Cross-Functional Business Programs:

Critical Design and Development Considerations

Timothy W. Aurand, *Northern Illinois University*
Carol DeMoranville, *Northern Illinois University*
Geoffrey L. Gordon, *Northern Illinois University*

Abstract

Well-documented corporate demands for cross-functionally competent employees have instigated a wide variety of efforts by the educational community to integrate business curricula. Many colleges and universities struggle to functionally integrate business programs that historically have been delivered by well-defined, and often well-siloed, disciplines.

Drawing from the numerous published and unpublished case studies of cross-functional integration attempts, this study develops a framework of critical issues to consider when developing an integrated program. The framework develops five major categories of issues (strategic, leadership, administrative, faculty, and student) to help universities identify typical program decisions and potential roadblocks that may inhibit the development of a successful program.

Many colleges and universities struggle to functionally integrate business programs that historically have been delivered by well-defined, and often well-siloed, disciplines.

Introduction

What do diverse companies such as Boeing, Coca-Cola, DuPont, Ford, Hewlett-Packard, Federal-Mogul, Siemens, Waste Management, and Xerox, all have in common? Each is part of a growing legion of organizations that are utilizing cross-functional teams and/or individuals with cross-functional skills to achieve business success. For further evidence of the growing pervasiveness of cross-functional efforts, consider the following examples:

Harley-Davidson Motor Co. uses cross-functional teams from start to finish in their business. From conception and design of a motorcycle to production and product launch, teams of buyers, suppliers, marketers, operations personnel, engineers, and others provide critical input to the processes (Brunelli 1999). In the appliance industry, Whirlpool uses cross-functional teams to oversee assembly of microwave ovens and to design processes to increase assembly efficiency and quality, while simultaneously producing lean, functionally integrated designs (Remich 1999). McKesson HBOC, the world's largest healthcare services company, makes use of a cross-functional team to oversee the execution of strategic initiatives for better product pull-through, development of products and services, improved facilities utilization, increased standardization of practices, and contract leverage across its diverse businesses. The list of cross-functional endeavors could continue.

Participation in cross-functional teams can also vary dramatically depending upon the specific goals sought by the teams. Some cross-functional teams are broadly diverse, composed, for example, of members from internal research and development, engineering, purchasing, plant operations, and marketing joining forces with external suppliers. Others are more narrowly focused, for instance, with members from marketing and finance personnel collaborating with salespeople and customers. Regardless of their diversity, cross-functional teams can bring substantial benefits when the process is done correctly. In fact, cross-functional teams have been credited with minimizing the (Y2K) computer problems that could have caused havoc to many organizations at the beginning of the millenium (Conrad 2000) and with enhancing product quality, specifically in the new product development area, where quality is positively related to information integration (Rajesh 2000).

Regardless of the success stories attributed to the use of cross-functional teams, there are still many functionally aligned organizations which have reported poor results in attempting to incorporate cross-functional teams into their organizations (Bishop 1999, Morgan and Piercy 1998). Two primary factors influence the ability or willingness of companies to fully realize optimum benefits from cross-functional efforts. First, since "functional" silos still pervade the majority of organizations, most individuals lack experience in working on and with cross-functional teams (Gerwin 1999). Second, individu-

als who comprise the cross-functional team tend to affiliate more with their own parts of the organization—R&D, marketing, engineering, finance, sales, operations, etc.—than with the team and its goals (Hennessey 1999).

Ineffective cross-functional teams usually are doomed by a lack of cross-functional experience, decision making, and problem solving on the part of the individual team members, not by self-serving interests. As a result, the need for employees equipped with the necessary knowledge and skills to thrive in a cross-functional environment only continues to increase. Toward this end, organizations are counting on colleges and universities to provide them with individuals properly trained in and equipped with the cross-functional skills necessary to survive and thrive in an increasingly competitive environment.

Cross-Functional Programs in Higher Education

In responding to businesses' needs, a number of schools have begun integrating cross-functional courses and exercises into their MBA curriculums. The University of Tennessee (Hancock 1998), Indiana University's Kelley School of Business (Hettenhouse 1998), University of Dayton (DeConinck and Steiner 1999), University of Oklahoma (Emery 1997), Boston University (Young and Kram 1996), Babson College (Schlesinger 1996), University of Denver (Slater, McCubbrey, and Scudder 1995), and the University of Pennsylvania (Alter 1992) are among the schools whose exploits in developing cross-functional MBA programs have been documented. Cross-functional education at the graduate level has not been solely limited to the business disciplines. Some universities (including Bentley College, Lehigh University, and the Massachusetts Institute of Technology's Sloan School of Management) are devising programs to make technologists more knowledgeable in business and business types more knowledgeable about technology.

