase in the administrative responsibility of faculty, a redistribution in the power and authority of faculty members and a reprioritization of work load and philosophy about teams. The faculty culture is strongly individualist[13]. The cornerstones, research and teaching, of the faculty culture are dominated by individuals not teams. When faculty collaborate it is usually in pairs or threesomes, but rarely in teams. The closest faculty normally come to teamwork is serving on committees, such as curriculum, search and promotion. Much of the time, committee members try to persuade each other of the correctness of their own views, not to obtain synthesis.

Faculty should not bear the blame for the individualistic mindset and the difficulty they experience functioning as a team. The nature of higher education is to place emphasis on the accomplishments of the isolated individual rather than on team efforts[7]. The reward system in higher education gives more credit to scholarly products that are the work of a single individual rather than the result of collaborative efforts[7]. Rewards, such as promotion and salary increases, are based on individual rather than group performance.

In addition to the individualistic nature of being a faculty member, engineers also have difficulty working on teams. The personality traits that characterize a majority of engineers can

also interfere with the ability to be an effective contributor to a successful team venture[16]. Shannon (1980) characterizes engineers as people who:

- Are highly individualistic.
- Desire challenging work.
- Are self-directing.
- Seek approval from peers.
- Desire to share their knowledge.

These traits are major contributors to the rejection of teamwork amongst engineering faculty members. Engineering faculty members are often uncomfortable with the collaborative nature of teamwork. Faculty members reject teamwork because they are asked to function in a role that is typically foreign to them[16]. Although faculty teams seem destined for trouble, a number of institutions are successfully implementing a variety of faculty work teams.

Under the auspices of continuous improvement, continuous process improvement, continuous quality improvement, administrators and faculty in the higher education setting have tried to implement aspects of total quality management. In a 1994 survey, a number of engineering deans felt that total quality was very important for teaching and research as well as for university administration, but they also felt that their own faculty were much less convinced (Roberts). Teamwork is a fundamental element of total quality[3].

Faculty members resistance to new initiatives can be summarized under several broad areas. A study, conducted at Arizona State University, report the following reasons faculty members resist change[17]:

1. New initiatives are threatening.
2. Desire to perpetuate the theory vs. application dichotomy.
3. Life as faculty members currently know it will change.
4. Autonomy decreases as integration/partnering with students/faculty increases.
5. Concerns about student self-assessment and faculty sponsorship.

Items 3 and 4 are most important when talking about developing faculty teams. The concept of teamwork is a difficult concept for faculty to embrace.

The primary reason faculty members resist teamwork has to do with the expectation of individuality in the academy. It has been stated that the faculty culture is strongly individualistic and that collaboration occurs mostly pairs and occasionally in threesomes. Even in fields like medicine where journal articles have long lists of co-authors, faculty research and teaching is dominated by individuals, not teams[13].

In addition to the individualistic nature of teaching, observations and interviews, conducted with faculty while completing dissertation research, produce the following reasons for faculty resistance to teamwork.

1. Difficulty making the transition from committee work to team work.
2. Faculty members like to confine themselves to their discipline.
3. Faculty members like the autonomy of academia.
4. Faculty reward system does not consider team work.
5. Faculty do not want administrative tasks and often do not value those who do.
6. Faculty often do not see the need for repeated communication with constituents. They believe their credentials and/or product will stand on its own.
7. When the interdependence of a team gets burdensome for faculty, some will work ingeniously to revert to separate efforts reported to the committee not the team.
8. The tenure system empowers the faculty to "just say no."

*Conclusion*

Resistance to teamwork among faculty members is unfortunate. In spite of faculty resistance, the use of teams in higher education is increasing. The results from teamwork: improved communication and employee morale, better organizational adaptability and flexibility, increased productivity, improved quality, enhanced employee quality of work life, and reduced conflict, suggest that teamwork will be around for quite some time.

Results such as these, led deans, department heads, industry leaders and outside supporters to ask engineering faculty members to team teach, to take on more administrative

responsibilities, to incorporate teams in the classroom and to collaborate on research initiatives. With requests of this nature it will become imperative for new engineering faculty members to re-think their position and attitude on teamwork and give collaboration a chance.

Individual work is becoming a thing of the past. Today and in the future, the ability to work and function on teams is expected of new hires in a variety of work settings. Why should new faculty members be treated any differently?

*Bibliography*

[1.] Cleland, David I., Strategic Management of Teams, New York: John Wiley & Sons, Inc., 1996.

[2.] Elmuti, Dean, "Sustaining High Performance Through Self-Managed Work Teams," Industrial Management, vol. 38, pp. 4-9, March/April 1996.

[3.] Goetsch, David L. and Stanley B. Davis, Introduction to Total Quality: Quality Management for Production, Processing and Services, New Jersey: Prentice Hall, 1997.

[4.] Gustafson, Kim and Brian H. Kleiner, "New Developments in Team Building," Work Study, vol. 43, pp. 16-19. Dec. 1994.

[5.] Juran, Joseph M., A History of Managing for Quality: The Evolution, Trends and Future Directions of Managing for Quality, Wisconsin: ASQC Quality Press, 1995

[6.] Katzenbach, Jon R. and Douglas K. Smith, The Wisdom in Teams: Creating the High-Performance Organization, Boston: Harvard School Press, 1993.

[7.] Lewis, Ralph G. and Douglas H. Smith, Total Quality in Higher Education, Delray Beach, Florida: St. Lucie Press, 1994.

[8.] Mankin, Don, Susan G. Cohen and Tora K. Bikson, Teams and Technology: Fulfilling the promise of the new organization, Boston: Harvard Business School Press, 1996.

[9.] Manz, Charles C. and henry P. Sims, Jr., Business Without Bosses: How Self-Managing Teams Are Building High performing Companies, New York: John Wiley & sons, Inc., 1993.

[10.] Mohrman, Susan A., Susan G. Cohen and Allan M. Mohrman, Jr., Designing Team-Based Organizations: New Forms for Knowledge Work, San Francisco: Jossey-Bass, 1995.

[11.] Neuborne, Ellen, Why Teams Fail, *USA Today*, February, 25, 1997.

[12.] Orsburn, Jack D., Linda Moran, Ed Musselwhite, and John Zenger, Self-Directed Work Teams: The New American Challenge, Chicago: Irwin, 1990.

[13.] Roberts, Harry V., Academic Initiatives in Total Quality for Higher Education, Wisconsin: ASQC Quality Press, 1995.

[14.] Shannon, Robert E., Engineering Management, New York: John Wiley & Sons, 1980.

[15.] Sherriton, Jacalyn and James L. Stern, Corporate culture, team culture: removing the hidden barriers to team success, New York: AMACOM, 1997.

[16.] Thompson, John W., "Engineers don't always make the best team players," Electronic Engineering Times, vol. 921, pp. 124-152, September 1996.

[17.] Wolverton, Mimi, "The Zealots and the Old Guard," Quality Progress, January, 1996, p. 65-71.

STEPHANIE G. ADAMS is a graduate student at Texas A&M University in Interdisciplinary Engineering, specializing in Industrial Engineering and Management.

KARAN L. WATSON, Ph.D., P.E is the Associate Dean of Undergraduate and Graduate Program at Texas A&M University and a Professor of Electrical Engineering.