Twenty-one hypothesized components of effective teaching were examined and three to four basic attributes for each were stated as instructional strategies for teaching mildly handicapped students. Approximately 40 regular and special educators reviewed the strategies and their validations were used to develop the Assessment Inventory of Instructional Strategies (AIIS). The teacher then completes the form, rating the effect of each strategy on the student's learning. Listing the positive strategies under each of the 21 teaching components results in an instructional strategy profile for each student, emphasizing how to teach rather than what to teach. Pilot testing by five teachers of mildly handicapped elementary students revealed considerable agreement on effective strategies. The ratings from the pilot test are appended. Among strategies receiving 100% agreement as being effective were use of small group areas, use of hands-on materials, clear oral and written communication, providing feedback, and remediating weaknesses. (CL)
Teaching Strategies

Beefing Up Teaching Strategies in Educating the Mildly Handicapped

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and

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Abstract
Twenty-one components which purportedly comprise effective teaching were synthesized and instructional strategies for their accomplishment were established. Depicted in the form of an assessment procedure, the list of strategies permits the teacher to form a profile of positive arrangements to enhance learning among his/her students. Further procedures are provided to actually implement the strategies. From a pilot implementation of part of the process, teachers indicated the effect of teaching strategies on learning among their students and profiles of the positive effect strategies are provided. Twenty common strategies found to be effective among teachers are highlighted. Implications suggest the need for full implementation of the systematic approach given for beefing up teaching strategies and thorough evaluation of their impact on learning among the mildly handicapped.
Beefing Up Teaching Strategies in Educating the Mildly Handicapped

Work with inservice teachers of the mildly handicapped (mentally retarded, learning disabled, and mildly behavioral disordered) on becoming more effective in their work is revealing interesting observations. Two years ago a survey (Gentry & Jefferson, 1986) was conducted in which teachers were presented with 21 components of effective instruction as provided by Polloway, Payne, Patton, and Payne (1985). The teachers indicated that they frequently give attention to most of the components (which are categorized into antecedents to teaching, teaching behaviors, and follow-ups to teaching). They felt that addressing the components enhanced learning among their students but not at a level commensurate to the effort that they put into the teaching.

Presently, the authors' challenge is that of helping teachers get the best mileage from their effort at instructing mildly handicapped children. Thus, the focus is on beefing up teaching strategies to ensure a fuller measure of learning on the part of students.

Basic information on the nature of the mildly handicapped and teacher effectiveness was briefly
summarized in an earlier manuscript (Gentry & Jefferson, 1986). Here, further support is provided on how to teach the mildly handicapped as it reflects on the present study.

Educators acknowledge that instructional effectiveness is not dealt with comprehensively enough to allow total integration of mildly handicapped students in the regular classroom (Hagerly & Abramson, 1987). Will (1986) states that the challenge is that of providing the best, most effective education for children with learning problems and that the approach to teaching must emphasize children's strengths and weaknesses in the planning process.

It has long been recognized that all mildly handicapped children do not respond well to the same approach. Assessment data are needed for determining and evaluating teaching programs and strategies (Smith, Price, & Marsh, II, 1986). Given as the first step in determining how to teach is that of identifying the major areas of assessment (e.g. expectancy factors) and identifying important factors under each.

After assessment teachers need a repertoire of strategies appropriate for an array of learning demands. They also need to be aware of how well the strategy selected is working and change if it is not achieving
the instructional goal (Palincsar, 1986). In making change, studies on teaching strategies (e.g. generalization) have focused on varying the setting, the antecedents, the student's behavior or response, and the reinforcers (Vaughn, Bos, & Lund, 1986).

**Purpose**

The purpose of this presentation is to provide teachers with synthesized and beefed up strategies for meeting the instructional needs of mildly handicapped children. It also provides teachers with criteria for appropriate strategy selection and procedures for their implementation to enhance the teaching-learning process.

**Procedures**

Developments for this presentation included formulating strategies for the major teaching components, establishing a basis for selecting strategies appropriate for the students in question, and organizing a structure for systematic implementation of the strategies. Empirical data, related literature and professional judgement served as the bases for developing the final products.

**Method for Synthesizing Strategies**

The 21 components of effective teaching as provided by Polloway and et al. (1985) were carefully reviewed. An analysis of each component was made with one primary
question in mind - What are the essential attributes of this component relative to teaching mildly handicapped children? The results yielded an average of three to four basic attributes for each component which were subsequently stated as instructional strategies.

A process was initiated to validate the appropriateness of the instructional strategies. The strategies were properly arranged under each component and put before approximately 40 regular and special education teachers and teacher trainees for review. The reviewers were requested to place a check by each strategy that they deemed appropriate for the respective component and an (X) by each inappropriate strategy. A space was also provided for the respondents to list other strategies appropriate for the component. General comments were also solicited about possible ways to improve the form for examining the effectiveness of teaching strategies for the mildly handicapped.