At the undergraduate level, the move toward providing cross-functional educational opportunities appears more limited. In a polling of undergraduate business programs accredited by the AACSB, the authors found that fewer than five percent had developed a comprehensive program that formally addressed the need for cross-functional integration of business principles (Demoranville, Aurand, and Gordon 2000). However, in coming years, interest in and work on the development of cross-functional programs should experience rapid growth. This is due to four primary reasons.

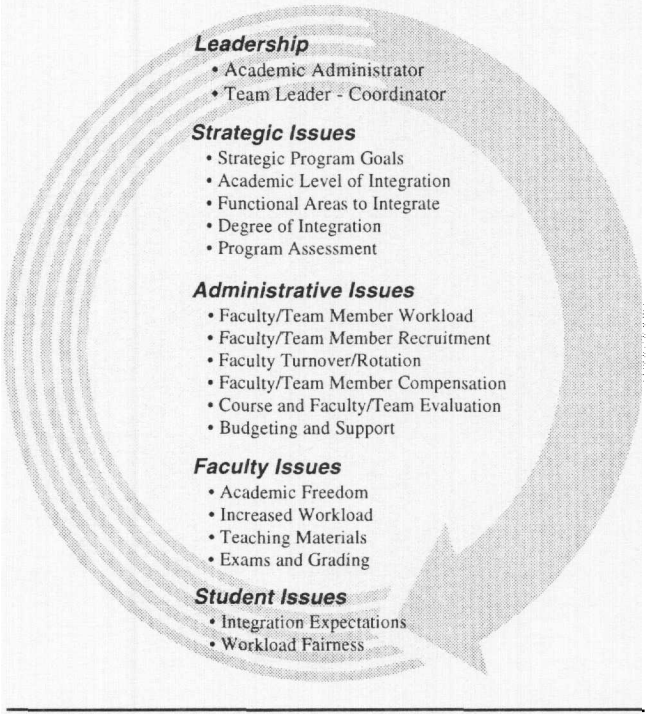
- *First*, more businesses are demanding that graduates enter the workplace possessing both the knowledge of the various functional areas and the skills necessary to apply functional knowledge across varying situations. For example, companies are emphasizing marketing in diverse aspects of their business, such as manufacturing, data operation, and recruiting (Heckman 1999). Simultaneously, organizations are also seeking to have their marketing graduates possess greater skills in areas which formerly fell under the domain of such disciplines as operations (i.e., data warehousing and database operations) and finance (risk analysis).
- *Second*, and related, businesses are also interested in graduates who possess experience in working with individuals with differing backgrounds. Purchasing managers, in a recent survey, stated that while job seekers possess strong computer skills and an overall good education, they lack the team, people, and negotiating skills needed to succeed in a cross-functional environment (van der Pool 1999).
- *Third*, and the impetus for many cross-functional program development efforts, are the standards issued by the AACSB which state, "The curriculum should integrate the core areas and apply cross-functional approaches to organizational issues."
- *Fourth*, and perhaps the most obvious, like their business counterparts, universities recognize that they can be at a competitive disadvantage should they not begin developing and offering comprehensive, functionally-integrated curriculums.

The Study

The current study provides a guide to the relevant issues that should be addressed by colleges and universities prior to and concurrent with the development of a cross-functional program. Issues were identified through four techniques: an exhaustive review of the literature, the authors' active involvement in developing, teaching, and assessing a comprehensive, functionally-integrated business core curriculum at their university, interviews and discussions with peers at other universities that either have or are developing similar-type programs, and discussions held with varied businesspeople who support the development of cross-functional educational programs.

The study should help interested parties anticipate and address cross-functional program issues that otherwise may become roadblocks, inhibiting development of a successful program. It should be noted that the authors are not taking a prescriptive approach to the topic, for solutions to particular issues are as varied as the college missions, program goals, and faculty and staff charged with implementing them. Rather, the focus of this paper is on identifying critical issues that should be explored when considering implementing a cross-functional program.

Figure 1
Cross-Functional Program Considerations



Critical Considerations

This research revealed five broad categories of considerations common to most institutions that have attempted to integrate their business curriculum (Figure 1). Each area is discussed below and insights are drawn from common experiences.

Leadership

Elements of leadership issues that are critical to the success of cross-functional programs are summarized in Table 1. The impetus to cross-functionally integrate a curriculum may stem from a variety of sources, but any curriculum change as consequential as cross-functional integration is crucially dependent upon the vision and commitment of the academic administration. Leaders must be able to convey and instill the importance of a cross-functional curriculum among the faculty, and in turn address the significant culture change required by such a curriculum. Without strong, committed leaders, cross-functional program development and implementation will have little chance to meet even basic curricular goals.

