A program, Team Approach to Assessment and Programming (TAPP), to provide services to deaf blind and other severely handicapped students in rural areas, is described. The project was designed to increase the number of severely handicapped students being served in integrated, age-appropriate local settings by expanding the capacity of local service providers to cooperatively assess and develop educational intervention strategies. Project premises (e.g., the importance of continuous student assessment) are identified and distinctions among "multidisciplinary," "interdisciplinary," and "transdisciplinary" are drawn. The program's assessment component involves three levels: diagnostic, educational, and daily performance assessment. TAPP transdisciplinary teams are comprised of service providers from three different levels: the local school district team, the special education coop team, and the regional team. An "arena" approach to assessment provides input from many professionals while minimizing the number of professionals handling the child. Student program objectives are organized by functional domain: community functioning, domestic living (including self-care skills), vocational, and recreation/leisure. Among conclusions of the pilot TAAP implementation was the importance of preassessment preparation and postassessment analysis by team members. (DB)
Introduction

Assessing students with severe handicaps and designing individual education programs that foster functional independence are a challenge no matter what part of the country you are from. Due to the nature of their handicaps, these children often require evaluation and services from multiple disciplines. Usually they have been diagnosed at medical centers in urban settings. These medical professionals are able to tell educators and related service providers what the child can and cannot do, but offer few recommendations about educational programming beyond those of positioning and feeding. In urban areas, teachers can consult with colleagues about students who are difficult to assess and program for. But in rural areas, teachers who serve children with severe handicaps are isolated from each other.

Project TAAP (Team Approach to Assessment and Programming) was funded in 1985 by the U.S. Office of Education, Innovative Programs for Severely Handicapped Children Program to develop a demonstration model for students with severe handicaps and deaf-blindness who live in southwestern Minnesota. A cooperative effort between the Southwest-West Central Educational Cooperative Service Unit (SW-WC ECSU) in Marshall and the University of Minnesota in Minneapolis-St. Paul, this project was designed to increase the number of severely handicapped students being served in integrated, age-appropriate local settings by expanding the capacity of local service providers to cooperatively assess and develop educational intervention strategies.

Project Premises

The Project TAAP model was developed based on several assumptions about rural areas and learners with severe handicaps:

1. Education in the least restrictive environment is the right of all severely handicapped learners. To function fully and appropriately in mainstream school and community environments, severely handicapped individuals must have the adaptive behavior skills to interact with nonhandicapped persons, use community and school programs and care for themselves and their residents.

2. Effective program planning depends on appropriate and continuous assessment of student adaptive behavior needs and progress.
3. Assessment of severely handicapped students requires a holistic transdisciplinary team approach. These teams move beyond traditionally isolated single discipline assessment to collaborative joint assessment in natural environments. That is, the speech clinician might assess language skills and needs in a number of environments, including community training site, classroom settings, occupational therapy sessions, etc. Likewise, the occupational therapist might assess range of motion and spontaneous movements in the same environments, while the psychologist looks at problem solving skills. These three assessments could occur simultaneously, resulting in a more holistic picture of adaptive behavior functioning and a more integrated student program plan.

4. Functional adaptive behavior skills need to be assessed and taught in natural environments. Assessment procedures would include standardized measures of adaptive behavior, criterion-referenced tests and ecological inventories.

5. Instruction in natural environments, which include regular school programs and local communities, will increase the integration and interaction of severely handicapped learners with nonhandicapped persons.

6. As local staff become competent in age-appropriate functional assessment and program planning, fewer severely handicapped students will be sent to other districts for their educational programs, thus promoting education in the least restrictive environment.

The Notion of Transdisciplinary

A major assumption of the TAAP project is that transdisciplinary teaming is crucial for appropriate, comprehensive, and integrated assessment and programming for severely handicapped students. How does transdisciplinary teaming differ from multidisciplinary or interdisciplinary teaming?

The primary distinction between these models is the type and amount of interaction and communication among team members. In the multidisciplinary team, the responsibilities and roles of the team members are clearly defined, but communication is limited. That is, each member conducts their own assessment and needed treatments in isolation from the members of other disciplines.

