Abstract. The need for a dependable population of "clients" for instructional design seminar students led to the idea of engaging student teachers in this role. Graduate students in instructional supervision who were taking an ID course were paired with middle school student teachers. The under-graduates were taught how to identify and articulate instructional problems and the ID students were trained in instructional design and consulting skills as regular components of their respective seminars. Structured interaction between the two groups was on an individual basis via personal contact, telephone, audio tapes and written reports. Instructional problems encountered ranged from motivation to knowledge of resource materials and teaching strategies. Alternatives presented by the developers included flexible grouping, contracting for interest and motivation, and action plans for the student teachers' perceived self-inadequacies. This approach was highly successful both in terms of the ID course objectives for an early consulting experience and in that it became something of an entry vehicle for establishing the credibility and demand for instructional developers within public school systems.

Rationale for the Approach

One pressing demand on those who train instructional supervisors in ID is that they engage students in designer-client relationships so that the students can begin to connect theory to practice. A recurrent problem in this aspect of training has been the availability and suitability of a client population. The trainees' initial experiences in consulting ideally should be with clients who can articulate valid instructional design problems but who do not represent excessive psychological threats. Such a clientele would enable the students to sharpen their consulting skills while gaining personal confidence through coping with "real" contexts. The ID teacher, however, is rarely able to provide such ideal clients in sufficient number or on a timely basis. Teachers often make what arrangements they can, tell class members to find their own clients, or let students redesign some of their own instruction if they currently were teaching. Many students, as a consequence, have not been systematically required to engage in the important consulting experience during their training.

A corresponding problem facing those who educate preservice teachers is that the tendency to provide earlier and more extensive field experience does not always result in a positive impact on the attitudes and behavior of the student teacher (Zeichner, 1978). Part of the difficulty is the lack of support the student teacher receives when proposing instructional strategies or problem solutions which differ from those favored by the cooperating teacher. The student teacher's university supervisor, ordinarily the only other observer, is in an evaluative role (Blumberg, 1974) and is not likely to encourage deviation from the cooperative teacher's routine practices or to foster open expression of concerns about survival skills such as class control, content adequacy, evaluations by supervisors and pupils, and evaluation of pupils (Fuller, 1969; Fuller, Parsons & Watkins, 1973).

During a discussion concerning the difficulties affecting both preservice and graduate student groups, the idea of using students enrolled in the teacher education program as clients for the graduate instructional design students arose. The major goal was to create a realistic and mutually supportive environment in which the student teachers and neophyte instructional designers would have all of the advantages of a "client-consultant" relationship without the dysfunctional element of professional evaluation. It seemed to the authors that setting up this context would lessen the severity of the impact of the existing evaluative roles on both groups of students who were at a point in their professional training where the freedom to experiment and grow should be of paramount importance.

The specific advantages of structuring an instructional developer-client relationship between the two classes were perceived to be that:

- Graduate students in an instructional design "consultant" role would have a dependable population of clients who could provide valid instructional problems but who would not be excessively threatening;
- Preservice student teachers would have an opportunity to develop the skill of articulating and defining classroom instructional problems; and
- The student teachers would have a "consultant" to work with who was not in a traditional evaluative role.

The "consultants," for the most part, were experienced classroom teachers and/or administrators enrolled in various doctoral programs and, unlike the student teacher supervisors, cooperative teachers, and seminar professors, were not put in a position of evaluation and recommendation. The mutually supportive environment, it was believed, would also ease the transition of undergraduates to classroom teachers and the graduate students to instructional designers and supervisors. These assumptions and convictions led to some modification of the two courses involved and to the structuring of a trial interaction between the two groups.
The Instructional Design Course Plan

The graduate course in instructional design was developed to provide the participants with the basic analytical, consultative, and prescriptive skills of the profession (Davies, 1972, 1973, 1975, 1976, and personal communications, 1974-77; Davis, Alexander, & Yelon, 1974; Thiagarajan, 1976a, 1976b) along with an awareness of organizational behavior (Schein, 1970; Vroom & Deci, 1970).