Table 1
Leadership Issues

Academic Administrator
- High degree of top management involvement
- Clear vision of program
- Strong commitment to cross-functional integration

Team Leader–Coordinator
- Vision for the program in sync with academic administration
- Strong leadership skills
- Commitment to the success of the program
- Willing to share leadership role
- Allow faculty/team members to do what they do best
- Adept at working with faculty, administration, students, and business community
- Facilitate consensus
- Rank
- Coordinator role only vs. coordinator and teaching team member roles

The need for strong leadership is not limited to administrative positions but is also a requirement of the individual responsible for leading the cross-functional team, or the team coordinator. Often serving as both the team leader and faculty member on the team, the coordinator should possess a similar vision and commitment to the success of the program as the academic administrators. But as many college administrators will attest, leading faculty can be a daunting task if for no other reason than faculty, by nature, do not like being told what to do (Ehrhardt 1995). Therefore, in a team-teaching or functionally integrated environment the role of the coordinator should be viewed as one in which leadership is shared by creating an environment that allows people to do what they do best (Watkins 1996). The coordinator must be equally adept at working with faculty, administration, the student body, and the business community.

In order to insure the success of the team coordinator, serious consideration should be given to the individual's rank. Having tenure, for example, can prove advantageous in a variety of situations and may at least symbolically provide the coordinator with a better negotiating position with fellow team members, administrators, and stakeholders (Young and Kram 1996). The possibility of employing a coordinator who does not actually teach within the program should also be considered. Being "one-step-removed" from the actual teaching of the class may offer the coordinator a better vantage point to consider issues and alternatives from a broader perspective.

Strategic Issues

As shown in Table 2, several elements of strategic issues impinge upon the success of cross-functional programs. Once it has been decided to pursue such a program, academic administrators should immediately turn their attention toward the selection of the cross-functional team, the team leader, and the establishment of strategic goals for the program. Gaining acceptance and commitment from all stakeholders may prove difficult, but is essential if true integration is to be successfully achieved.

Depending upon the courses being integrated, objectives may be very general or more specific. For example, the University of Dayton integrated Marketing and

Table 2
Fundamental Strategic Issues

Strategic Goals
- Goals must be realistic
- Goals must be measurable
- Goals must be developed by the entire team with input from academic

Administration
- All stakeholders must accept and commit to the goals

Academic Level at Which Integration is to Take Place
- Institutional mission
- Stakeholder needs

Functional Areas to Integrate
- Interest of departments and faculty
- Faculty commitment
- Stakeholder needs

Degree of integration
- Low vs. high interdependent team models
- Tools courses vs. advanced courses

Program Assessment
- Based upon clear, quantifiable goals

Finance at the MBA level and specified three basic objectives for the course:

1. Give students the opportunity to study financial concepts and techniques and apply these tools to the assessment of marketing opportunities.
2. Give students the opportunity to study the thought and theory of marketing strategy development and to assess the viability of marketing strategies in light of financial considerations.
3. Give student the opportunity to build confidence in their ability to assess marketing strategies and use financial analysis through the process of developing a complete marketing/financial assessment of a business opportunity (DeConinck and Steiner 1999).

The University of Tulsa integrated Marketing Research and Engineering Design courses and had more general objectives:

1. Encourage communication and understanding among the students.
2. Understand the important contribution of each discipline to the innovation process.
3. Reinforce the concept that, in product development, all disciplines are working toward the same objective (Lunsford and Henshaw 1992).

Initially, academic institutions may want to keep objectives simple and broad-based when developing cross-functional programs to allow for flexibility in delivery.

As part of the program goals, institutions must determine the academic level at which integration should take place. Due to varying educational missions, attempts to functionally integrate business programs can be found in undergraduate tools and principles level courses (e.g. Northern Illinois University, Illinois Wesleyan University, Indiana University), undergraduate capstone courses, and at various graduate level courses (University of Denver, University of Tennessee, Boston University, University of Pennsylvania, among others).

Schools must also be prepared to debate a far more difficult strategic decision involving the functional areas to integrate. Strong arguments can be made to integrate virtually any two or more functional areas within, or even outside, the business realm. For example, integration efforts can be found with Marketing and Finance (University of Tennessee Knoxville); Production and Finance (University of Oklahoma); Marketing, Management and Finance (Illinois Wesleyan University); Finance, Human Resources Management, Information Systems, Marketing, and Operations Management (University of Idaho); Organizational Behavior, Management Strategy and Management Information Systems (Boston University); Marketing Research and Engineering Design (University of Tulsa); and Marketing, Management, Operations and Finance (Northern Illinois University) to name a few.

