The paper focuses on catalysts needed for interagency cooperation in multi-service delivery systems for handicapped individuals. The importance of interfacing personal and environmental profiles is emphasized, and an approach matching aspects of the person and the environment is described. A behavioral skill profile of the person would be matched with environmental characteristics (including available living-work options, behaviors required to adapt successfully to the environments, and the personality characteristics of the environment). Two case histories illustrate ways in which a person-environmental profile can be used in skill training, procuring prostheses, and modifying the environment. A second catalyst, systematic transitional planning, is considered in terms of an ITP (individualized Transition Plan) model which addresses client and systems-level needs. (CL)
INTERDEPENDENCE: THE NEED FOR PERSON-ENVIRONMENTAL
ANALYSIS AND THE INDIVIDUAL TRANSITION PLAN

Robert L. Schalock, Ph.D.
Mid-Nebraska Mental Retardation Services
Hastings, Nebraska 68901

10th Annual TASH Conference
San Francisco, California
November 4, 1983

Special need persons generally require a variety of specialized services throughout their lives. These multiple service needs must often be met by various service providing agencies who are increasingly focusing on inter-agency cooperation and consortia arrangements. Such a multi-service delivery system can be characterized by coordinating four general components including programs, resources, clients, and information. Despite laudable attempts, however, interservice coordination is often hindered by the lack of three critical catalysts -- a common language, interfacing personal and environmental profiles, and systematic transitional planning. This paper focuses on the latter two catalysts, since the need for a common language is addressed in an accompanying paper.

Interfacing Personal and Environmental Profiles

Current special need programmatic services are frequently based on the assumption that a person's quality of life will be significantly improved by the client's participation in those services. We have also assumed that in placing client's into different service delivery programs, program planners
will give consideration to matching the characteristics and needs of their clients to the type of community services and staff compliment provided. Unfortunately, the latter assumption may not be true, since to date habilitation professionals have generally not related a client's need status to appropriate programmatic services and staffing patterns, and more specifically, to match clients to available programs and then reduce any "mismatch" through behavioral skill training, use of prosthetics, environmental modification, and staff assistance.

One way to reduce the mismatch between persons and their environments is to pursue a social ecological, or person-environment perspective. A model that reflects this person-environment perspective is outlined in Figure 1. The reader should at this point conceptualize two profiles: One summarizes a person's behavioral skills; the second reflects the environment's behavioral skill requirements. The two profiles are then integrated through a process referred to as "Person-Environment Match." These steps are described below.

Person Analysis

Client characteristics are critical for both community placement and job success. There are a number of behavioral skill assessment instruments that can be used to determine a person's behavioral skill profile. For example, the left portion of Figures 2 and 3 summarize how we assess behav--

Refer to Figures 2 and 3

---------------------------------

Refer to Figure 1

---------------------------------

Refer to Figure 1

---------------------------------

Refer to Figures 2 and 3

---------------------------------
Person Analysis
* Behavioral Skill Assessment
* Prosthetic Needs Assessment

Environmental Analysis
* Available Living-Working Options
* Behavioral Skills Required
* Environmental Characteristics

Environmental Modifiability

PERSON - ENVIRONMENT MATCH
* Skill Acquisition
* Prosthetics
* Environmental Modification
* Staff Assistance

FIGURE 1 - AN ECOLOGICAL ASSESSMENT - PLACEMENT MODEL
COMMUNITY LIVING SKILLS
Baseline & Skill Acquisition Record

COMMUNITY LIVING FACILITY: ENVIRONMENTAL ANALYSIS PROFILE

Level A
Level B
Level C

Figure 2. CLIENT SKILL VS. ENVIRONMENTAL REQUIREMENT PROFILES (Community Living)
VOCATIONAL TRAINING

Vocational Skills Acquisition Record

(Rachel)

Figure 3. CLIENT SKILLS VS. ENVIRONMENTAL REQUIREMENT PROFILES (Vocational)
ioral skills by using the Community Living Skills and Vocational Training Screening Tests. The skills assessed reflect the behavioral skills generally required for increased independence and vocational productivity. Darkened areas represent those skills that the client can do "independently"; the slashed, "with assistance"; and the blank areas, those that the client cannot do.