All of the participants were experienced classroom teachers, and most of them were employed as school administrators and/or supervisors of instruction. Interviews with them revealed that they possessed high-level ID entry skills but that none of them had previously taken a course in instructional design. Further questioning indicated that they preferred to work independently and in small groups on readings, exercises, and case study materials rather than learn via the lecture method.

Given the course objectives and learner characteristics, a plan was devised that consisted of nine units: planning instruction; objectives and competencies; task analysis; learner analysis; motivation and organizational behavior; consulting; instructional strategies and formats; teaching skills, concepts, and principles; and evaluating instructional outcomes. Each unit corresponded with a weekly class meeting. Each unit consisted of readings, exercises, and posttests. After individually completing the units, the class met as a group to discuss the material and to practice applying the material to printed and video tape case materials in small groups. The participants were required to master the first seven units before engaging their clients.

The unit on instructional strategies and formats required a familiarity with the four families of the Models of Teaching (Joyce & Weil, 1972; Weil & Joyce, 1978a, 1978b, 1978c). Although most of the graduate students were already familiar with the "models" approach, the authors considered this material to be of sufficient importance to require a demonstrated ability to prescribe a category of models for specified instructional outcomes.

The unit on consulting consisted of sensitizing the graduate students to the nature of the human relationships involved in the consultation process and of teaching specific skills. They were required to master (measured by unit posttest and instructor observation) the techniques for entering, maintaining, and terminating a consultant-client relationship, and to describe the successive stages in the relationship: problem analysis, interpreting data, and generating alternatives (Davies, 1975). The problem analysis skill component required mastering the ability to analyze five types of instructional problems: direction (goals or objectives not known by students), evaluation (evaluation procedures are not known by students), content and sequence (content is missing or there is no attempt at logical structure or sequence), method (poor conditions to motivate or promote learning), constraints (resources such as instructor skills, student abilities, and schools' resources are ignored) (Davis, Alexander, & Yelon, 1974).

The remaining four sessions of the class were to be used for group discussions of the clients' instructional problems and of the consulting process itself. Additional office hours were kept by the authors during this period to permit individual consultations.

Strategies for Interaction

The two groups (24 persons in each) were brought together in an informal social setting during the 9th week of a 13-week semester. Introductions took place wherein each student told briefly what his or her professional activities and leisure interests were. The instructors suggested that the groups mingle and ultimately select a person from the other group with whom to work based on introductory comments and subsequent conversations. Most pairing resulted from the undergraduates finding a "consultant" interested in their particular school setting.

Once the student instructional designer/student teacher teams were formed, each was required to schedule four contact sessions. Considerable flexibility was allowed here because of the geographical distances separating the graduate students from student teachers who were scattered over a rather large region. Contact requirements could be met by any one of the following (rank ordered by the authors in terms of perceived value):

1. personal meetings,
2. telephone calls,
3. exchange of audio tapes,
4. written journals.
Journal and audio tape mailboxes were provided at a location convenient to both groups.

Each contact required a written summary of the encounter. The student teachers could include this summary in their weekly journal to the instructor of the preservice seminar and the instructional design students wrote response sheets that summarized their diagnoses of the problems and alternatives proposed for resolution. As planned, subsequent sessions of the instructional design course and individual conferences with the authors were used to share consulting experiences and discuss the broader issues of "consultation" and student teacher relationships as they arose.

Before meeting with the developers, the student teachers participated in brainstorming sessions that led to narrowing and clarifying instructional problems in terms of the kind of information that a "consultant" would require (Davis, Alexander, & Yelon, 1974). This part of the experience proved to be particularly beneficial for the student teachers. It was apparent from the difficulties the student teachers encountered while trying to come up with accurate descriptions of classroom problems that more of this type of experience should be included in the teacher education program. Student teachers cannot solve instructional problems if they are unable to define them. This inability of the client to clearly define instructional problems is also an important aspect of the reality faced by ID practitioners: It is good experience for the supervisor-developer to begin to deal with this problem in a training situation.

Results of the Trial Interaction

Instructional problems as defined by student teachers were many and varied. A forced collapsing across categories yielded the results shown in Table 1.