The degree of subject matter integration should also be considered during the initial planning stages of the program. If a high degree of integration is deemed necessary, a far greater demand will be placed upon the faculty and administration. On the other hand, a limited amount of integration can quickly disenchant students. Mullins and Fukami's (1996) discussion of *transdisciplinary* team teaching at the University of Denver recommends a low interdependent team model (limited integration) with tools courses such as basic accounting, financial, and statistical methods used in business. More advanced coursework inherently lends itself to a greater degree of integration, and in turn, places greater demands on the faculty. This interdependent team model can explain why greater levels of integration are sometimes easier to achieve in capstone and graduate level courses. For example, at Babson College, the communication component of the first year MBA program is so integrated there is no identifiable communication course (Kelly and Sokuvitz 1996).

Once basic strategic goals are established, a means of evaluating the program must be developed. Program assessment, a growing concern of the AACSB, academic community, and business community, can be far more complex when dealing with an integrated curriculum. Without clear, quantifiable goals that can subsequently be translated into evaluation instruments, initial attempts to assess the program will be seriously hampered.

The basic program design, which will best accomplish the strategic goals of the program, can also vary dramati-

cally by university. Pharr et al. (1997) identify five integration models incorporated by ten different institutions. Comprehensive curriculum blocks, limited curriculum blocks, a coordinated curriculum, a coordinated case curriculum, and an integrated project curriculum can all be considered, as well as other customized approaches deemed appropriate for pre-established strategic goals. The key to program design is the foundation upon which it is established. The level of the instruction, courses to be integrated, the level of integration, and a committed team of faculty and administration must all be firmly established before the program design options are even considered.

Administrative Issues

Only after strategic goals and general program design have been agreed upon should planning for program implementation and general administration begin. At the outset, important administrative issues must be considered including faculty/team member recruitment, evaluation, compensation, and program budgeting (Table 3). Decisions regarding these issues must be consistent with the strategic goals of the program and also consider what is typically a dramatic increase in the workload for faculty team members developing and/or delivering the program.

Table 3
Administrative Issues

Faculty/Team Member Workload
- Additional preparation time
- Less research/service time
- Attending other team members' presentations
- Attending team meetings

Faculty/Team Member Recruitment
- Strong commitment to goals and team
- Willingness to work extended hours
- Flexibility
- Desire to learn other functional material

Faculty Turnover/Rotation
- Length of service
- Team continuity
- Timing and number of replacements

Faculty/Team Member Compensation
- Release Time
- Additional Pay

Course and Faculty/Team Member Evaluation
- Development of new evaluation instrument
- Coordinator involvement
- Team vs. individual evaluations
- Student input
- New team member considerations

Budgeting and Support
- Resource deployment
- Faculty control vs. coordinator control
- Secure funding from the highest level possible

Faculty/Team Member Workload. An issue common to nearly all functionally integrated programs is the amount of work involved in not only developing, but administering and teaching the course (Schlesinger 1996, Silver and McGowan 1996, Michaelsen 1999, Stover et al. 1997, Ehrhardt 1995, Watkins 1996, DeConinck and Steiner 1999). As Mullins and Fukami (1996, p. 452) put it, "The workload issue is mind-bending and mind-boggling." Silver and McGowan (1996, p. 436) state, an integrated course is like an iceberg with "...the visible tip representing the classroom interactions the invisible 'rest of the iceberg' representing outside-the-classroom planning, meeting, coordinating and so forth."

It will be best to put aside existing paradigms associated with course development and delivery and instead look upon the cross-functionally integrated course as a commitment that will limit serious faculty involvement in other activities such as research, consulting and service. A review of the literature suggests that the added work associated with team-teaching integrated courses stems from four areas: 1) additional preparation time associated with team teaching, 2) team meetings, 3) time spent watching other team members' presentations, and 4) time spent learning (re-learning) material from other functional areas.

In order to address the dramatic increase in preparation time, some schools provide faculty with release time in the semester prior to teaching in a cross-functional course (Bishop et al. 1998). For the majority of faculty, team-teaching will be entirely unlike previous teaching assignments. A semester to become familiar with the program and the nuances associated with an integrated course will allow for a better program launch, and later faculty rotation onto the team.

Essential, yet time consuming team meetings can be viewed as either a blessing or curse of a cross-functionally program. A recent decision at Northern Illinois University to establish a calendar of weekly and bi-weekly meetings at the outset of each semester has provided significant improvements over the previous method of ad-hoc meetings.

It has also been found that becoming more comfortable with fellow team members' disciplines, a necessity if a high degree of integration is sought, requires further time commitments. Faculty at Babson College, Illinois Wesleyan, and Northern Illinois University have found it beneficial to sit in each other's classes and to share notes and presentation slides on an on-going basis (Schlesinger 1996; Hoyt, Olson, and Straza 2000). Depending upon the degree of integration sought in the program, an initial plan to recommend, if not require, team members' presence in all classes can be beneficial.

