

The Project-Oriented Matrix and Instructional Development Project Management

E. William Clymer

*Communication Program
National Technical Institute for the Deaf
Rochester Institute of Technology
Rochester, NY 14623*

Abstract. Instructional developers create instructional systems by means of a collaborative process: the team approach. Academic organizations typically expect instructional developers to manage an interdisciplinary ID team with little formal authority or supervisory responsibility. The subject-matter specialists and technical specialists that work with instructional developers are assigned to projects by functional managers. Supervision of team members remains with functional managers; yet the developer is responsible for managing the individual's contribution to the project. This ambiguous management system is typical in an organizational design called the project-oriented matrix. A project-oriented matrix is an organizational structure where technical specialists are supervised by functional managers, but are assigned to work on various projects, managed by different persons. This paper defines the project-oriented matrix and describes specific management strategies that instructional developers can use to solve common ID management problems.

Organizations have two simultaneous needs that are often at odds with each other: freedom and order. Freedom springs from intuition and leads to innovation. Order stems from intelligence and provides efficiency. (Davis & Lawrence, 1977)

Instructional development (ID) is an approach to solving instructional problems by means of an interdisciplinary team comprised of experts from various instructional and technical support areas within an educational organization. The

goal of the ID team is to solve instructional problems within a project framework. The role of the instructional developer is to serve as technical expert on the application of instructional development and as project manager of the interdisciplinary team.

The purpose of this paper is to:

1. describe organizational factors that influence most ID projects and relate them to the features of the project-oriented matrix; and
2. list and explain specific matrix management strategies that instructional developers can use to solve common management problems.

Organizational Place of ID

Instructional development programs should be placed within an academic organization at a point where they can have considerable impact on large numbers of students and faculty (Diamond, 1975). In most situations, directors of ID programs have a position where their immediate supervisor is the highest academic officer of the institution (Durzo, 1978). The rationale for placing instructional development high within the organizational structure is based on the premise that instructional development can assist the entire organization in identifying instructional priorities and help in determining the projects which will reflect prioritized issues (Diamond, 1975). This placement of an instructional development department is logical from both an administrative and political perspective (Durzo, 1978). In addition, the strategic aspects of instructional development are well-served by such an organizational design.

In spite of these considerations, however, there is no guarantee of the acceptance of the department by the institution. If acceptance is to occur, consideration must be given to the functional aspects of the instructional developer's formation of an interdisciplinary team and the step-by-step process of leading the team through the

activities of instructional development. Placement of an instructional development department within an organization is important, but the ability of an organization to accept and support the concept of interdepartmental projects and the ability of the instructional developer to manage an interdisciplinary team has a powerful influence on the continued effectiveness of instructional development activities.

Organization Designs

Functional Design

The organizational approach used by most educational institutions generally follows traditional forms of function and authority. People are grouped together according to their common expertise and function. The employees within these groups or departments recognize the authority of the manager or chairperson who has supervisory responsibility and controls resources. The manager has similar background and experience as the employees. The advantages of this traditional approach are obvious in terms of the organization of the skills and expertise of groups of specialists. The persons within the groupings are also provided with clear career paths. This type of approach works well when the institution expects the particular groups of specialists to perform their tasks independently (Galbraith, 1971). Thus, they are not dependent on other groups within the institution to contribute to their effort. This is usually the case for most of the instructional areas of an academic institution. The chemistry department is responsible for offering the chemistry courses, the history department is responsible for the history program, etc. Figure 1 is a typical organizational chart.

Project Design

An alternative organizational approach to the functional system is the product or project form of organization. It is commonly used by large, technical