Discipline was the major concern, followed by feelings of inadequacy about the student teachers' knowledge of the curriculum and the materials deemed helpful for various content areas. Paralleling the feelings of lack of knowledge about curriculum were concerns about how to interest and motivate students. Many of the student teachers felt children were bored with the classroom work and they felt un-
prepared to deal effectively with the resultant "poor attitudes toward school."

Table 1.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discipline in classroom</td>
<td>6</td>
</tr>
<tr>
<td>Lack of knowledge of teaching methods</td>
<td>5</td>
</tr>
<tr>
<td>Curriculum Design Constraints</td>
<td>3</td>
</tr>
<tr>
<td>Lack varied &amp; interesting instructional materials</td>
<td>2</td>
</tr>
<tr>
<td>Lack knowledge of subject matter</td>
<td>2</td>
</tr>
<tr>
<td>Lack familiarity with alternative evaluation/grading strategies</td>
<td>2</td>
</tr>
<tr>
<td>Disliked by students</td>
<td>1</td>
</tr>
<tr>
<td>Tired</td>
<td>1</td>
</tr>
<tr>
<td>Problem reports not submitted</td>
<td>2</td>
</tr>
</tbody>
</table>

\[N = 24\]

For the purposes of this project, which was to determine if pairing student teachers with graduate students or "consultants" would lead to a mutually beneficial learning experience, the following specifics can be delineated:

1. **Student teachers can be a dependable population of clients who provide realistic instructional problems but are not intimidating to graduate student instructional design consultants.**

   The population proved to be dependable and challenging to the graduate students' entire repertoire of skills (there were no prerequisites for this course but the prior professional experiences of the "consultants" proved to be beneficial in dealing with the student teachers). As clients for advanced graduate students, most of whom would be employed in school districts as instructional supervisors or building administrators, the student teachers provided outstanding examples of personal and instructional problems in realistic environments. Furthermore, they were scattered among widely differing school systems which provided a multitude of administrative philosophies, socioeconomic conditions, and ethnic populations.

   From an instructional designer's point of view, however, participants experienced a somewhat limited opportunity to apply purely instructional remedies because of the student teachers' overriding anxieties concerning personal adequacy. As a consequence of the emergence of student teacher problems with classroom discipline, teacher self-concerns, and ambiguous curricula, the remaining sessions of the instructional design class were focused on motivation, pacing, learner analysis, and clarity of instructional intent. The instructional design students found the student teachers to be a particularly stimulating yet nonintimidating client group with whom to work. It was of particular importance to be able to deal with them without the overwhelming threat of evaluation that a supervisor encounters when dealing with inservice teachers in the field. The context, in fact, enabled future instructional supervisors to experience first hand the complexities teachers face and to empathize with the day-to-day problems they encounter.

   The fact that the instructional design students were also experienced teachers and administrators was of considerable benefit in that they were familiar with how to implement change within an educational system. The range of consultant-proposed strategies included flexible grouping, contracting for discipline problems, and meetings with building supervisors. The strategies also included coaching teachers about the real and assumed constraints imposed by curriculum guides and evaluation/grading requirements, learner analysis and materials matching/pacing for interest and motivation, and content/skills self-assessment (with action plans) for student teacher perceived inadequacies. The challenge for the professors was to structure the approach in a way that kept everyone on task while leaving room for innovative interventions when the situations dictated a need for them.

2. **Preservice student teachers would have the opportunity to develop the skill of articulating and defining instructional problems.**

   The difficulties encountered by the students during the process of narrowing and clarifying the problems as they perceived them were substantially alleviated by structuring this activity as a seminar. These problems, as they were ultimately defined within the consultation session, were not the typical kinds of difficulties the students expressed in routine supervisor/student teacher meetings (such as those concerning subject matter particulars and workshop ideas). Rather, they were more closely patterned on student teacher concerns about self-adequacy and the hidden curriculum such as Fuller (1969) and her colleagues (Fuller & Brown, 1975; Fuller, Parsons, & Watkins, 1973) found in autonomous clinical settings. This allowed the seminar and design class professors to focus on the real problems of the student teachers rather than on those that are ordinarily presented in a restrictive setting.