**Environmental Analysis**

Evaluating the behavioral requirements of different environments is the second component of a person-environment analysis. A number of environmental characteristics can be assessed including available living-work options, behaviors required to adapt successfully to those environments, and the "personality characteristics" of the environment. One that we have focused on to date is evaluating the skills required to adapt successfully to a sheltered workshop or an independent living environment.

An environmental analysis requires that Diagnostic Programmers evaluate an environment in reference to whether the behavioral skills on which the client is assessed on the Community Living Skills and Vocational Training Screening Tests are required to be actually performed in that environment. And if they are, do they need to be performed independently or is assistance provided? The reference criterion is "skills performed/needed by clients who are working or living in that environment successfully and who have demonstrated a Skill Acquisition Index of .07 or above." This concept is shown in Figures 2 and 3 (right portion) that summarize the behavioral skills

Refer to Figures 2 and 3

--------------------------
required by an independent apartment and a sheltered workshop. The darkened area represents skills required to be done "independently"; the slashed area, "done with assistance"; and the white area, "skill not required."

Two case histories will demonstrate how a person-environmental profile can be used as a catalyst to service provision and the reduction of a "mismatch" between a person and his/her environment through skill training, prosthetic procurement and environmental modification.

Rachel is a 42 year old client who has been in our program for 6 years. She has WAIS Full Scale IQ of 50 with diagnosis of mental retardation, epilepsy and cerebral palsy. Due to Rachel's neuro-muscular impairment, one might expect a low-level skill profile. Figure 3 reflects her profile on 164 vocational training skills. The darkened areas represent those skills that she can do "independently"; the slashed, "with assistance", and the blank areas, those that she "cannot do." Now, let's proceed with a "person-environmental match." Figure 3 also compares Rachel's skill profile with that

Refer to Figure 3

reflecting the skill requirements of her job training site (sheltered workshop). Note the discrepancies or points of "mismatch." How can those "mismatched areas" be reduced and thereby provide a more congruous person-environmental match? Refer back to Figure 1 ("An Ecological Assessment-Placement Model") for a moment. Note the four ways that her "mismatch" has been reduced through:

1. Skill Acquisition - Rachel has one prescriptive skill acquisition program in each of the nine domains encompassing the vocational training program.
2. **Prosthetics** - include a pad in her wheel-chair for higher positioning; a cup on the stand to hold bags for contract work; modified hot sealer bags to seal the bagged materials; and a hand splint to control excess movement.

3. **Environmental Modification** - including a redesigned work table; a counter sheet, funnel and scoop for contracts; and a conveyor belt for disposition of completed work.

4. **Staff Assistance** - provided primarily in setting up the work for the session.

The results of reducing the mismatch have been dramatic—Rachel is both feeling more productive and actually is. Wages have increased 5-fold since the introduction of the prosthetics and environmental modifications.

The same process can be used to facilitate a better match between a person's skill profile and his/her living arrangement. Annabel is a 44 year old client whose primary diagnosis is cerebral palsy and secondarily, mental retardation. She is non-verbal and non-testable on the WAIS. Despite these deficits, she has been living independently with a roommate for four years. Let's compare her skill profile on the 174 Community Living Skills with those skills required to live in an independent apartment. Figure 2 compares the two profiles. Annabel's successful placement is due largely to the 23 prosthetics and 8 environmental modifications used by our staff. The prosthetics include elastic band for her glasses; a crock pot, hot plate and skillet to replace a stove; suction cups to hold dishes in place; spill guard plates; roll on deodorant; shirt bottle for shampoo; nail clippers attached to a board; modified clothing including pull on blouses and elasti-
ized waist bands; travel glass for drinking; protective clothing covers for meals (modified bib); coats without zippers or buttons (a "wrap coat"); handivoice and communication board; cooking aides including picture menu cards, recipe cards, grocery list and phone book; 7-day pill organizer ("pill box") and pull over bras. Environmental modifications have included barrier free environment; hand rails in the bathroom; color coded appliances (washer/dryer); cupboards lowered; rubber mat in tub; and a hydro bed for increased relaxation. Assistance includes providing transportation and sensitizing staff to Annabel’s "utterances" when a phone call for needed assistance is received.