The interdisciplinary team, on the other hand, frequently meet to plan the assessment, and then each member or discipline conducts his or her own assessment separate from the others. After all assessments have been completed, the team reconvenes to share findings, make recommendations for intervention, and develop a common report. Although more intervention and communication occur among team members, the assessment and treatment may occur in relative isolation from each other, often in separate rooms.

Traditionally in the transdisciplinary team, the respective disciplines, again, are responsible for initial assessments in their own areas. However, during treatment, the roles of most disciplines are "released" to two or more team members, who implement treatment plans across disciplines. The amount of and type of release are determined by such factors as the child's needs, competencies of various team members, practical and logistical realities, and legal prohibitions.
The TAAP model is comprised of two components: assessment and program planning. Effective educational programming for severely handicapped learners requires assessment measures that are sensitive to both the unique needs of the individual and the common demands of the world in which that person lives. There are three types or levels of assessment: diagnostic, educational, and daily performance.

**Diagnostic assessment** concentrates on current skill level, deficits, and limitations. It generally labels or categorizes the child and usually involves standardized tests. Children with severe and profound handicaps have had a lot of this type of assessment prior to being seen by the TAAP team. The problem is how to use this information.

**Educational assessment** is used to develop educational goals and concentrates on what the student can do. This is the "so now what?" part of assessment. It is this level of assessment that the TAAP team performs. Based on the information gathered through this assessment, individual program plans are developed by the team for each child assessed.

**Daily performance assessment** involves a task analysis of instructional objectives and a monitoring of performance on those objectives. This is done by the individual service providers after the TAAP assessment.

**The TAAP Team**

The TAAP assessment is conducted by transdisciplinary teams comprised of service providers from three different levels:

- **Local School District Team**
  - Building Principal
  - Special Education Teacher
  - Parent of the Severely Handicapped Learner
  - Speech Therapist
  - Adaptive PE Teacher
  - Physical Therapist
  - Social Worker
  - Nurse

- **Special Education Coop Team**
  - Special Education Director
  - Child Study Coordinator
  - School Psychologist
  - Occupational Therapist

- **Regional Team**
  - Vision Consultant
  - Hearing Consultant
  - Audiologist

Eight teams have been developed so far through this project. The actual members vary from team to team, depending on available personnel. It should be noted that not every team member is necessarily involved in every assessment (i.e. the vision consultant...
only participates when the student being assessed has visual problems or if his or her visual abilities are unknown. The exact composition of the team depends on the handicaps and their perceived needs of the child being assessed.

Before the teams actually assess students, they receive inservice training in team building and functional assessment and program planning techniques. These inservices are provided by University of Minnesota and project staff as well as outside consultants. However, the bulk of the training these teams receive is from each other during the actual assessments and planning sessions.

**Model Implementation**

The project is designed so that each team meets one day each month to test and develop an IEP for one child with severe handicaps in a pilot classroom. A total of eight students per team are assessed over the course of the school year.

The assessment is performed using an arena approach.

![Arena Assessment Diagram](image)

As the name implies, this approach involves participants and active spectators. A temporary facilitator, generally the team member with the most expertise in the child's area of disability, is assigned prior to the assessment. In some cases this is an outside consultant. As facilitator, this person supervises the whole process, taking primary responsibility for interviewing the parent(s) and orchestrating the assessment. The facilitator works directly with the child, while the rest of the team observes and informally tests the student's functional abilities. The other team members, including the parents, may also work directly with the child or ask the facilitator to try various approaches to determine what visual, physical, auditory, language, and cognitive abilities the child has.

Wolery and Dyk (1985) cite several rationale for using the arena assessment approach in transdisciplinary teaming:

1. it eliminates redundant testing and redundant questions being asked of the parents,
it reduces the number of professionals who must handle the child,

3. team members are able to observe the child's performance across a number of areas, not just one or two,

4. team members are allowed to observe and learn from, as well as provide information to, each other, and

5. it should result in more team consensus on treatment needs because each member has observed a similar constellation of behaviors.