   **3. The student teacher would have a consultant to work with who was not in a traditional evaluative role.**

   The student teachers were able to express their concerns openly and honestly to the graduate instructional design consultants. At this point in their development, the student teachers needed to be able to express their anxieties. Yet, it has been the usual procedure during this phase of teacher education to surround them with three evaluators (the professor in charge of the student teaching, the student teacher supervisor, and the cooperating teacher). This has the effect of keeping them on the defensive and, if teaching competence is a developmental phenomenon, it could well have the effect of impeding critical professional maturation.

**Conclusions**

In summary, this project did in fact demonstrate that bringing together future professionals in a joint undertaking to improve classroom instruction is a viable new direction to be considered for instructional design professors involved in teacher education programs. There are a number of benefits in addition to those discussed in the preceding section.

First, there are no expenditures of dollars or other resources required to put the model into practice. Faculty time required to execute the design is very modest.

Second, the approach has stimulated interest on the part of other faculty members in improving the integration of learning experiences that constitute teacher education and the acquisition of instructional design skills. Graduate students in some programs are often assigned to the role of "mini" researchers or teaching assistants: They are an untapped resource with a broad potential for qualitatively improving the level of teacher training. The closeness with which the graduate students worked
with each of their clients, and the overwhelming positive response to the experience that was received from both groups of students indicated that this was an approach that had encouraged introspection on the part of the participants concerning their individual needs and their growth within their professions.

Third, this project had the indirect but powerful effect of interesting some of the teachers and supervisors in the participating school systems in further exploring ways instructional developers could be used to improve instruction in their schools. It opened a traditionally closed line of communication and, at least in some instances, demonstrated what the profession can do for teaching when given the opportunity.

Fourth, university faculty members who participated in this design were forced to keep in constant touch with classroom realities in the public schools (all of those complexities that teachers have to cope with which rarely fit in neat theoretical frameworks).

Fifth, the structuring of non-evaluative interaction between preservice student teachers and graduate instructional design students tends to remove the status barriers that traditionally exist between these two groups. Based on the authors' conversations with some participants, the experience has led to associations and friendships that went beyond the depth and duration required by the structured activities.

These benefits are exciting, but moving graduate students into a "real" environment places additional responsibilities on the ID professor. Foremost among these responsibilities, the authors believe, is accurately informing their students about what they are going to encounter.

First, the participants must be aware of the influence a system can have on its personnel. Often what are expressed as classroom problems are merely symptoms of more pervasive problems with the social system (such as racial or economic prejudice and cheating) or with the school system (such as inflexible curricula and authoritarian leadership styles). It is important that the graduate students recognize the constraints under which they operate, and that their interventions be designed to go no deeper than the client will accept and for which the client will allocate resources.

Second, they should be prepared to deal with clients who are not skilled in articulating instructional problems. An important part of their consultation will be the redefinition and clarification of these problems. As the seasoned practitioner often finds, what the client initially expresses as a problem rarely is the problem.

Third, when working with beginning teachers, the consultant must be able to deal with their self-adequacy concerns as well as with instructional problems. Just anticipating these concerns will be helpful, as will open discussions of them with the client. Several of the student teachers in this trial were actually doing quite well in their classrooms but felt very inadequate about teaching. Some basic information-gathering interventions (such as student evaluations of teaching and performance contracts with the cooperating teacher) can be extremely effective in providing realistic feedback to the beginner.

The real environment entered by the graduate student consultants in this trial was not as "clean" as the customary academic setting, but it was manageable. The authors believe the participants grew qualitatively both as professionals and as persons during the experience. It is only in realistic but non-evaluative environments such as the one created by this project that real, personal, and urgent problems are openly expressed. These problems must be expressed if we are to deal with them, and we are obligated to deal with them if we are to keep abreast of the changing realities in education. If professional competency is at all developmental—or even if it simply exists in identifiable stages that are potentially alterable—training programs should attempt to structure experiences that will enhance the transitions that occur between the academic and practitioner stages. Student teachers are readily available as a "client" resource for instructional design trainees within most schools of education. Engaging them in this role offers one way to structure the consulting experience that is important for professional growth.

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