



General Principles of Materials and Media Selection for the Handicapped¹

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On behalf of Mrs. Lou Alonso, the Director of the Regional Center, and the rest of us, I extend greetings and our special hope and encouragement for this session and others to follow. I think Bill McKinney, here in Indiana, has set what amounts to a sort of national precedent for the combination of State Department resources. Dr. Negley, Les Brinegar, and others have been very instrumental in providing not only a good man in this kind of articulation, but also the back-up resources that make the job work. I think you are right, Dr. Negley; we are actually spending money now for instructional materials and for people to deal with instructional materials, and it's about time. I think we are going to see a great pay off in this and we are very hopeful about it. As a researcher myself, I have to be a little guarded on what I think will happen because quite often I am the one ultimately concerned for making the sort of evaluations that say whether or not it did happen. But let me assure you that I think things are happening, and I think that the sort of change that can be made in actual classrooms with real kids is significant and real and just around the corner.

I do not want to get into the talk proper before thanking a number of people who have made life very easy and pleasant around here this morning. Carol Eby and Bill McKinney have done most of the fine preparations that we have seen around here. I don't think I have ever seen a meeting of this sort come off anywhere near this smoothly, especially at the first go; Bill and Carol, much of the credit goes to you personally. Mr. Johnson's staff and certainly he, himself, whether he is here in person or not, at least he's here in spirit. This is a great building which certainly reflects a great hospitable attitude. Mrs. Margaret Boots was of great help and Dave Barren is somewhere around out there giving us a lot of help on the switchboard. We appreciate people like this.

Why the emphasis on instructional materials? Have we just discovered audio-visual media? No, in fact, we are re-discovering instructional materials, because we are getting away from the audio-visual entrancement and looking at the question of instruction. The curricular decisions made in the schools of America are largely made by the people who write the textbooks. What are curricular decisions? Curricular decisions are essentially questions about what we will teach, how we will present it, and in what sequence we will present it. Much of what we do as teachers, regardless of the subject field, is really a function of the way our instructional materials are organized. Not many teachers will take exception to the sequences laid out in books; though most teachers will make modifications. We skip this, and we add that, and we say we will come back to that later. If we use instructional materials that are primarily text, we teach in a way that focuses attention on written materials; if the materials use a visual approach, we focus attention on the visual. If materials are primarily of an auditory nature, we focus on the auditory. We become largely what our materials are. For a long time we assumed that the materials we chose were a reflection of what we wanted to

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accomplish. This probably is not the case. There is a good bit of evidence from teachers who have been asked questions such as, “Do you have the materials you would really want to use?” The typical response is, “Well, no, not really. What I would really rather have is such and such.” Then you say, “Why don’t you have it?” “Well, it’s either not available,” or “I don’t know if it’s available,” or “I haven’t asked,” or “We don’t have the money.” All of which suggests that we use what we have, and we become whatever it is that we have.

The value of individualizing instruction has never been challenged. In the final analysis, any teaching that is effective is taking place between a teacher and a learner or between two learners. In effect, anything that is learned is learned by an individual, as an individual. In fact, I am not sure the notion of individualization of instruction as a goal is a very realistic piece of language, because there is probably no other way to teach. There are only two ways to individualize instruction: the more costly approach is to go to a one-to-one relationship where you have one teacher and one student. The other is to use instructional materials to make it possible for individualizing to take place within group mode and within breakdowns of group mode. When we are talking about individualizing instruction, since we are schoolteachers, not tutors, we have to talk about instructional material that will help us to communicate with groups, or allow individuals to communicate with materials on an independent basis.

What is a teacher doing in a good one-to-one relationship? The teacher is, first of all, listening; second, diagnosing, and third, designing. As we listen, we catch the interest of the learner. We find the “hang-ups,” if you please. Then we diagnose these “hang-ups” in terms of learning needs. We say, “He doesn’t understand a word that he is using,” or “He doesn’t understand a word that I have been using; I had better go back and clarify.” You see, to individualize, we diagnose and then we design. We say what kind of an experience will cause the person to learn the sort of thing that I see as her next needs. We design it to stimulate her, expand her awareness, and to satisfy and encourage. This is what we do in a good tutorial one-to-one situation. The problem is that few, in any, school districts can afford tutorial relationships with all their students.

So, we go to group mode. In group mode, what is the teacher’s function? If she or he is concerned about individualizing, let me suggest a list. A teacher needs to listen, a teacher needs to diagnose, a teacher needs to design. If that seems to be what happens in a good one-to-one relationship, it is no accident. The number of students involved doesn’t change the demands on the teacher. The nature of the demand is the same; the magnitude of the demand is much different. The minute I have two or thirty learners, my listening job becomes much more difficult. Diagnosis becomes more complex; and then the design problem becomes almost impossible. How do I design thirty appropriate learning experiences? Instructional materials allow us to accomplish in a group mode much of what we intend if we were in a one-to-one relationship.

An effective teacher individualizes, stimulates, and evaluates. In the category of individualizing and stimulating there are three sets of differences among youngsters that we have to be similarly concerned about.