Junior faculty may pay the greatest price for being involved in team taught classes by focusing time and energy toward the cross-functional program instead of research (Mullins and Fukami 1996). At the University of

Tennessee Knoxville only senior faculty were allowed on the team (Ehrhardt 1995). But senior faculty members are not immune to subtle, yet powerful, norms regarding the relative importance of teaching and research (Young and Kram 1996). The time commitment required in an integrated program is a definite consideration for all of those involved, regardless of rank.

...conflicting team, departmental, and personal goals may have to be addressed.

Faculty Recruitment and Turnover. Identifying faculty with interests in cross-functional education may prove challenging for many institutions and conflicting team, departmental, and personal goals may have to be addressed. For example, the cross-functional team coordinator may seek the very best representative from each functional area, but department chairs may have other plans for their top performers and individual faculty members may have their own agendas. The first step, then, in the recruitment process is establishing the criteria deemed essential for a successful program and gaining agreement on these criteria from department chairs and faculty members alike. A strong commitment to the goals of the program, willingness to work extended hours, desire to learn and incorporate material from other functional areas, and readiness to set aside functionally oriented research for a period of time are all critical for success. Perhaps most important of these is a strong commitment to the team. Without a truly committed team, turnover is high and leads to limited continuity and integration of material (Schlesinger 1996).

Turnover policies should be addressed prior to recruiting the initial team. One needs to be well-aware of the length of service expected of cross-functional team members before an agreement to serve is made. Besides common turnover considerations such as retirement, sabbatical, and employment changes, the integrated course must also plan for the on-going rotation of faculty on and off the team. In so doing, the program must strive for a degree of continuity on the team that will be jeopardized if a significant number of team members rotate off of the team at any one time.

Plans must also be made for the position and length of service of the team coordinator. Selecting coordinators from faculty currently on the team has its obvious benefits, but this is obviously not an option for a start-up program. Unfortunately, few candidates are prepared for the demands associated with an effective cross-functional leadership position without having had personal experience serving on such a team. Other requirements such as rank, respect among stakeholders both within and outside of a direct sphere of influence, basic visionary and leadership skills, etc. must also be taken into consideration.

Compensation. Properly compensating team members means bringing about dramatic changes to an existing accounting system (Young and Kram 1996). Providing faculty with a reduced course load and increased pay in order to compensate for the demands of team teaching an integrated course may sound extreme, but is necessary if a qualified team is to be recruited and developed. Release time, especially for faculty serving on the team for the first time (e.g. Illinois Wesleyan University and Boston University), and stipends for summer planning (e.g. University of Idaho and Northern Illinois University) are common. But for many schools the issue of rewards and workload are still unresolved (Mullins and Fukami 1996).

Course and Faculty Evaluation. Perhaps the best that can be said regarding an integrated, team-taught program and course and faculty evaluations is that it provides an opportunity to discuss and debate the entire student evaluation system. The long tradition of rewards for individual performance in the classroom may undermine the collaborative mind-set required by teams (Young and Kram 1996). The following items, while far from being all-inclusive, serve as examples of evaluation issues that will need to be addressed:

1. Should a unique instrument be developed for the cross-functional course, or should an existing instrument be used?
2. Should faculty (team members) be evaluated as a team, as individuals, or both?
3. Should there be a peer review element of the evaluation?
4. If there is a peer review element, should junior faculty be permitted to evaluate senior faculty?
5. Should the team coordinator have significant input on the faculty evaluations?
6. How closely should the evaluation resemble that of any one department represented on the team?
7. Should the evaluation be integrated with on-going tenure and promotion evaluations?
8. How should the evaluation instrument address the added workload and subsequent impact on research and service?
9. Who should develop the evaluation instrument? The team as a whole (by consensus), outside administrative personnel, or both?
10. What input, if any, should students have on the faculty evaluation instrument?
11. Will special considerations be made for first year team members?
12. Should team members have access to other team members' evaluations?
13. Should the team coordinator be evaluated by a unique instrument and what degree of input should the team have on the coordinator's evaluation?

Budgeting and Support. An initial concern when considering a cross-functional program's budget is desired class size. Will the class size be small group or mass lecture; how many faculty will teach the course; will faculty or instructors be assigned to deliver the course? At one university class size had to double to compensate for using teams of two faculty to teach the course (DeConinck and Steiner 1999). Another university chose to deliver the course as a mass lecture taught by a team of four faculty (Bishop et al, 1998).

