Back to School

A high-tech company sent its managers to business school —to learn "people" skills

By Lawrence G. Bridwell and Alvin B. Marcus

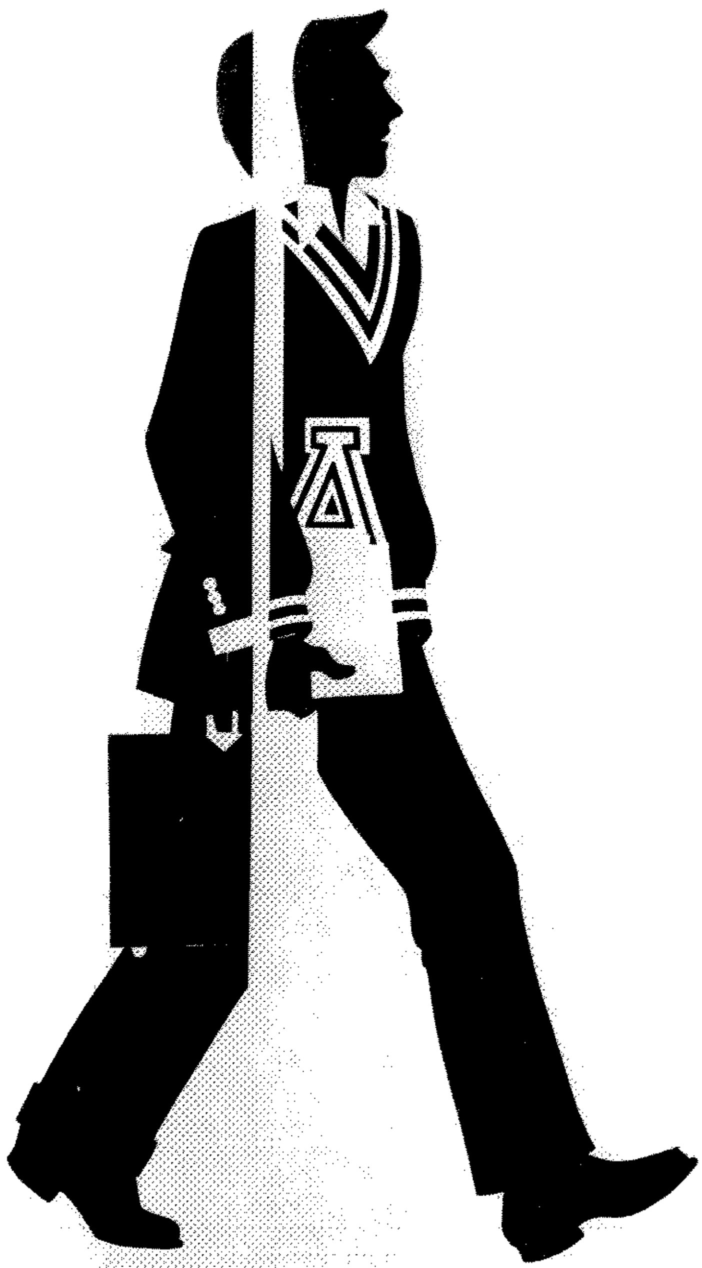

Illustration: Jeffrey L. Dever

Technical graduates who have spent most of their lives pursuing scientific careers may know very little about management—of business or people. This is particularly true in the nation's high-technology firms, which may find their middle managers lacking this powerful combination.

By carefully using university education, human resource managers in high-tech companies can accomplish two goals: formal training in recent business school concepts for executives, and the encouragement of positive human relationships that enhance organization-wide cooperation.

Well-designed university executive education programs help technically oriented managers acquire an understanding of how to coordinate employees in marketing, research, manufacturing and finance, and also develop an important appreciation of the many facets involved when different organizational departments work together.

One company's experience educating selected staff in new management concepts, as well as developing an awareness of the factors involved in achieving cross-functional integration, is described in the following report.

Company background

Technicon, a high technology medical instruments firm,

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This joint university/company executive education program was structured by human resource management and conducted in a high-technology company over a 14-month period. In addition to providing 16 middle managers with modern business school knowledge, the program also improved skills in integrating marketing, customer service, manufacturing and financial responsibilities.

approached Pace University to provide executive education for its key middle managers. The company, historically an innovative leader in its industry, had a highly specialized organizational development. As the firm grew larger and technology became more sophisticated, the need for integration between specialized areas became more critical. Over the years, Technicon had instituted various integrative mechanisms, but it still retained a functional structure led by its strong research division. As is common among large organizations, many employees gave their individual jobs a high priority in day-to-day actions and cross-functional cooperation had been difficult to achieve.

