Domain of Management

As many Instructional Technology professionals will agree, Seels and Richey (1994) assert that "management is integral to the field of instructional technology and to roles held by many instructional technologists" (p. 48). While design is important design and development are intertwined throughout all domains, management is the organizing factor across domains. I believe therefore that careful management ensures that instructional technology projects are designed, developed, utilized, and evaluated in a timely and cost effective manner based on a plan.

Seels and Richey (1994) discuss how the concept of management was originally practiced through the administration of media centers, programs, and services; yet, over time, the practice has become more refined as it has adapted to the changing needs in instructional technology. The original knowledge base of management emerged from information science, ideas about integrated technologies from the development domain, and the field of library science. This knowledge base emerged into the field as it is today which according to Seels & Richey (1994) focuses on "controlling Instructional Technology through planning, organizing, coordinating, and supervising" activities related to the needs of the instructional technologist and their tasks (p. 49). Without these foci, I believe projects would be ineffective because procedures are not in place to protect the progress of the project as well as maintain timelines, budgets, and quality.

Like other domains, management operates on both a macro- and micro- level. While a project may be focused on change at the macro-level a knowledgeable instructional technologist understands that "cognitive behavior or affective" changes must occur at the micro-level in order to facilitate macro- level change (Seels & Richey, 1994, p. 50). Therefore, I find that the larger a project becomes the more complex the management of the project will be. Multiple needs for resources and personnel as well as extended design and development efforts must be organized and managed to have a successful outcome for larger projects (Seels & Richey, 1994, pp. 49-50).

Seels & Richey (1994) identify four sub-domains of management:
- Project Management
- Resource Management
- Delivery System Management
- Information Management (p. 49)

Within each of these four sub-domains, several important elements remain constant. Organization must be maintained, personnel managed, financial needs planned for and procured, as well as facilities maintained (Seels & Richey, 1994). I agree that the manager of a project that operates within any of these sub-domains will need the skills and knowledge necessary to operate in these and other roles as needed because they are responsible for the overall success of

the project regardless of the team's actions. Likewise, the manager should, according to Seels and Richey (1994) be a "leader who can motivate, direct, coach, support, delegate, and communicate" effectively within their role and in relation to the rest of their team (p. 50).

Project Management

According to Seels and Richey (1994), project management "involves planning, monitoring, and controlling instructional design and development projects" (p. 50). This includes identifying tasks necessary to complete the project, resources needed, organizing who will complete what tasks, planning for risks, and ensuring the quality of the project. These tasks fall under what the Project Management Institute's Project Management Book of Knowledge identifies as the nine knowledge areas of project management:
- Project Integration Management
- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resource Management
- Project Communications Management (Murdock, 2005)

Within each of the nine areas, the project manager must ensure specific aspects of the project met the requirements necessary for a successful final output.

Project Integration Management tasks include project plan development and execution to make certain that all activities within the project are appropriately synchronized. Project Scope Management ensures that the project covers all the work that may be required and limits extraneous activities that are not directly related to the needs of the project. Project Time Management focuses on the prompt completion of the project (Murdock, 2005).

Similarly, Project Cost Managements ensures that budget requirements are maintained while Project Quality Management ensures that time, cost, other constraints do not compromise the end results of the project (Murdock, 2005).

Both Project Human Resource Management and Communications Management are focused on the people involved with the project and the effective utilization of the human resources as well as efficient flow of information among all human resources (Murdock, 2005).

Project Risk Management is arguably one of the most important areas of knowledge within project management. Within the category, risks are identified and assigned a quantification based on the severity of outcomes should the issues arise. In addition, appropriate responses are outlined and implemented

preventatively if necessary (Murdock, 2005). This prevents problems in other areas within the project management plan from occurring or causing severe detriment to the project itself.

Lastly, Project Procurement Management ensures that all necessary goods, services, and resources from outside the oversight organization are or will be available in order to ensure a positive result from the project (Murdock, 2005).

While all areas of project management are important, I believe quality management and risk management are the two most important areas because quality management ensures that the requirements and constraints defined by the client and analyses do not have a negative effect on the overall effectiveness and usability of the end product. According to Murdock (2005), budgets and timelines often change and careful management will prevent these issues from degrading the product. Likewise, risk management looks at all areas of a project early in the process and throughout the process in order to allow the manager to take a proactive role in preventing problems from arising that may interfere with budget, time, resources, and/or quality specifications. This is important, in my opinion, to ensure the success of a project at key intervals and in the end production. Spending a small amount of time and effort on proactive risk management will prevent serious problems later on in the project.