After the assessment is completed, the team convenes to develop the program plan. The key in the program planning process is identifying current and future environments of the child and the skills he or she needs to participate as independently as possible in those environments. The team must consider home and community environments as well as school environments. For example, the parents of a child with severe handicaps eat at the local restaurant, bowl, and shop at the Red Owl grocery store with regularity. These are all environments in which this student could potentially participate. The team must determine what skills the student needs to increase his or her participation. For younger students, the home is the primary environment. Planning focuses on more basic areas such as toileting, developing a communication system, and cause-effect concepts as they relate to controlling the environment (i.e. activating a switch turns on a tape of favorite music). The older the student is, the more his or her day should be spent learning in community settings. That is, because students with severe handicaps do not transfer skills well from one environment to another, the best place to learn how to order food is in a restaurant, not a simulated workstation in a classroom. Likewise, job skills need to be taught at real job settings rather than at school. The most important qualities of the student's program, no matter what the age, are: integration with nonhandicapped peers, instruction in age-appropriate schools, community-referenced goals and instruction, orientation toward future environments, parental involvement, comprehensiveness, and effectiveness.

Program plans are developed together by the entire team based on the results of the arena assessment and any other assessment data available on the child. Objectives are organized by functional domain: community functioning, domestic living (includes self help), vocational, and recreation/leisure.

Community Functioning Domain

One of the most challenging tasks for people involved with special education is to increase the amount of time a severely handicapped individual spends in a normalized life space. As the amount of time spent in a normalized environment increases, the handicapped student's environment becomes less restricted. The curricular domain of Community Functioning is critical to increasing the handicapped student's normalized life space. Sample goals and activities are listed below.

Sample Goals

1. Use restaurants appropriately including ordering, paying for food, and displaying proper table manners.
2. Use community stores for shopping while displaying appropriate behavior involved in locating and paying for items.

3. Shop within grocery stores using shopping lists and grocery carts, locating and paying for items while displaying acceptable behavior.

4. Use community facilities independently.

5. Utilize means of public transportation.

**Sample Activities**

**Preparation for using restaurants:**

1. Determine the restaurant to be used.

2. Identify the name of the restaurant (read, verbalize)

3. Identify items of food from the menu (read works, use pictures)

4. Practice ordering with and/or without menus (verbalize and/or use picture booklets)

5. Role play ordering, receiving food, using condiments, buffet style, transporting food, paying bill, receiving change, and tipping (if appropriate).

**Domestic Living Domain**

All severely handicapped students, regardless of their functioning level, will live somewhere. Consequently, all severely handicapped students need longitudinal educational programs that will prepare them to function as independently as possible in the least restrictive domestic environments.

**Domestic Living-Sample Goals**

1. Take care of personal needs

2. Plan and prepare nutritious meals

3. Care for clothing

4. Clean and maintain the home

**Domestic Living-Sample Activities and Environments**

1. Laundry:
   a. Sorting soiled clothes
   b. Operating washer
   c. Operating dryer
   d. Folding clean clothes
   e. Ironing clothes
   f. Putting clothes away
Vocational Domain

In order for adults to function independently, they must be able to financially meet their needs. This implies that individuals need to be vocationally productive in order to be self-sufficient. The Vocational Domain is established with the goal of promoting the economic independence of the student.

Sample Goals

1. Earn and spend money
2. Work alone or with others
3. Display pride in a job well done
4. Work with speed and quality

Sample Activities

1. Demonstrate appropriate job interview behaviors
2. Complete job applications
3. Complete the job with speed
4. Complete the job with accuracy
5. Complete the job with independence
6. Put supplies and equipment away
7. Clean up work area
8. Locate supply area
9. Choose supplies needed
10. Work productively alone
11. Avoid excess and unnecessary verbalizations
12. Work productively with others
13. Demonstrate need for additional supplies

Recreation/Leisure Domain

A large portion of a person's life is spent engaging in recreational and leisure-time activities. For the severely handicapped, the proportion of time spent engaging in recreational activities will probably be greater. Skills in this domain are not innate and must be learned. Large amounts of free time can lead to inappropriate behaviors if recreation and leisure-time skills are lacking. Listed below are some examples of activities that could be included in this domain.