In planning for future senior executive positions, the human resource managers at Technicon wanted to ensure that selected middle managers were brought up to date with modern business techniques. These technically oriented managers had limited opportunity to update their educations since graduating from university some 10 to 25 years ago.

Another human resource objective was to demonstrate to successful middle managers the company's high regard for their contributions. Technicon had recently experienced a slack period in terms of new products and sales growth; management wanted to avoid an exodus of key managers due to lack of career progress or absence of new challenges. Also of concern were persistent (and ultimately accurate) rumors of the company being acquired by another organization. Serving as a positive counter-force against negative morale factors, the executive development program provided personal recognition and growth for key employees and helped ensure a stable cadre of experienced, well-educated managers to meet any future challenges.

In selecting the 16 managers for the program, the company used a process that included initial application, divisional senior management endorsement, selection committee screening against specific criteria and individual approval by the company president. The 16 participants shared "high potential" status in the organization, were all at the "director" level and represented the functional disciplines of research, finance, program management, marketing, sales and customer service. They represented five distinct company facilities located in the United States, Canada and Europe.

The program

Pace University was asked to provide conceptual education and was instructed not to act as a change agent seeking to improve the organizational climate. Pace University's role was solely to provide a university forum for the dissemination of the best of contemporary business knowledge.

The 14-month executive education program revolved around the central theme of how to successfully manage high-tech businesses. To achieve this, six courses of one week each were developed to cover the following subjects: finance, industrial marketing, management of environmental and organizational change, strategic planning, strategy implementation and executive communication.

Finance was selected as the first course to provide a common language and to put the company's actions into a financial perspective. The subsequent four courses focused on the organizational integration necessary to achieve financial success. The final course dealt with an essential skill for senior executives in dynamic, high-tech companies: communication.

The foundation for the executive development program started with the classic work, *Organization and Environment*, by Paul Lawrence and Jay Lorsch.[1] This book was a landmark because it challenged what had been the traditional management gospel during the 1950s and '60s: the key to being a successful executive was to understand and practice the universal principles of management, applicable to almost any situation. As the title of their work indicates, Lawrence and Lorsch argue that the over-riding factor affecting management is the environment; successful companies have to adapt to their environment to succeed. Stable environments could easily benefit from traditional management practices but these same practices in dynamic environments could easily lead to failure. Dynamic environments require a more flexible and sophisticated organizational structure.

According to Lawrence and Lorsch, high-tech companies in dynamic environments should have as a basic foundation very specialized technical and marketing capabilities. Lawrence and Lorsch describe this kind of organization as being highly differentiated. The environmental necessity of having a highly differentiated organization, with several different specializations, often leads to conflict that must be well managed to achieve organizational success.

Managing conflicts between research and development, engineering, manufacturing and marketing is usually an incredibly complicated executive challenge. Lawrence and Lorsch summarize the dilemma of high-tech management as a Catch-22: a technically dynamic business environment requires high differentiation, often leading to organizational conflict, which then requires sophisticated integration. Recent authors have argued for a corporate culture with an elaborate formal integrative mechanism as well as a climate that easily facilitates informal communication among company components.

The executive development program explored these and other recent business school concepts in terms of their applicability to the medical instruments industry. Instructional methods included a mixture of readings, discussions, case studies, films, questionnaires and team exercises. An essential contribution made by Pace University was a candid forum outside the company for discussing management issues. The 16 participants in the program trusted the faculty not to report to the company any sensitive issues. The participants felt a freedom to speak their minds knowing they would not be harmed by what they said. If comparable executive development courses had been conducted by company personnel, they could have been viewed by the participants, correctly or incorrectly, as a human resource evaluation device.

The case studies were particularly beneficial. When talking about the management of research, marketing, manufacturing and finance in other companies, key issues relevant to the participants' firm were aired and they gained valuable insights into the thinking patterns of their peers. The participants were made aware that the struggles faced by other companies had many similarities to their own management situations.

Several team exercises emphasizing development of marketing plans and business strategies were also included. One benefit of this approach was that various business functions worked together to develop common business plans. The teams of four or five managers were structured so each function was represented. In addition, each team also included managers from both domestic and international divisions, providing a world-wide perspective to the discussions. A major indication of the program success was that several managers who had previously emphasized a technical focus in their careers now preached the crucial importance of marketing.

Another advantage of team exercises was that key middle managers analyzed the company, in a seminar fashion, from different perspectives—laying a common foundation among the 16 participants that should serve the company well over the next several years when future decisions are discussed.