1. *Rate of learning differences.* We know that children learn at different rates. Some learn faster than others and we allow for variations among children in terms of their work. However, the rate of learning differences presents a serious problem if we are in group mode. When members of the class are at different stages, it can be disoriented in for a teacher who plans and attempts to conduct teacher-centered activity. Some of the group will get away from the teacher while he or she is helping others.

2. *Style of learning differences.* We are just beginning to recognize how important styles of learning can be in relation to student needs. Those who work with the perceptually handicapped, or the mentally disadvantaged, are aware of the style differences that cause difficulty in the learning environment. Learners with different styles often are not accommodated in standard materials that are designed based on one view of how people learn.
3. *Topical interest needs.* One of the best illustrations of accommodating topical interest needs is the SRA Reading Kit. The SRA approach to reading has allowed children to read at their appropriate reading level. The SRA approach assumes that children are interested in different things. Much of the time in teaching, we want everyone to be interested in the same things so that they can all enjoy reading the same story.

Teachers who view instructional materials as an extension of themselves, have a different sort of view when selecting instructional materials. If you select instructional materials in terms of helping, you do the sort of things that you already know need to be done. You are not so apt to look for things that are mildly different and would not be easily adapted into your scheme of things. Sometimes in audio-visual instruction, we have become so excited about materials that are essentially gadgets and toys. Could it be that we ought to be selecting instructional materials whether we are talking about texts, tapes, phonograph discs, film strips, sound films, slides, in terms of their helping us do a finer job at the sort of things we know our students need?

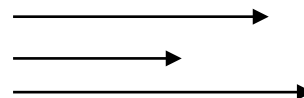
The arrows in Figure 1 represent the areas of effective teaching that can be helped by commercially available instructional materials. The longest arrow relates to rate of learning differences. Many instructional materials exist that allow rate of learning differences to exist in the classroom. In that same category (Individualizes and Stimulates), you see a provision for learning style differences. There aren't sufficient instructional materials commercially available in this area. Teachers, then, generate materials on their own.

Effective Teachers Extend Themselves through Effective Materials

(A clinical/systems view)

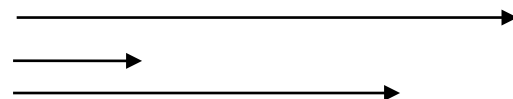
1. OBSERVES

- A. Perceptively watches and listens.
- B. Diagnoses learning needs.
- C. Finds the child's interests.



2. INDIVIDUALIZES AND STIMULATES

- A. Provides for rate-of-learning differences.
- B. Provides for learning style differences.
- C. Provides for topical interest needs.



3. EVALUATES

- A. Samples behavior carefully.
- B. Keeps data for comparison.

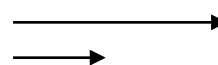


Figure 1.

In the first category (Observes), tape recorders, cameras, and other kinds of devices that allow teachers to document are increasingly being used. Language laboratories are a good example of this.

One of the stronger elements in a language laboratory (and I am aware as you are of the strengths and weaknesses of a language laboratory experience) is that the typical lab allows the teacher to listen closely to a given child. This area of language instruction and language development instruction for handicapped children has proven very important.

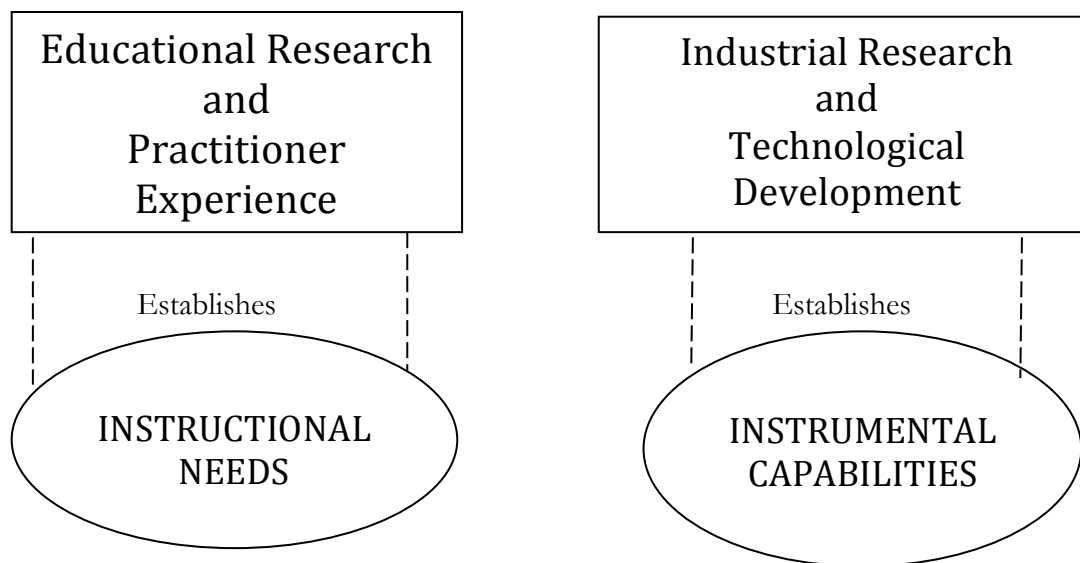
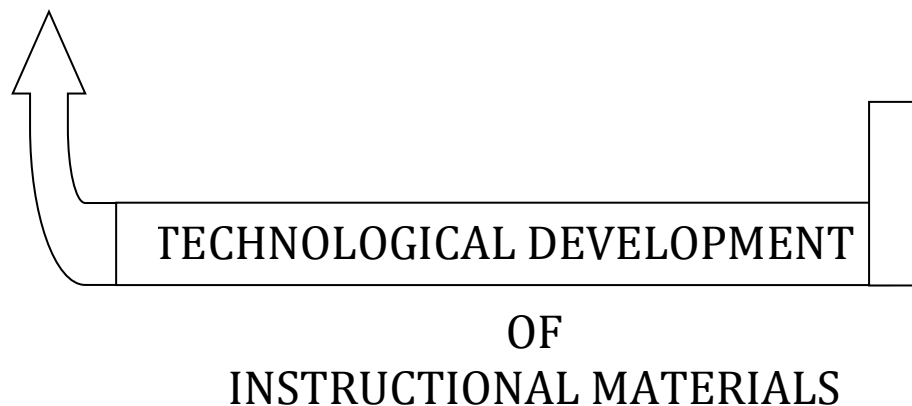