Forms completed by the respondents were reviewed. Evaluations and comments were taken into consideration in developing the final form - Assessment Inventory of Instructional Strategies (AIIS). The AIIS contains the 21 components of effective teaching and their corresponding strategies listed for rating in terms of their effect on
Teaching Strategies

student learning. The user may indicate positive, neutral, negative, or uncertain effect in designated columns. In indicating the effect of the strategy (which may be for an individual student, a group, or as representative of an entire class of students), the user of the AIIS is encouraged to consider information gained from observation, interview, tests, and other assessment procedures in making decisions.

Criteria for Selecting Strategies

Once the strategies are placed on the AIIS, the teacher appropriately completes the form - rating the effect of the strategy on the student's learning. Strategies rated positive should be circled or otherwise identified. (Teachers, be reminded not to permanently cast aside those rated neutral, negative, or uncertain, as they may possibly prove worthy of use with the student in future instruction).

Using the 21 major teaching components and their subcomponents, the teacher should list the positive strategies under each. This results in an instructional strategy profile for the student.

Plan for Implementing the Strategies

The implementation of instructional strategies is a concern of how to teach as opposed to the matter of what to teach. Therefore, it is assumed that the student has
Teaching Strategies

an appropriately prepared Individualized Education Program (IEP). (See Mercer & Mercer, 1985 for detailed information on assessment for what to teach).

The form - Instructional Strategies Implementation Form (see Figure 1) - has been developed for use in the implementation process. It is designed for the teacher to (a) check the subject area and insert the number of the behavioral objective to be taught (objective should be refined from the IEP), (b) specify the target for the behavior and select appropriate strategy from AILS form, (c) choose an action plan from the menu (see Figure 2 for sample menu), (d) choose appropriate means for assessing student performance, and (e) teach the lesson and record results.

Pilot Implementation

A portion of AIIS system was employed with five special education teachers of the mildly handicapped at the elementary level. The teachers were studying parttime toward the master's (n=4) and educational specialist degrees (n=1) and had an average of 11 years of teaching experience.
Teaching Strategies

The teachers completed the AIIS as it pertained to their respective class. The researchers used the completed forms to establish profiles for the classes.

Results

This presentation has impacted on how to effectively teach the mildly handicapped. In so doing the Assessment Inventory of Instructional Strategies, procedures to profile positive effect strategies, Instructional Strategies Implementation Form, and Action Plan Menu (in progress) were developed. The Procedures section gives detailed description of the structure and recommended use of the forms.

After developing the forms to enhance effective teaching, five teachers used them with their classes. A profile of effective teaching strategies is provided for each of the five teachers (see Table 1). Strategies having a positive learning effect for each teacher are displayed.

Insert Table 1 about here

Table 2 is presented to reflect common effective strategies

Insert Table 2 about here
Teaching Strategies

among the teachers. Shown are the strategies with (a) 100% agreement, (b) 100% agreement but alternative direction, e.g. less or more light, and (c) 80% agreement, including alternative direction responses. Of the 62 items rated as positive among the five teachers, there were 20 (32%) strategies with 100% agreement, 14 (23%) with 100% agreement but alternative direction responses, and 10 (16%) with 80% agreement.

Discussion and Implications

Less "the trees are confused with the forest" effective teaching requires systematic development and implementation of appropriate learning strategies. Otherwise as a person might judge a forest by one tree, so might instruction be judged by the display of one teaching strategy.

This presentation takes a deductive approach to arriving at effective teaching. It starts with 21 components which are reported to be basically inclusive of sound teaching. Second, strategies are developed to operationalize the components. Third, procedures are given to profile positive strategies for a student or class. Finally, techniques for implementation and evaluation are provided.
While systematic procedures and specific information are provided, users of the approach should note that on all forms there is provision for including additional information pertinent to a given situation. This will allow addressing the unique differences existing among mildly handicapped children.

Limited implementation of the proposed approach was made with five teachers of the mildly handicapped. Considerable agreement existed among them regarding which strategies tend to be effective. It appears that other teachers should not hesitate in applying and assessing the impact of the strategies acclaimed as highly effective. Other strategies might be used more guardedly or as warranted by particular students and situations.

Particular observations were made regarding strategies with alternative direction responses. For example, under Environmental Factors, the teachers found that the children's learning was affected by either cooler or warmer, quieter or noisier; less or more light, less or more people or objects than what is considered average. Interventions at these levels may have greater impact on learning than is recognized by many teachers in the field.