Jointly considered with basic budgeting issues are support concerns including secretarial support and general administrative assistance. Transdisciplinary courses are often orphans with no concrete housing, instead they have a foothold in several departments. Schools have noted problems with simple administrative tasks such as ordering materials, having syllabi prepared, knowing where to direct questions, appealing grades, and so on (Watkins 1996).

Administering the program can be particularly difficult when disciplines from different colleges, or schools within a college are involved. Without the proper organizational structure, a program coordinator and/or other team members could conceivably find him/herself regularly requesting support from sources outside his/her own department. To limit these issues, schools should consider establishing a program budget at the highest level possible (e.g. college level if only college of business courses are to be integrated), with budgetary authority and responsibility granted to the program coordinator, if necessary.

Regardless of *where* the funding originates, it is crucial to identify and agree upon the funding source during the initial planning stages and well before program implementation. The team coordinator and fellow team members will find themselves inundated with a plethora of issues once the program is launched and time constraints will not permit on-going requests for budgetary considerations.

Faculty Issues

Despite the substantial strategic and administrative issues that the cross-functional team faces, the most impending concerns may be the personal and professional issues that individual faculty members must consider before they embark on a truly unique teaching assignment. Critical faculty issues are summarized in Table 4. For most faculty, the team teaching experience will be one of the most challenging of their professional teaching careers. But in spite of years of experience in front of classrooms, most will quickly learn how little they know about team teaching (Young and Kram 1996). A team member can quickly find him/herself questioning nearly every aspect of his/her personal pedagogy.

Academic Freedom. For faculty who hold academic freedom near to their hearts, team teaching may prove particularly exasperating. A cross-functional team challenges the "this is my classroom" mentality, and instead emphasizes the need to be flexible and considerate of team goals (Hoyt, Olson, and Straza 2000). At the University of Tennessee, for example, the number of sessions taught, the topics covered, and the pedagogy used must be approved by the team (Ehrhardt 1995). To many faculty members, it is simply too difficult to "share the ranch" and they may come to resent the loss of personal control (Mullins and Fukami 1996, Michaelsen 1999).

Table 4
Faculty Issues

Inexperience with team teaching and/or cross-functional business education

Academic Freedom
- Challenges "this is my classroom" mentality
- "Share the ranch" mentality
- Taught by consensus
- Less control of the classroom

Increased Workload
- Team meetings
- Attending other team member presentations
- Developing new materials
- Exam writing
- Consensus decision making

Teaching Materials
- No integrated text
- Significantly modifying existing materials
- Level of standardization

Exams and Grading
- Team or individually graded homework
- Team or individually written exams
- Team, coordinator, or individually graded exams

Time/Workload. Along with relinquishing a portion of control, faculty must also be willing to accept an increased workload. Schools that have implemented cross-functional programs have found them to be far more labor intensive and difficult than teaching in traditional courses (Erhardt 1995). As previously mentioned, tasks such as team meetings and attending fellow team member presentations can be quite time consuming. Furthermore, some find it takes a tremendous effort to develop a meaningful understanding of key concepts in multiple disciplines (Michaelsen 1999).

Teaching Materials. Because few, if any, texts and support materials are written in a cross-functional format, educational materials may have to be developed from scratch (Michaelsen 1999). This, too, is a time consuming process that usually is done in conjunction with fellow team members who are also accustomed to developing and presenting their own work.

Exams and Grading. Many tasks such as exam writing and grading bring with them entirely new dimensions in integrated courses. Should the team simply "split the exam up" in equal parts and have individual faculty members

write groups of questions or should team members collaborate on individual questions? Should grading responsibilities be shared? Should team members be asked to grade work in functional areas other than their own? Should projects, homework, and course grades be assigned solely by the administrator or by team consensus?

Rewards are Commensurate with Commitment. Faculty must view the chance to team teach as a challenging opportunity requiring a strong commitment to the program and team. Team teaching inspires faculty to become better teachers and suggests specific ways to do so. The opportunity to be involved in an integrated course should be considered, and promoted, as an excellent learning experience that will undoubtedly enhance nearly every aspect of one's personal pedagogy.

Student Issues

As with any curricular program, student acceptance is vital to the success of cross-functional classes. Today, most student feedback is anecdotal, with few systemized student assessments reported in the literature. But because cross-functional courses are quite new to most academic institutions, it is easy for students to have unrealistic expectations for the course and succumb to the concerns identified in Table 5.