Figure 2.

Let's turn our attention for just a moment to instructional materials and how they came into being. For an instructional material to come into being, data are needed about instructional needs and instrumental capabilities (see Figure 2). Typically, information about instructional needs comes from educational research and practitioner experience. I think teachers learn in working with children and much of what teachers learn in working with children is worth showing to other teachers. So, we establish Instructional Needs. That is one kind of data. The other kind of data are Instrumental Capabilities. (For example, what can be done with things?) Instruments can be complicated machines or they can be very simple pieces of paper. Instrumental Capabilities does not necessarily mean machinery. Instrumental Capabilities is anything that can be related to instrumental needs.

You will notice in Figure 3 that the connection moves from right to left. You begin with a view of what you can do with a particular thing—that is, a gadget or a piece of paper, or a particular format of visual, and you say, "Look, we can do this technologically. Now, how can we relate it to instructional needs?" The five steps that you go through are indicated in the figure.



Steps:

1. Identify instrumental capabilities.
2. Describe these capabilities in terms of possible instructional uses.
3. Hypothesize specific learning facilitations that would take place if you did this.
4. Develop experimental materials and/or procedures.
5. Implement and evaluate—often not even bothering to evaluate.

Figure 3.

The other approach is, as you might guess, the *left-to-right* approach in which you start off with the instructional needs as a given and raise the question, “What instrumental capabilities can be recruited, or designed, or invented to meet these needs? Typically, this is the approach a knowledgeable teacher takes in developing instructional material. Is it any wonder that we come out with essentially different sorts of products from these two kinds of approaches? Each approach has its place. But, we have to recognize that they are different approaches.

One of the roles of the Instructional Materials Center at Michigan State University is to help teachers get their ideas refined to the point that they are producible. I assume that there are some of you in the group now who have designed instructional devices—whether pieces of paper, visuals, tapes, books, or whatever, and you have not had any particular success. Maybe we could help you look it over and think it through. We have several illustrations of activities that we have carried on in the Instructional Materials Center using (1) the right-to-left approach to develop new material from a given technological source, and (2) the left-to-right approach beginning with instructional need and then moving to the technological question.

There is much promise in sharing ideas about teacher-made or teacher-designed instructional materials or uses of instructional materials. In the field of education for handicapped children, we have a particular problem. The manufacturers have not been quick to recognize the large number of teachers and larger number of children who are enrolled in special education. Even those who are aware have a tendency to look at the fact that there are so many sub-divisions in special education that it might not pay them to do a lot of instructional materials development for each of the areas. Now, in effect, we are handicapped. We are discriminated against, and we have to be very clever in adapting materials intended for “normal” children. Often we can take existing material and change it to make it appropriate to a certain sector of handicapped children. Teacher ideas about these adaptations are very useful. Please share them with us so that we can make them more widely available.

Instructional materials are not some sort of by-product or sidecar on the motorcycle. Instructional materials are the very lifeblood of the instructional environment in the classroom. Instructional materials should be thought of as an extension of the teacher. You select materials first in terms of what you already view as the needs of your children. Then you select materials that will facilitate learning. Not, "Is this clever?" "Is this cute?" "Is it appealing?" "Will my kids 'love' it?" but "Will it facilitate learning?" "What perceptual blocks will it circumvent?" "What new perceptual needs will it open up?"

Every time you get a chance to go to an instructional materials fair, such as this one; or one that is not designed especially for special education, be just as interested in materials for the normal child as you are in materials for the handicapped child. The amount of material prepared for normal children is increasing much faster than material for the handicapped child. We hope to exert some influence and encouragement to the industry to make the sorts of minor modifications in their material that would allow them also to fill a need for handicapped children. It will take insight from teachers for us to be able to spot the many things that need to be recommended.