In our study, strides have been made, but the "proof of the pudding is in the eating." Thus, full implementation
Teaching Strategies

(not apart as in this case) of the approach must be made and learning, the outcome of effective teaching must be measured. Positive results would validate the merit of the proposed approach. Any other results would suggest the need for renewed and refined means for enhancing effective teaching among the mildly handicapped.
References


### Instructional Strategies Implementation Form

**Directions:**
(a) Check the subject area and insert the number of the behavioral objective to be taught; (b) Specify the target for the behavior and select (using code) appropriate positive strategy(ies) from AIIS Profile; (c) Choose an action plan (assign no.) from the menu; (d) Choose appropriate means for assessing student performance; and (e) Teach the lesson and record results.

<table>
<thead>
<tr>
<th>Name</th>
<th>(class, group, or individual student)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Behav. Obj.</td>
</tr>
<tr>
<td>M</td>
<td>S</td>
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<tr>
<td>(e.g. I.A.I.a.)</td>
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</tr>
</tbody>
</table>
Teaching Strategies

Figure 2

Action Plan Menu (Sample) for Instructional Strategies
(AIIS System)

I.A.1. Classroom Arrangement

a. One central area for class
   (1) Arrange appropriate amount of open space
   (2) Make teacher/materials/aids visible to all
   (3)

b. Learning center/areas
   (1) Specific areas for math, language, science, social studies
   (2) Label specific areas
   (3) Designate how areas are used
   (4)

c. Small-group areas
   (1) Make clear groups/grouping procedures
   (2) Assign groups to specific areas
   (3)

d. Assigned student areas
   (1) Divide/identify student areas
   (2) Assign students to specific areas
   (3)

e. 
   (1)
Table 1

Profile of Effective Teaching Strategies for the Mildly Handicapped

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I.A.1. Classroom

Arrangement

| Learning Centers | X | X | X | X | X |
| Small group area | X | X | X | X | X |

2. Seating Arrangement

| Circle/semicircle | /X | /X | X/ | X" |
| Around table      | X  | X  | X  |     |

Individual

| Arrangement       | X  | X  | X  |

3. Classroom

Furnishing

| Student desks     | X  | X  | X  |
| Upright chairs    | X  |     |
| Table with chairs | X  | X  | X  | X  |
| Carrels, booths   | X  | X  | X  | X  |
4. Environmental Factors

- Cooler/warmer: \( X/ \ X/ \ /X \ X/ \ X/ \\
- Quieter/noisier: \( X/ \ X/ \ X/ \ /X \\
- Less/more light: \( /X \ /X \ /X \ /X \ /X \\
- Less/more people, objects: \( /X \ X/ \ X/ \ X/ \ X/ \\

I.B.1. Teacher Variables

- Strict/laxed: \( /X \ X/ \ X/ \ X/ \\
- Task/pupil oriented: \( /X \ /X \ X/ \ /X \ X/ \\

2. Student Variables

- Dependent/independent: \( /X \ /X \ /X \ /X \ /X \\
- Peer/adult interaction: \( X" \ /X \ /X \ X" \ X/ \\

I.C.1. Acquisition of Materials

- Worksheets, other prints: \( X \ X \ X \ X \\
- Audio-visuals, equipment: \( X \ X \ X \ X \ X \ X \\

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 4</td>
</tr>
</tbody>
</table>

**Teaching Strategies**

Table 1 (continued)
Table 1 (continued)

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Games hands on material</td>
<td>X X X X X</td>
</tr>
</tbody>
</table>

2. Scheduling

- Short/long length of time /X /X X/ X/ X/
- Morning/afternoon X/ X/ X/ X/ X/
- Intermittant/continuous /X X/ /X /X /X

3. Grouping

- Age/ability /X X/ /X X/ /X
- Same/opposite sex /X /X /X X/ X/
- Friends/nonfriends /X X/ /X X/ X/

4. Record Keeping

- Student/teacher recording /X /X /X X/ X/
- Frequent/infrequent X/ X/ X/ X/
### Table 1 (continued)

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers/letters/words</td>
<td>( x^n )</td>
<td>( x^w )</td>
<td>( x^{nw} )</td>
<td>( x^{all} )</td>
<td>( x^n )</td>
</tr>
</tbody>
</table>

#### I.D.1. Matching Instruction to Student Needs

- **Academic subject areas**
  - X X X X X
- **Emotional**
  - X X X
- **Social-behavioral**
  - X X X X
- **Speech-language**
  - X X X
- **Physical**
  - X X X

#### 2. Planning Total Program

- **Parents' input**
  - X X X X X
- **Pupil's input**
  - X X X X X
- **Educators' input**
  - X X X X X
- **Support personnel's input**
  - X X X X X
Table 1 (continued)