Implementing An Individualized Transition Plan

The recently developed concept of an Individualized Transition Plan (ITP) will also significantly facilitate the person's transition or adaptation to other environments. In the ITP process, significant others in the individual's current and future life spaces secure meaningful information about environments for which the individual needs to be prepared to function and provide services to enhance the probability of a smooth adjustment. According to this model, ITPs should be developed for critical life stages of the individual with severe functional limitations. Essential components of the ITP model are outlined in Table 1.

Refer to Table 1

A functional ITP requires integrating client and systems-level programmatic and case management services. Figure 4 outlines an approach to this

Refer to Figure 4
Table 1

ESSENTIAL COMPONENTS OF THE ITP MODEL

1. The ITP must be comprehensive, specifying the preparatory experiences needed by the individual to function independently and productively in the new environment.

2. The ITP is individualized and contains precisely stated transition objectives, training activities, materials and evaluation strategies functionally related to a unique subsequent 'life space'.

3. The ITP process involves parents and/or guardians.

4. The ITP process requires the actual participation of both sending and receiving personnel. Both jointly design and assist in the implementation of a series of experiences that maximize subsequent functioning.

5. The ITP process includes the focused expertise of competent related service personnel. These professionals should visit and obtain information about the wide range of environments for which the individual is being prepared. Following this, they should provide their expertise to assist in the actual transition of the individual from one environment to another.

6. The ITP strategy requires direct instruction in a variety of actual subsequent environments because of the extreme difficulty severely impaired individuals have in generalizing, transferring training and performing across environments, persons, materials and language cues.

7. The ITP process integrates training activities preparing the person in subsequent living-work environments.

8. The ITP process should focus on behavioral skill development, prosthetic usage and environmental adaptations required to live in less restrictive and more productive environments.

**FIGURE 4. COMPETENCY BASED MANPOWER MODEL**

integration. The model reflects the two critical pathways necessary for client movement within and between service delivery components. At the single agency (client) level, programmatic and case management services are directed at the skill development, prosthetics, and environmental modifications required for the person's successful adaptation. Simultaneously, and at the systems-level, the Diagnostic Programmer evaluates the skills, prosthetics and adaptations required for successful movement and adaptation to the subsequent environments. This information is integrated into the person's ITP and becomes the basis for transitional training. Case Management is the catalyst insuring that a transition will be made to a subsequent environment and through attendance at the ITP meeting.

The ITP process has been used by Mid-Nebraska Mental Retardation and local school systems to develop and implement a systematic approach to transitioning students who need or want vocational and community living services from our agency. The major components of that process are outlined in Table 2. The process begins when the student is 16 years of age at which time the two agency staffs sit down together and begin planning out the yearly goals and objectives for the student. These goals are based on data sources such as student characteristic and needs, parental goals, person-environmental profile analyses, agency capabilities, and projected needed resources. As indicated in Table 2, measurable objectives, responsible persons and completion dates are also specified.

Refer to Table 2
<table>
<thead>
<tr>
<th>Year</th>
<th>Goal(s)</th>
<th>Measurable Objectives</th>
<th>Projected Needed Resources</th>
<th>Responsible Persons</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>Develop Interagency Cooperation</td>
<td>Signed Interagency Agreement</td>
<td>10 hours of staff time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>Develop ITP based on person-environmental profile, parental goals, and agency capability.</td>
<td>Signed ITP</td>
<td>20 hours of staff time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>Desensitize student to workshop</td>
<td>Attend workshop for 2 hours per day</td>
<td>8 units of training and 2 units of assistance per day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>Desensitize student to Group Home</td>
<td>Remains in residence overnight once per month</td>
<td>1 unit of residential and 5 assistance units per month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1987</td>
<td>Enrolled successfully in Mid-Nebraska program.</td>
<td>Attends workshop daily and resides in the residence</td>
<td>Daily units of service: 8 training 10 assistance 1 maintenance 1 transportation 2 residential 1 case management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In summary, the two catalysts discussed—person-environmental profile analysis and an individualized transition plan—have resulted in a significant improvement in both interservice coordination and reducing the mismatch between persons and their environments. They reflect two critical aspects of the interdependence that will be required during the next decade to provide efficient, effective and appropriate services to special need persons.