Table 5
Student Issues

Integration
- Recognized value of integration
- Unrealistic expectations of degree of integration

Workload
- Use of numerous text books
- Required change in study habits for multi-credit hour, multi-subject courses

Fairness
- Being used as "guinea pigs"
- Simultaneous offering of integrated and non-integrated courses

Students readily acknowledge the benefits of integrating functional areas into one course (Michaelsen 1999, Mullins and Fukami 1996). They recognize that businesses operate cross-functionally and appreciate the opportunity to see that integration in their coursework. It is important, however, to set appropriate expectations for the level of integration in a cross-functional course. Graduate or capstone courses at the senior level may incorporate more integration than entry-level courses simply because students are more likely to be familiar with the basics of each discipline. At the principles level, integration may be more difficult because students must first learn the basic "nuts and bolts" before moving on to how those "nuts and bolts" fit together. It is incumbent upon the faculty to match the level of integration with the course level, and then clearly explain to students the exact nature of what is being integrated in the course.

Students may also fail to devote adequate preparation and study time to multiple credit hour cross-functional courses. While most students' study habits have been tailored to three-hour college courses, they may tend to use those same habits for all courses, regardless of the credit hours for the course. For example, there is no integrated business text currently available so students must study from multiple texts. Many students may not complete multiple text readings, or have problems determining the appropriate amount of time to spend with each text. It is easy to dismiss this phenomenon and say that students just need to work harder, but to help students succeed in six or nine credit hour courses, faculty may also have to work harder at changing student expectations and work habits.

A common student concern is the effect the grade in a multi-credit course has on their overall GPA. Some students may do well in certain material and poorly in other material and perceive that the poor grade in one area carries too much weight. There a number of ways faculty and administrators can address these concerns. One would be to compare aggregate GPAs pre- and post-implementation of cross-functional courses to see if student concerns about lowering GPAs are valid. Another would be to give separate grades for each functional area. The latter method, however, essentially voids the cross-functional course philosophy.

Non-traditional students may also have unique perspectives on a cross-functional course when compared to their younger peers. In many cases, their business experience serves as an excellent foundation from which to apply the cross-functional concepts being taught in the course. However, the demands of a six or nine hour semester course combined with their outside commitments may prove to be an almost insurmountable hurdle.

Students do not like having new courses tested on them; they resent being used as "guinea pigs" (Michaelsen 1999, Mullins and Fukami 1996). Thinking a new course is being tested out on a class also provides a convenient straw man excuse for any perceived difficulty or dissatisfaction with the course. It is strongly recommended that before implementing any cross-functional course or program, the administration and faculty team first develop a completely thought out, finished product. This is essential for courses that present inherent difficulties and/or challenges for students and faculty.

Summary

There continues to be an ever-increasing need for companies to develop effective cross-functional teams and cross-functional skills among individual employees. Toward this end, organizations across diverse industries

are clamoring for colleges and universities to provide them with an adequate supply of business graduates well versed in the skills needed to operate successfully in a cross-functional environment. Stepping up to the challenge, more schools have begun the process of evaluating, designing, and implementing cross-functional courses and programs as a required part of their academic offerings.

The current research provides a guide so those who are either contemplating or have begun the process of implementing a cross-functional program can anticipate and resolve issues before they become insurmountable roadblocks. Because solutions to the particular issues are as varied as the college/university missions, program goals, and faculty and staff charged with implementing them, a prescriptive approach to the topic was not taken. Rather, the focus was placed on identification of issues so that interested parties can pursue solutions best suited to their unique needs.

Cross-functional programs can be challenging, but rewards for all constituencies are worthwhile if the programs are carefully developed. Students benefit from being exposed to 'the big picture' and appreciate seeing how business topics fit together; faculty benefit from the team teaching experience and incorporating additional disciplines into their repertoire. Administrators benefit by reducing departmental siloing, and both firms hiring graduates and business college advisory boards are enthusiastic about graduates with better cross-functional skills. Most schools that have instituted cross-functional programs would do it again in spite of the challenges. ■

References

Alter, A.E. 1992. The dean's list. *CIO* May 15:54-58.

Bishop, S.K. 1999. Cross-functional project teams in functionally aligned organizations. *Project Management Journal* 36:6-12.

Bishop, T.R., T.S. Vaughan, G.R. Jensen, N. Hanna, and D. Graf. 1998. A cross-functionally integrated undergraduate business core curriculum. *Mid-American Journal of Business* 13(1):65-71.

Brunelli, M. 1999. How Harley-Davidson uses cross-functional teams. *Purchasing* 127:144.

Conrad, S. 2000. A surprising silver lining behind the cloud of Y2K. *Electrical Engineering Times* (Jan. 10):75.

DeConinck, J. and T. Steiner. 1999. Developing an integrated finance and marketing MBA course. *Journal of Marketing Education* 21:44-50.

DeMoranville, C.W., T.W. Aurand, and G. Gordon. 2000. The delivery of an undergraduate, cross-functional business principles program: One university's continuing journey. *Marketing Education Review* 10(3):29-41.