Functional Organization

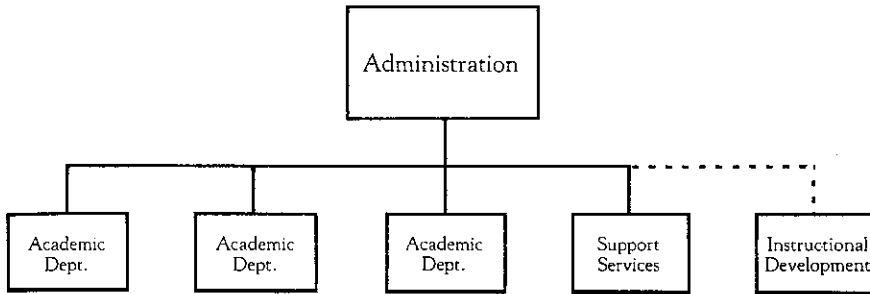


Figure 1

industries. The advantage of this structure is that it permits the creation of an organizational unit devoted to just one project. Experts are hired to contribute to a specific project; resources are budgeted to accommodate the resource requirements of the single project. Each project takes on an organizational life of its own. A special grant project is a good example of project organization in education. The primary disadvantage of the project structure is that there is often personnel duplication within the entire organization and less attention paid to the development of the functional specialities (Galbraith, 1971). Figure 2 represents project organization in an industrial setting.

Project-Oriented Matrix

Matrix organizational designs attempt to combine the best of both of the functional and project organizational designs. The characteristic that is most unique to a project-oriented matrix is the "two boss" or multiple command system (Davis & Lawrence, 1978). This refers to the fact that the team member, for a large part of his/her work, has at least two bosses; the functional manager and the project team leader. This dual or shared responsibility is the conceptual basis for a project-oriented matrix structure.

It is obvious that most institutions have many project and work efforts where there are varying degrees of dual accountability, and are not labeled as matrix projects. However, those persons who manage project teams along with those persons who contribute to project teams would undoubtedly feel more comfortable with the dual accountability they encounter while working on projects if they recognized the organizational structure of their work as having the characteristics of a project-oriented matrix. Figure 3 illustrates the project

and functional aspects of a matrix in an industrial environment.

ID and the Project-Oriented Matrix

Figure 4 depicts how most academic institutions see the creation of ID teams. It is obviously quite difficult to understand the place and setting of the ID project by examining this organizational chart. If one were to recast the organizational chart to show ID project formation utilizing a project-oriented matrix, it would appear as a matrix with the functional areas on a horizontal axis and the ID projects on the vertical axis. The matrix subordinates are represented as the points of intersection and represent people who are accountable as two managers, functional and project. Such a matrix is presented in Figure 5.

The matrix structure is useful, theoretical, and practical system that has application to a wide variety of organizational settings. Instructional developers often encounter projects that exhibit the primary characteristics of a project-oriented matrix, even if the institution does not subscribe to that exact organizational design. By recognizing the ID situation as one that is similar to the matrix design, the developer can be better prepared to deal with the managerial and organizational issues that are inevitable.

ID Project Management Issues

Divided Allegiance

Issue. Greiner and Schein (1981) cite the issue of divided allegiance as a primary concern for the matrix manager. It is a particularly important problem for the instructional developer. The individuals assigned to an ID team are educated professionals who come to the team from a variety of high-skill disciplines. They see themselves as members of their professions first, and contributors to an ID team effort second. They judge themselves against their peers in other organizations. Their loyalty is to their work, not to a project or organization.

Strategy. The ID project manager needs to recognize that the total ID project is not nearly as interesting or important to the specialist as is the specific