One valuable project management model was developed with regards to multimedia projects. England and Finney (2002) created a client-centered multimedia project cycle that, while focused on multimedia projects, has implications for all projects within instructional technology. This model has three main phases beginning with initiation and definition. The initiation and definition phase involve "trying to get an understanding of what the client wants so that you can math their needs to a multimedia solution" including defining the project's scope (p.11).

The next phase requires information to be gathered about costs and resources needed in order to develop a proposal for the client, which includes the "range and scope of the work you will produce according to the time and cost you define" (England & Finney, 2002, p. 11).

Finally, the project goes into the production phase where eight levels of tasks will be undertaken in varying amounts to produce the product for the project. While in some projects all eight steps may be completed, some projects may only require a few steps depending on the level and type of output being developed (Murdock, 2005). The eight levels include administrative tasks related to the project, detailed specifications, team recruitment and management, asset production, defining systems support, testing materials, final sign-offs, and archiving (England & Finney, 2002, p. 13). I find the England and Finney model useful in approaching management because it identifies not only the larger scale

phases of the project cycle but also breaks those phases down into key tasks for managing the project.

In my experience with project management, carefully prepared project control mechanisms are essential to managing a large or small scale project effectively. One program I have used often is Microsoft Project. This software package allows the manager to prepare project control mechanisms such as GANTT charts and PERT charts that track the progress of the project using visual representations of the tasks and defined resources. In addition, resource and budget tracking charts can be created that have benefited me as a project manager because they allow me to have a visual representation of needed and procured resources and budgetary needs to share with the client and project team to increase communication and understanding of the project as a whole.

By combining the Multimedia Project Life Cycle with an Instructional Systems Design Model such as Dick and Carey's, management can be defined in terms of an instructional design project. Many of the instructional design activities are the same but analysis efforts are conducted earlier in the project to ensure that the client's needs are fully realized before the scope is defined as shown in Figure 12 (Murdock, 2005).

Resource Management

Seels and Richey (1994) define resource management as the "planning, monitoring, and controlling of resource support systems and services" (p. 51). Resource management is in and of itself a sub-domain of management. However, resources are also managed within project management. Therefore, I believe the two fields are related. While project management implies an overriding management of the entire project, resource management serves as a "critical area because it controls access" (Seels & Richey, 1994, p. 51).

In my experience, access to resources is important because often any sort of design or development project will not be effectively utilized if resources to support the utilization have not been procured and managed effectively. Resource management includes all assets necessary for design, development, utilization, and evaluation of projects including but not limited to personnel, budget, necessary supplies, time, facilities, and instructional resources. Resource management is important in maintaining "cost effectiveness" and providing "justification of effectiveness for learning" (Seels & Richey, 1994, p. 51).

Delivery Systems Management

Delivery System Management "involves planning, monitoring, and controlling the methods by which distribution of instructional materials is organized… [It is] a combination of medium and method of usage that is employed to present instructional information to a learner" (Seels & Richey, 1994, p. 51). In delivery systems management, the focus is on the product of the project. I use delivery systems management techniques to identify what types of hardware and/or software will be required, what level of technical support for users and developers will be needed, and any guidelines based on technical or pedagogical requirements in producing products. Seels and Richey (1994) also explain that because the resources available are key in defining what can be produced and to what specifications, delivery management systems management is "often dependent on resource management" for defining its parameters and ensuring that the best use of resources is made to match the technology with project goals.

This area of management is key, in my opinion, to an effective instructional program because the delivery system provides the means by which instruction is presented. If the delivery system is not properly managed, I believe the resources needed may not be available at the time, site, or with the appropriate version that is needed to facilitate instruction. Therefore, I think smooth implementation of any instructional program requires careful delivery systems management.

Information Management

Information management is defined by Seels & Richey (1994) as a sub-domain that "involves planning, monitoring, and controlling the storage, transfer, or processing of information in order to provide resources for learning" (p. 51). While the domains of design and development are concerned with "storage and delivery" of information in various forms, information technology is focused on "providing access and user friendliness" to the instruction (Seels & Richey, 1994, pp. 51-52). As increasing focus is placed on integrated technologies and distance learning applications, information technologies will continue to grow in importance because they provide systems for transferring information to the user and processing information into usable formats. This has implications on the importance of information management and "it's potential for revolutionizing the curriculum and instructional design applications" (Seels & Richey, 1994, p. 52).

Conclusion

In conclusion, I believe that effective management is necessary at all levels for an instructional technology project to be successful and cost effective. When resources are not effectively managed costs will escalate and the time required for project completion will grow. Likewise, as our technologies continue to

expand, I would argue that the management of resources and information must expand as well to accommodate the changing needs of instruction.