Emery, G.W. 1997. Integrating production and finance in the MBA core course. *Financial Practice and Education* (Spring/Summer):55-66.

Ehrhardt, M.C. 1995. Finance in an integrative curriculum: The University of Tennessee MBA experience. *Journal of the Financial Management Association* 5:25-34.

Gerwin, D. 1999. Team empowerment in new product development. *Business Horizons* 42(Aug.):29-36.

Hancock, T. 1998. The new MBA: flies in the paradigm. *Business Horizons* 41(July-Aug.):41-44.

Heckman, J. 1999. Everybody's teaching marketing these days. *Marketing News* (Oct. 25):4.

Hennessey, P. 1999. No more silos. *Training & Development* 53(Apr.):32-37.

Hettenhouse, G.W. 1998. The new MBA—A journey just begun. *Business Horizons* 41(July-Aug.):45-48.

Hoyt, F.B., G. Olson, and E. Straza. 2000. Teaching integrated classes: A case study. *Marketing Management Association 2000 Proceedings* 185-186.

Kelly, K. and S. Sokuvitz. 1996. An MBA communication program in an entirely integrated management core. *Business Communication Quarterly* 59(2):56-69.

Lunsford, D.A. and J.M. Henshaw. 1992. Integrating courses in marketing research and engineering design: An instructional technique for enhancing the product development process. *Journal of Marketing Education* 14(Summer):10-19.

Michaelsen, L.K. 1999. Integrating the core business curriculum: An experience-based solution. *Selections* 15(2):9-17.

Morgan, N.A. and N. Piercy. 1998. Interaction between marketing and quality at the SBU level: Influences and outcomes. *Journal of the Academy of Marketing Science* 26(Summer):190-208.

Mullins, J.W. and C.V. Fukami. 1996. Stage 4: The raging debates. *Journal of Management Education* 20(4):446-461.

Pharr, S.W., J.S. Morris, D. Stover, C.R. Byers, and M.G. Reyes. 1997. The execution and evaluation of an integrated business common core curriculum. *The Journal of General Education* 47(2):166-182.

Remich, N.C., Jr. 1999. Trained teams/lean design. *Appliance Manufacturer* 47(July):39.

Rajesh, S. 2000. New Product Quality and Product Development Teams. *Journal of Marketing* 6(4):1-14.

Schlesinger, P.F. 1996. Teaching and evaluation in an integrated curriculum. *Journal of Management Education* 20(Nov.):479-499.

Silver, W.S. and R.P. McGowan. 1996. Stage 3: Adventures in team teaching. *Journal of Management Education* 20(4):435-445.

Slater, J.S., D.J. McCubbrey, and R.A. Scudder. 1995. Inside an integrated MBA: An information systems view. *MIS Quarterly* 19(Sept.):391-410.

Stover, D., J.S. Morris, S. Pharr, M.G. Reyes, and C.R. Beyers. 1997. Breaking down the silos: Attaining an integrated business common core. *American Business Review* 15(2):1-11.

Van der Pool, L. 1999. Purchasing managers rate the job applicant pool. *Purchasing* 126(May 20):120.

Watkins, T.L. 1996. Stage 1: Creating a new MBA core with team teaching. *Journal of Management Education* 20(4):411-421.

Young, M.B., and K.E. Kram. 1996. Repairing the disconnects in faculty teaching teams. *Journal of Management Education* 20(Nov.):500-515.

About the Authors

Timothy W. Aurand is Assistant Professor of Marketing at Northern Illinois University. He earned his Ed.D. from Northern Illinois University and MBA from Arizona State University. His research interests include reengineering, international marketing, and the marketing of higher education. Aurand has been published in the *Journal of International Marketing, Journal of Marketing Theory and Practice, Journal of Product & Brand Management, Marketing Management Journal, Journal of Marketing for Higher Education,* and *Journal of Continuing Higher Education.*

Carol DeMoranville is Associate Professor of Marketing at Northern Illinois University. She owned and operated a yacht charter business before earning her MBA from Appalachian State University and Ph.D. from Virginia Tech. Her research interests include consumer decision making, services marketing, and applied marketing research. DeMoranville has published in the *Marketing Management Journal, Marketing Health Services, The Journal of Retail Banking,* and *Marketing Education Review.*

Geoffrey L. Gordon is Professor of Marketing at Northern Illinois University. He earned his Ph.D. from the University of Kentucky and MBA from Duke University. His research interests include new product and services development, strategic marketing, and the use of marketing research in investment research. Gordon has had numerous publications including those in the *Journal of Product & Brand Management, Journal of Applied Business Research, Industrial Marketing Management, Business Horizons, Journal of Consumer Marketing,* and *Journal of Marketing for Higher Education.*