The Instructional Designer–Subject Specialist Relationship: Implications for Professional Training

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Abstract. The training of graduate students for instructional design positions in a business environment must go beyond a knowledge of traditional instructional development models. Based upon an analysis of the business environment, three areas for skill development—group process, communication, and problem-solving skills—are identified. Strategies for increasing graduate students' contacts with subject specialists are discussed.

Can you recall the last time you worked on a design project in a new content area without the assistance of a subject specialist? Most of us would balk at the thought of trying on our own to determine the effect of a Boolean equation on the state of an electronic gate, or to determine the size of a separator vessel based on our understanding of the gas laws.

The very nature of the instructional design process makes the designer dependent on others to complete the instructional materials. An instructional designer can be characterized as a process-oriented individual who can apply a version of the process to any content or discipline area. We can classify the designer as the process half of the process-content continuum, and the subject specialist as the content half. Most designers would argue that this unique mix of process and content is necessary for effective instruction—that one is less likely to develop effective instruction if the instructional design process is missing. On the other hand, subject specialists, would, and often do, argue that the design process is unnecessary for them to deliver effective instruction.

The difference in perspectives between the designer and the subject specialist is seldom verbalized, yet it is critical to understanding the relationship between the two participants. As a result of the process focus, the designer places an emphasis on improving the delivery of the instruction through the development process. This process first defines the problem and the content, and then begins to increase the emphasis on the delivery (i.e., either sequence or media selection) of the instruction. The subject specialist's focus, however, is on delivery, since it is often the most pressing problem from the content perspective. This difference in initial perspectives can result in a continual struggle between the designer and the subject specialist during the course of a project.

The purpose of this article, however, is not the resolution of the difference in perspectives. Rather, it focuses on the relationship between instructional designers and subject specialists in business and industry, and the implications of this relationship for the development of related skills in graduate instructional design (ID) programs. In the first section of this article, the ID environment in business and industry is described, with a specific focus on the instructional designer/subject-matter specialist relationship. The ond section provides recommendations for the development of instructional design skills in graduate-level design courses.

The Instructional Design Environment

Before a project can begin, the designer must identify the individuals involved and their roles, as well as the role of the designer. The practice of ID in business and industry can range from a single individual who serves as subject specialist, designer, instructor, and personnel manager, to a large corporation where individual designers have specialized roles. For example, in a large corporation one person may be assigned the responsibility for conducting needs assessments, another may have responsibility for project design, another may develop training materials, and still another may have responsibility for project management and evaluation. The various roles of the instructional designer, the subject specialist, and client are described in this section.

The first role to describe is that of the client in the business and industry environment. Bratton (1983) defines the subject specialist as the client and as the individual responsible for a group of learners. In the business and industry environment, one must typically look beyond the instructional designer/subject specialist relationship to define the role of the client. The contract with the designer, either formal or informal, to

perform a service is typically with a manager or supervisor of the target population rather than with an instructor. The "contract" may be to solve a performance problem or to provide general instruction. This performance contract is different than the psychological contract that exists between the designer and the subject specialist described by Coldeway and Rasmussen (1984). In this environment, the client is the manager or supervisor of the target population with a need. As a manager, the client is often responsible for the target population's job performance. The instructor's responsibility for the target population seldom exists beyond the instructional environment.

The role of the subject specialist typically is filled by a person with special expertise: the company's top performer or most knowledgeable person on the topic. This individual may be a consultant to the design team and have no responsibility for the delivery of training (e.g., instructing). The instructional materials would then be delivered by an instructor or a training administrator. As suggested by Bratton (1983), typically the major responsibility of the subject specialist in the business and industry environment is providing accurate content to the design team as opposed to supervising the learner's achievement.

This split in the roles of the client, subject specialist, and instructor places the instructional designer in the role of project leader with responsibility for both the design and management of the project. The client's responsibility shifts from managing the project to one of providing the designer with access to the resources needed to complete the project. With the project management responsibilities, the designer assumes the task of establishing the work schedules and deadlines for the project. The identification and the understanding of these roles are essential to the success of a project. Graduate students need to be aware of the different roles and responsibilities of development project team members in various environments if they are to function effectively.

Recommendations

If graduates are to enjoy success in their jobs, the teaching of instructional design skills must go beyond the models presented in textbooks (e.g., Bratton 1979, 1981, 1983; Coldeway & Rasmussen, 1984; Haney, Lange, & Barson, 1968; Hoban, Heider, & Stoner, 1980-1981; Morrison, 1985). Three sets of skills complement the design process and are essential for a successful project: group process, communication, and problem solving. The following paragraphs describe the nature and importance of these skills for graduate training in instructional design.

Group Process Skills

The development effort for a project can include a group as small as the designer and the subject specialist, to a full-fledged team consisting of a designer, developer, subject specialist, scriptwriter, producer, evaluator, and a program review panel. At a minimum, most teams are responsible to a subject specialist advisory group or to a program review panel for content accuracy. The leadership role of the development team and the review panel(s) requires the designer to have a minimal understanding of group process skills.

First, the designer's group process skills should include a knowledge of how to plan and conduct an efficient meeting. The designer must make efficient use of the subject specialist, development team, and review panel's time. Thus, a knowledge of how to plan and serve as leader of these meetings is essential for completing planned agenda items and maintaining the group's focus.