Recreation/Leisure-Sample Activities

Home/Indoors:
1. Listening to the radio
   a. Locate station
   g. Hanging up perma-press clothes
   h. Sewing on buttons
2. Bathroom:
   a. Cleaning sink/counter
   b. Emptying wastebasket
   c. Sweeping floor
   d. Washing floor

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Recreation/Leisure-Sample Activities

Home/Indoors:
1. Listening to the radio
   a. Locate station
b. Select appropriate volume

2. Listening to the stereo
   a. Select appropriate volume
   b. Select correct speed
   c. Read album covers
   d. Placing record on turntable

3. Listening to the tape recorder
   a. Read tape labels
   b. Select appropriate volume
   c. Select appropriate buttons

4. Watching television
   a. Select station
   b. Read TV guide
   c. Select appropriate volume

5. Looking at books
   a. Use index to find page number

6. Looking at magazines
   a. Use index to find page number

7. Looking at photo albums

8. Exercising (dancing, movement, walking/jogging)
   a. Count beats

9. Caring for plants

10. Caring for pets

Specific objectives related to the more traditional areas of communication, motor, academia, and socialization can be easily imbedded into the domains (see figure 2). The time spent in instruction with these students must be well spent, focused, and functional. A good question for teams to ask when looking at an objective or learning activity for a student with severe handicaps is: if the student doesn’t do this task will someone have to do it for him or her? If the answer is no, the task is not functional and probably is not good use of the teacher’s or the student’s time. For example, a student can practice matching colors by sorting socks or grouping blocks. The better choice is the socks sorting: this is a task that someone would need to do for the student if the student does not learn to do it. If the student does not sort blocks into piles according to color, on the other hand, it is not a job that someone else will have to do.
The team members may use any curriculum (commercial or teacher made) to implement the goals and objectives set forth in the IEP as long as it stresses functional skill acquisition.

**Project Findings**

At least four things became obvious during the piloting of this transdisciplinary model:

**Lesson #1: There is no one right way to implement the TAAP model.**

Each team must examine its own needs, child study system and local demands before it can reach consensus as to how that team will function. The process used by the teams will constantly change, responding to children's needs, "political" realities, time and financial constraints, as well as evolve and mature as the team experiments with what works and what doesn't work for them.

There are however, some general decisions that must be made by each team:

- Which day each month will be designated for TAAP assessment and planning?
- Which child will be assessed which month?
- Will consultants be needed for any of these assessments?
- Who will facilitate which assessment?
- What should each team member do to prepare prior to the assessment?
- What are the "rules" for team participation during the assessment?
- Is the district's IEP conducive to transdisciplinary planning and program implementation?
- How can transdisciplinary programming take place in natural environments?

<table>
<thead>
<tr>
<th></th>
<th>Domestic</th>
<th>Community</th>
<th>Recreation</th>
<th>Vocational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>follows directions regarding cleaning, asks what's for dinner</td>
<td>orders at McDonalds</td>
<td>asks for bowling shoes</td>
<td>asking for assistance, directions</td>
</tr>
<tr>
<td>Gross Motor</td>
<td>uses vacuum cleaner</td>
<td>walks on uneven sidewalks, getting in and out of vehicles</td>
<td>bowling, swimming, climbs bleachers</td>
<td>lifts and carries tray of dishes</td>
</tr>
<tr>
<td>Fine Motor</td>
<td>operates kitchen appliances</td>
<td>uses vending machine</td>
<td>unlocks lock of locker</td>
<td>small part assembly</td>
</tr>
<tr>
<td>Academic</td>
<td>sets table using 1:1 correspondence</td>
<td>reads menu, adds items on shopping list</td>
<td>paying for movie, adding bowling scores</td>
<td>signs paycheck, checks in for work</td>
</tr>
<tr>
<td>Socialization</td>
<td>plays table game</td>
<td>gives and returns social greetings</td>
<td>sits through a movie</td>
<td>small talk at break</td>
</tr>
</tbody>
</table>

Figure 2
Lesson #2: In order for the assessment to be successful, some are assessment preparation and post assessment analysis on the part of all team members is needed. For example, it may be helpful to:

- prepare the student for what will happen to him or her during the assessment process. This is critical for students with higher cognitive ability. The arena approach may be particularly overwhelming to these students, and the assessment procedure may need to be modified somewhat to garner more accurate results.
- determine the student's current and probable future environment. Think about the environments available in the community for future ecological assessment and student training.
- determine what the student can already do -- things that will be helpful as you try to assess other skills (i.e. range of motion, eye tracking, reading, etc.).
- ask yourself what else you still need to know about the student's functioning to better program for him or her.
- consider how you might go about getting answers to your questions during the assessment and who else on the TAAP team might be able to offer insight on your questions.
- determine what materials you'll need to test the student during the arena assessment.