Project Organization

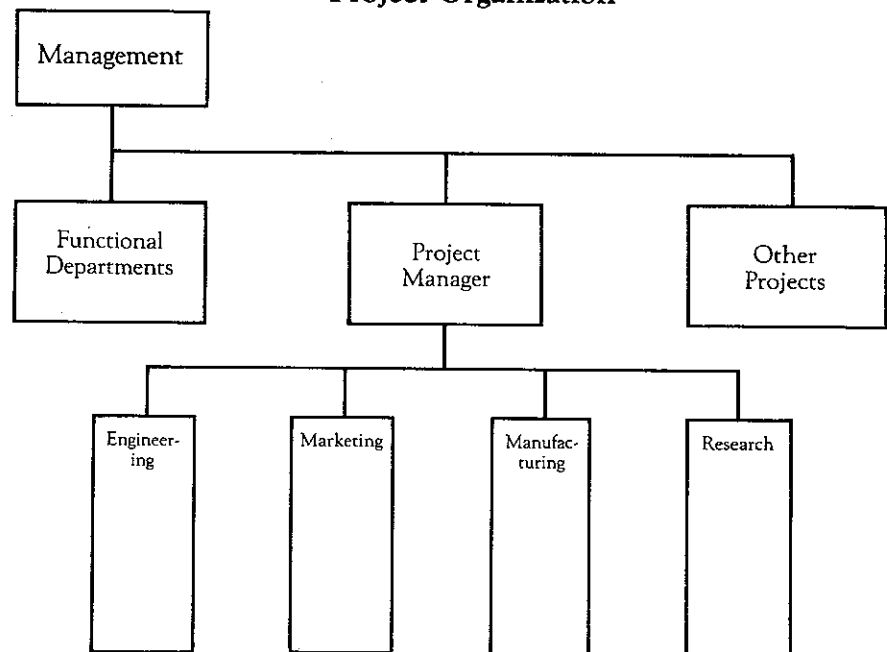


Figure 2

area of the specialist's work. It is important that the developer capitalize on the team members' loyalties to their professions and provide them with the opportunity to perform the required ID tasks in a manner that will both enhance their professional standing and improve the final ID product.

For example, a television producer/director may have very little interest in the instructional objectives of a proposed ID project, but may be extremely interested in creating a series of television programs that could be aired on a community cable system. If the developer is willing to allow the producer/director to explore the opportunities for public distribution of the television product, the results will undoubtedly be positive. It is important to recognize that it is easy for the developer to overlook the professional needs of the team member in favor of a rigid outcome expectation. Flexibility in terms of allowing team members to maximize their contributions will usually enhance the degree to which team members support a project.

Another, but more difficult, strategy for divided allegiance is to work with functional managers of specialists to be certain that team members' contributions to ID efforts are recognized through formal performance appraisals. Team members are traditionally evaluated by functional managers of like discipline. If an arrangement is made

Project-Oriented Matrix Organization

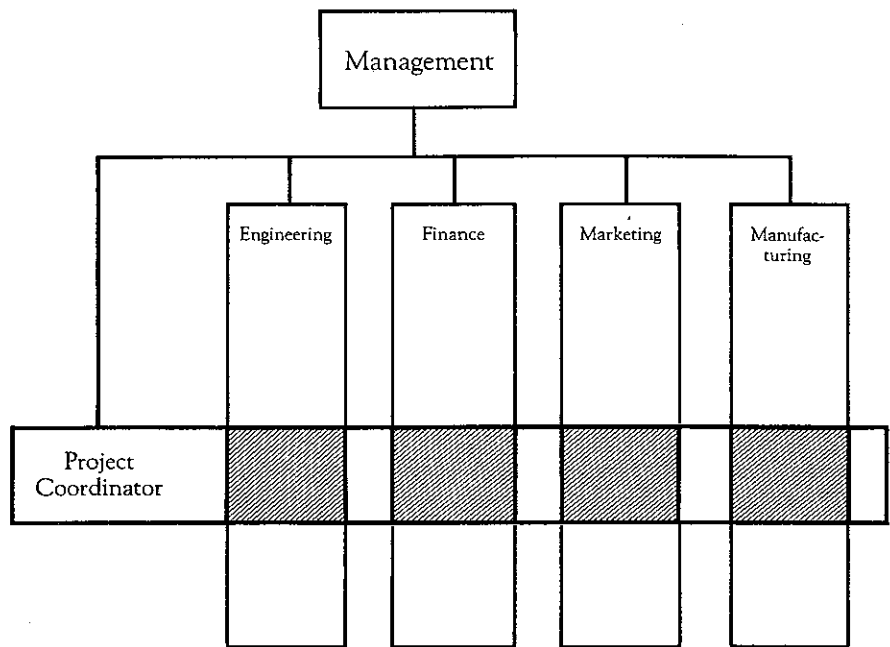


Figure 3

with the supervisors of team members to recognize a person's contribution to a development project in the appraisal process, the specialists would probably consider project assignments in a more positive manner.

A means of allowing the team member to be active within his/her profession must be established and promoted by the ID project manager and the organization. Respect should be given to

the professional needs and interests of the team member. Specialists must see that their contributions to an ID project yield both positive rewards to the organization and to each specialist's career goals.

Authority and Responsibility Confusion Issue. Greiner and Schein (1981) discuss a major problem when managing a project using the matrix design: "Who is responsible for what?" ID project leaders rarely have complete control of the individual team members' time. Team members usually work on a number of projects at the same time, with different project managers. Yet they still report to their functional supervisor and have assignments they must complete within their functional area. Within an ID team, a major problem is often encountered when a technical specialist requires a decision regarding a technical aspect of the ID project. Who decides—the functional manager or the project manager?