Second, the instructional designer should know how to develop a team to accomplish the project at hand. Most teams are an eclectic (at least to professionals in business and industry) collection of individuals who must sort out their roles and territory to become effective and efficient in completing a project. The responsibility for developing this team rests with the designer, since he or she is typically the project leader.

Third, the designer should develop skills for achieving group consensus. If this skill is lacking, the team can waste a considerable amount of time reaching agreement on both trivial and important points. The designer must recognize disagreements and then implement a variety of strategies to move the group to a consensus.

Fourth, the designer should develop conflict-resolution skills to use when individuals disagree. Individual credibility, team rapport, and complete projects can be destroyed through unresolved conflicts. The designer needs to develop skills to resolve conflicts at their earliest stage and within the confines of the team in order to preserve the team.

Communication Skills

The designer must develop one-on-one communication skills to support the content analysis effort. There are three specific skills a designer needs to support the process. First is effective listening—knowing how to listen, acknowledge, and encourage the subject specialist to continue to explain the task. Second is an understanding of body language, which would be helpful in reading the subject specialist. Third is the development of probing

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skills—an understanding of how to get to the crux of an issue. The designer needs to be proficient in probing the subject specialist for all the information required to develop the product. These communication skills are essential for the thorough completion of the content analysis.

Problem-Solving Skills

The designer needs to develop problem-solving skills that are different from the structured approaches presented by Kepner and Tregoe (1965). Problem-solving skills which address immediate problems, such as logistics or technical problems, are needed. For example, the team might be faced with obtaining specific equipment for use in a videotape or in a course. Another example might involve subject specialists who believe that a user interface for a particular computer program should be changed before it is introduced in a new course. In this situation, the designer is faced with a problem that goes beyond the group, yet will ultimately affect the outcomes of the project.

The Subject Specialist in Graduate Training

One method for developing process skills is to require that graduate students work with a subject specialist in the process of completing course projects. If students work with a subject specialist in business, they will gain additional knowledge about the design process that cannot be easily conveyed through lectures, role plays, or textbooks. Students will also gain experience in working with a content area in which they have little knowledge. This experience will require them to focus and rely on the design process as opposed to "writing" content from textbooks or their own personal knowledge base. In addition, it will help them gain confidence in the design process. Last, they can gain experience in a noneducational environment and have materials to supplement their portfolios which can increase their chances of obtaining employment in a business setting.

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There are also some drawbacks to requiring or encouraging students to work with individuals outside an academic setting. As a professor, one is endorsing a student to work with a professional as a professional, yet the student is a novice, not a professional. The student learns a step of the model one day and is required to practice it as a professional the next day. Any failures on the part of the student may be seen as a reflection on the program and damage prospects for future internships and job placements. A second problem is the time frame imposed by the semester's schedule and by the subject specialists' schedule. Ground rules need to be established at the beginning of a semester governing the conditions for an incomplete grade. There will be times when the subject specialist will not be available, when wrong or incomplete information will be given to the student, or when reviews take longer than planned. Some students will be unable to complete their projects due to conditions beyond their control, while other students will simply fail to manage their time appropriately. Guidelines are also needed to deal with these situations.

One additional drawback is the scope of the different projects. For example, one student might have a rather simple project on using an electronic bank teller, while another has to develop instruction for managers on evaluating and classifying their subordinates' positions on a performance evaluation and classification form. Will the evaluation of the projects include consideration of the thoroughness of each project, and will considerations also be given to the complexity or difficulty of the projects?

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Strategies for Implementation

Most of us recognize that graduate students need experience and training in working with subject specialists, and typically provide this experience at the end of the students' program as an intern. However, it is this author's position that graduate students need the experience of working with a subject specialist from the beginning of their program. The following is a description

of two approaches we have implemented for providing this early experience with subject specialists.

The first approach is to establish a program relationship with a service group or department on campus that is willing to cooperate in the venture. Such a program has been established at our main library with the Instructional Librarian. She has several projects that would be "nice to have," but does not have the staff or time to develop the materials. She has agreed to work with our students and provide them with a subject specialist (usually another librarian) for their projects. At the end of the course, the instructional librarian receives the units of instruction. During the past three years, students have developed units on conducting searches with ERIC, Psychological Abstracts, Dissertation Abstracts, and a Citation Index; planning a library search; using the on-line card catalog; using Boolean algebra to narrow or broaden a search; and conducting an electronic data base search. Thus far, the program has been quite successful for both the instructional design students and the library.

The second approach is to develop a cooperative relationship with local businesses. Previous graduates, other instructional designers, and managers who have an understanding of our program have been contacted. In an initial meeting with the instructor, the business representative is briefed on the academic program goals and the constraints imposed on the project by the course. The representative identifies meaningful projects that can be completed in a semester to fulfill the course requirements. The business representatives help the students by arranging meetings with subject specialists, but do not provide other support that would influence the students' work. This arrangement has potential for training graduate students to work with subject specialists in business settings.

Providing graduate students with opportunities to work with specialists in an unfamiliar content area provides the students with an opportunity to develop and refine their group processes, communication, and problem-solving skills. In addition, the student projects help to gain local visibility for a program, which may result in an increased job market for graduates.

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