After the assessment, talk about what you saw, what you know about the student and his or her environments and translate that information into goals and objectives that are:

- functional
- age-appropriate
- in natural environments
- with nonhandicapped persons, and
- implemented by transdisciplinary staff efforts

The arena assessment is only one phase of the assessment process. Instructional goals/objectives/activities will also need to be developed based on ecological inventories and student discrepancy analyses.

Lesson #3: The facilitator has special responsibilities prior, during, and after the assessment and IEP sessions.

Each team will undoubtedly develop its own habits and practices related to the TAAP assessment process. The following list of facilitator duties are suggested as a point of reference in planning for each testing session.

It is the responsibility of the facilitator or his or her designee to:

- talk with any outside consultant coming in to assess the target student so as to ensure both parties understand each other's expectations about the session and to coordinate all activities.
- secure location for the assessment.
- make sure videotapes of the target student have been made (if needed) and that the necessary equipment for viewing them is set up for the TAAP assessment.
- arrange for someone to videotape the TAAP session.
locate any tests or other materials needed by consultants, if outside consultants are used.
- summarize assessment questions (i.e., what the teams want to learn during the assessment) at the beginning of testing session.
- review the specific procedure that will be used during the TAAP assessment (e.g., review of concerns, parent interview, videotape review and discussion, direct assessment, discussion of objectives and instructional strategies).
- facilitate the direct assessment of the child, with input and help of the team, unless an outside consultant has been asked to take this role.
- send copies of the IEP goals and objectives to all TAAP members.

Lesson #4: The TAAP model is not for every child or assessment situation.

Most of the students assessed through the TAAP project had already been seen by numerous specialists. It was not the intent of the project to rediagnose those students who have already been evaluated; rather it was to examine the child simultaneously from the varied perspectives represented on the TAAP team, talk about optimal learning strategies, set realistic and functional goals, and brainstorm about possible instructional strategies to reach those goals.

The arena assessment approach is ideally suited for children with severe-profound handicaps, including low intellectual functioning and communication disorders. When students have moderate to high cognitive abilities, serious behavior problems or impulsivity due to a developmental disability, this assessment technique may need to be modified. If you feel that a student will not or cannot tolerate a prolonged testing situation with numerous participants, we recommend that a videotape be made of the child in a variety of settings that illustrate his or her skills, problem areas and typical behavior. This tape would then be used during the initial portion of the assessment day. The team, watching this tape together, could very effectively observe behaviors of concern and current methods of instruction. Questions that remain about the child's abilities or learning strategies could then be addressed directly with the student during an abbreviated arena assessment. This will greatly reduce the amount of time that the child is placed in a potentially stressful situation, as well as ensure that the team's time is well spent.

For older students, the arena assessment may need to be moved into the community; that is, after discussion of current and future environments, (1) the team may split into groups of two or three and spend part of the morning conducting ecological inventories of those environments, (2) return to the school and give the team core subgroup (actual service providers) the inventories, (3) the subgroup takes the child to the environments to conduct discrepancy analyses, (4) and return to the school and reconvene with the entire team to discuss strategies and methods. Videotaping of the student's performance in the environment will facilitate the planning session greatly.

Summary

Local school professionals are often more capable of assessing and programming for students with severe handicaps than they realize. The transdisciplinary team approach developed in the TAAP project provides an exciting alternative for rural districts facing service delivery to students with more severe handicaps for the first time as well as for those dissatisfied with the quality of their current assessment and program planning.
process. Though not for every student, this model is very useful in examining the students who at first look "untestable."

Parents who participated on the teams summed up the payoffs of the model thusly:

"The past IEPs were good, but with more people with different ideas, [they are] better . . . ."

"I was glad all those pros were able to discuss and recommend things amongst each other . . . ."

"The 'team' feeling lifts some of the 'burden' of pushing my son forward as well as relieving some of the fear of making the 'right next step' . . . ."