Strategies. When there is this type of problem on a project, it is often due to a "latent" matrix system (Davis and Laurence, 1978). The latent matrix is frequently encountered in ID project management and causes considerable confusion. People need to be told how the matrix-project management system works before and during the life of the project. People need to know that they are working on a project that utilizes a matrix organizational design. The rationale for the matrix system needs to be

Traditional Organizational Structure for ID Projects

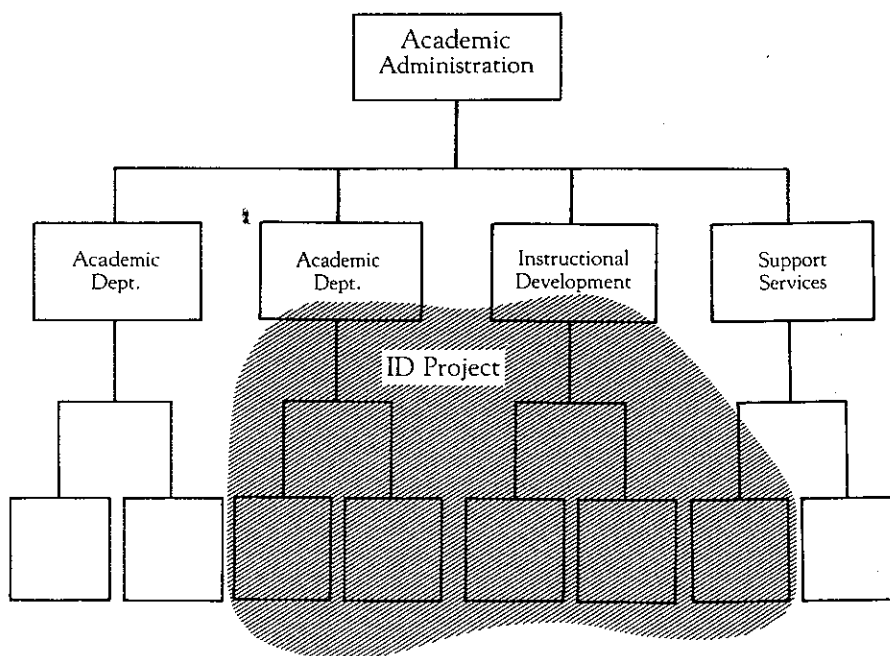


Figure 4

A Project-Oriented Matrix for ID Projects

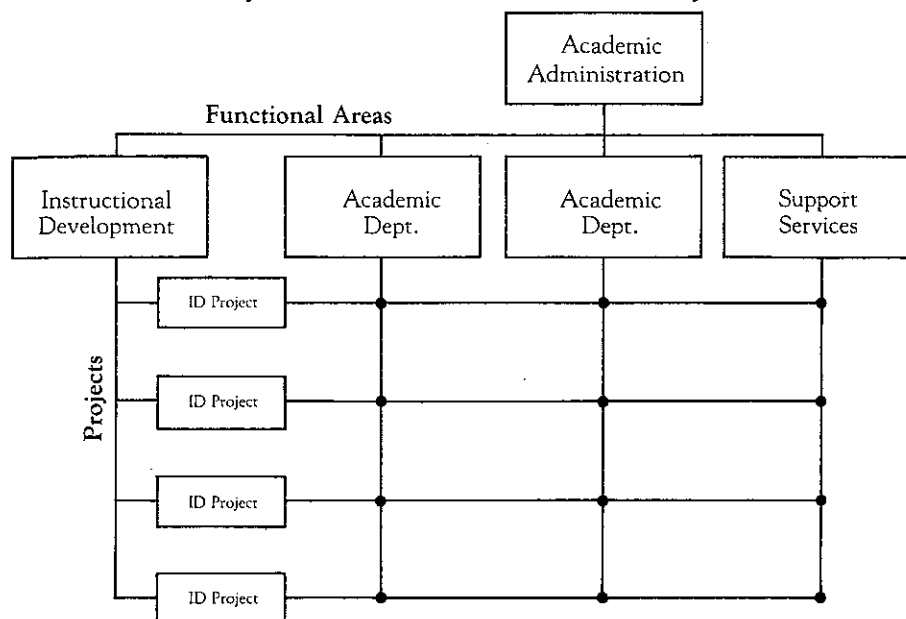


Figure 5

discussed. The developer should carefully explain the roles and responsibilities of each person on the team. Functional managers should be part of the early team building process. "Continuous clarification of individual responsibilities needs to be offered. Obviously, conflict over responsibility never disappears, yet discussion and persuasion, not written job descriptions, can reduce the confusion" (Greiner and Schein, 1981). To resolve a technical question, the project leader should negotiate a solution dependent upon the situation.

Speciality Emphasis

Issue. Each project requires the unique talents of team members to create a finished product. Contributors tend to see the project in terms of their own specialties. Team members may have a tendency to place too much emphasis on their particular specialties at the expense of the project. Speciality emphasis is associated with "overkill" in terms of one aspect of project development at the expense of other components of the project.

Additionally, technical specialists may feel a need to use trendy or fashionable technology without careful consideration of the realities of the project and budget. An associated problem has to do with the team members' lack of respect for a project manager who is not state-of-the-art in the specialists' area.

Strategies. The project manager must be "literate" in the major technical areas that normally contribute to the ID ef-

fort. The ability of the project manager to determine what is an appropriate level of effort or expense from a technical specialist is critical if the project will be completed on time and at budget with the team members feeling that they have produced work that is state-of-the-art for their profession.

The instructional developer needs to determine what is the best compromise in order to keep the team members happy and to reach the instructional goals of the project. The key to keeping the project on course is to apply "continuous planning" with the entire team (Greiner and Schein, 1981). Monitoring, in a positive way, the plans and work of the various team members keeps all persons aware of the project goals and provides feedback to the individual as to what is an appropriate level of effort and expense.

"Groupitis"