<table>
<thead>
<tr>
<th></th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

3. Analyzing Instruction

- Small/large amount
  - Forward/reverse approach

2. Matching Instructional Techniques to Stages of Learning

- Teacher directed
  - Initial
  - Mastery
  - Maintenance
Table 1 (continued)

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>Positive Learning Effect with Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Self-directed</strong></td>
<td></td>
</tr>
<tr>
<td>initial</td>
<td>X</td>
</tr>
<tr>
<td>mastery</td>
<td>X</td>
</tr>
<tr>
<td>maintenance</td>
<td>X</td>
</tr>
<tr>
<td><strong>3. Active Engagement of Students</strong></td>
<td></td>
</tr>
<tr>
<td>Independent inquiry</td>
<td></td>
</tr>
<tr>
<td>Peer participation</td>
<td></td>
</tr>
<tr>
<td><strong>4. Using Specialized/Adaptive Strategies</strong></td>
<td></td>
</tr>
<tr>
<td>Multisensory</td>
<td></td>
</tr>
<tr>
<td>Experientially based</td>
<td></td>
</tr>
<tr>
<td>Self-pace</td>
<td></td>
</tr>
<tr>
<td><strong>5. Continual Monitoring of Progress</strong></td>
<td></td>
</tr>
<tr>
<td>Pupli checks work</td>
<td></td>
</tr>
<tr>
<td>Teacher checks work</td>
<td></td>
</tr>
</tbody>
</table>

* denotes a special indicator.
### Table 1 (continued)

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>Positive Learning Effect with Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

#### III. 1. Providing Feedback

1. **Constructive criticism**
   - Class 1: X
   - Class 2: X
   - Class 3: X
   - Class 4: .
   - Class 5: X

2. **Cumulative evaluation marks**
   - Class 1: X
   - Class 2: X
   - Class 3: X
   - Class 4: .
   - Class 5: X

2. **Keeping Record**

   - **Activity evaluation**
     - Class 1: X
     - Class 2: X
     - Class 3: X
     - Class 4: .
     - Class 5: X

   - **Term evaluation**
     - Class 1: X
     - Class 2: X
     - Class 3: X

3. **Evaluation/Planning for Future Instruction**

   - **Working on strengths**
     - Class 1: X
     - Class 2: X
     - Class 3: .
     - Class 4: X

   - **Remediating weaknesses**
     - Class 1: X
     - Class 2: X
     - Class 3: X
     - Class 4: .
     - Class 5: X

---

**Note.** The teacher of Class 4 did not complete the last portion of the AILS form. Balance of items computed on four teachers.
Table 2

**Instructional Strategies with Agreement Among Teachers as being Effective**

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>Level of Common Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>100%*</td>
</tr>
<tr>
<td></td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>Agreement</td>
</tr>
</tbody>
</table>

- I.A.1. Learning centers, areas
  - Small group areas
  - 2. Circle, semicircle
  - 3. Table with chairs
  - Carrels, booths
  - 4. Cooler/warmer environment
    - Quieter/noisier
    - Less/more light
    - Less/more people/objects
- I.B.1. Strict/laxed teacher
  - Task/pupil oriented
  - 2. Dependent/independent functioning
    - Peer/adult interaction
- I.C.1. Audio-visuals, equipment
  - Gamer, hands-on mat'l
Table 2 (continued)

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>Level of Concern</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>100%*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>Agreement</td>
<td></td>
</tr>
</tbody>
</table>

2. Short/long length of time
   - Morning/afternoon: X
   - Intermittant/continuous: X

3. Age/ability grouping
   - Same/opposite sex: X
   - Friends/nonfriends: X

4. Student/teacher recording
   - Frequent/infrequent: X

I.D.1. Academic subject area match: X
   - Social behavioral: X

2. Parents' input
   - Pupil's input: X

3. Support Personnels Input
   - Educators' input: X
   - Small/large amount of task: X
   - Forward/reverse approach: X

II.1. Oral communication, clear: X
   - Written communication: X
## Table 2 (continued)

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
<th>Level of Common Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Agreement</td>
<td></td>
</tr>
</tbody>
</table>

- **Multisensory approach**  
  *X*

- **Teacher-directed, initial**  
  *X*

- **Independent inquiry, engagement**  
  *X*

- **Peer Participation**  
  *X*

- **Multisensory strategy**  
  *X*

- **Experientially based**  
  *X*

- **Teacher checks work**  
  *X*

**III.1. Constructive criticism, feedback**  
- **Cumulative evaluation marks**  
  *X*

- **Activity evaluation, record**  
  *X*

- **Term evaluation**  
  *X*

- **Working on strengths, future**  
  *X*

- **Remediating weaknesses**  
  *X*

*100% agreement but alternative direction*