The spacing of the one-week courses over a period of 14 months had several advantages. No one was forced to be absent from their jobs for more than a week at a time. One intensive week provided considerable material to digest intellectually. Longer programs would have run the risk of overload. Various key concepts of the entire program were reinforced over several months. Alternating between classroom and work experience maximized the opportunity to transfer course material to job situations. The two to three month classroom intervals allowed for substantial pre-readings, which were often informally discussed among the participants prior to the classes. Participant camaraderie was reinforced over several months. The extended time period provided a psychological structure whereby the participants could remember positive experiences and also look forward to the next course.

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Relevance of literature to education

Since the publication of Lawrence and Lorsch's ideas in the late '60s, their approach to organization theory has seen extensive elaborations in academic literature. A perusal of *Administrative Science Quarterly*, the *Academy of Management Review*, and the *Journal of Management* will indicate the sophisticated refinements that have been pursued.

For middle managers in high-tech companies, *Organization and Environment* offers valuable insights because non-academicians can easily comprehend the Lawrence and Lorsch discussions of how differences in behavior, attitudes and measurements among research, marketing, and manufacturing affects technical decision-making processes. Using Lawrence and Lorsch as a foundation and adding strategic management material developed during the '70s and '80s is an excellent combination for updating the business knowledge of key managers who, in some cases, never have experienced business school education because they graduated with technical degrees 10 to 25 years ago.

An intense, concise six-week university executive program can provide the most recent of graduate business school concepts to key managers facing fierce world-wide competition. Having university faculty provide this knowledge can help ensure an independent, up-to-date perspective about modern organizational literature.

Achieving development objectives

The organization development objectives of an executive education program should be overseen by the human resource management company. Human resource managers live with the corporate culture on a daily basis and have an appreciation for the many nuances that would be difficult for outsiders to acquire. This knowledge gives them an ability to carefully select the best mixture of participants and, in selecting participants, they can identify key organizational catalysts. Human resource personnel can also screen reading material to determine that most relevant to their company.

Prohibiting university faculty from considering themselves as change agents had important advantages. The analysis of strengths and weaknesses within the company becomes the responsibility of the participants and university faculty can concentrate on the conceptual material. Very often, behaviorally oriented exercises aimed at building a positive team spirit can have an artificiality leading to awkwardness. Edgar Schein has emphasized that for companies and individuals to respond to suggestions of how to change behavior, they must be ready to hear the advice.[3] Case studies and strategic planning assignments create a natural, organic setting in which participants can decide individually and among themselves how various concepts are applicable to their circumstances and what, in practical terms, can be done within the organizations.

The discussion of company strengths and weaknesses during the Executive Development Program was fortunately aided by two important new products developed during the 14-month period. One product became successful beyond company expectations while the other had some delays. Informal, off-site candid discussions of the managerial decisions explaining the differences between these two projects provided important company-relevant knowledge that should improve the management of future projects.

Two of the participants remarked that, as a result of the executive education program, conflicts that had caused turf battles between departments are now often quietly and informally resolved. This kind of organizatonal development behavior spontaneously occurred, and it happened without a single behavior development exercise being part of the curriculum.

Further evidence of the achievement of organizational development goals was demonstrated by the informal business behavior of the participants. Traditionally, lunch groups in the company cafeteria were made up of individuals from common divisions or similar functions within the company. It was noteworthy to observe the breakdown of this social custom among the program participants, as they routinely sought each other out. This camaraderie is also reflected in the fact that, with one exception, no turnover has been experienced among the 16 participants. In addition, four executive promotions have occurred within the original group.

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Providing a university conducted program of four to eight courses over a 12 to 24 month period may be a powerful structural umbrella to achieve organizational development. University faculty provide a neutral setting, creating a psychological atmosphere in which participants are free to express candid thoughts in an environment more open than in a course conducted by company personnel. Also, if learning about conceptual business material is the over-riding teaching objective, no pressure is placed on participants to achieve behaviorally oriented goals.

It's important that faculty be highly effective in encouraging participant-centered discussions. For informal interaction to take place, the faculty must skillfully encourage the vigorous exchange of different perspectives and maximize involvement by all participants.

Experience suggests that a classroom of approximately 16 participants may be the optimum number. Larger classes often don't have the same psychological dynamics leading to intense informal interaction.

Conclusion

A joint university/company executive education program, in which university faculty work closely with human resource management, can overcome the frequently made criticism of executive training—that individual horizons are broadened but cost-effective translation to the day-to-day job is problematical. Human resource managers can use university faculty to update the business knowledge of its key managers and simultaneously improve the critically important formal and informal cooperation between its organizational units. For high-tech companies, university executive education tailored to particular corporate circumstances can produce two results: modern graduate business school education and natural, spontaneous organizational development. ■

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