Issue. Davis and Lawrence (1978) define "groupitis" as the mistaken belief that matrix management is the same as group decision making. The process of ID probably appears as an exercise in group dynamics to many first-time content specialists and technical personnel. The meeting is the environment where ID takes place. Meetings for the entire team are scheduled frequently for such purposes as team building, planning, and actually creating the instructional design. Due to the nature of lengthy and complex meetings, there can be a tendency on the part of team members, especially those seeking additional

power or control, to create a form of "democracy" within the project. People, striving to have their point-of-view accepted, often will campaign for their ideas within the group, seeking additional support. If given the opportunity, they will press for group consensus in order to force a decision on the project manager. Obviously, group process is the great strength of instructional development. How can the developer control the team so that the project moves along according to the collective direction of the team, without relinquishing control?

Strategies. The instructional developer can do several things to create a distinction between group decision making and project management. The best way to insure that team members understand the decision making process is to explain the process at the start of the project. The explanation should be delivered by the functional managers prior to the team building stage. The decision-making process should be reinforced throughout the project by both the project managers and functional supervisors. When explaining decision making relationships, the managers should emphasize that the responsibility for getting decisions made and maintaining momentum rests with the project leader. However, each specialist should be given the autonomy to determine the most effective/efficient activities for their area of specialization.

It is critical that project leaders make the best use of meeting time. A tone for meetings should be set at the start of the project and maintained. Agendas are a very effective way of controlling the time spent in meetings. Invite only those persons who need to be there. Encourage discussion during meetings. Promote an open exchange of ideas. A group leader should summarize and attempt to bring issues to closure. It is critical that the project leader does not default or relinquish the leadership position at the summary stage of discussion.

Conclusion

The existence of matrix characteristics in ID project management is inevitable. The two-boss situation surfaces very quickly during the team building stage of a project. The developer and the functional manager are the two bosses who share the technical specialist. The functional manager, due to resource and supervisory power, is usually the stronger partner. That is, the functional manager is given the power by the

organization; the instructional developer gains power as a result of applying technical and managerial expertise to completing the assigned tasks mandated by the organization and through the cooperation of functional managers.

To be successful, the developer must be able to gain managerial power and control over the team that is formed by the matrix structure. This power is gained through an understanding of the dynamics of the matrix system and through successfully motivating the creative and technical specialists that collaborate on a project.

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