Evaluating the Assessment Models for Young Children with Special Needs in Taiwan

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Abstract
The purpose of this study was intended to evaluate the assessment models of two representative centers of team evaluation for children’s development in Taiwan. Documentary analysis and phone interview were employed in the study to collect the research data needed. Two centers of team evaluation for children’s development were selected and investigated. The self-developed “Team Evaluation for Children’s Development Questionnaire” was the instrument for phone interviews. The modified analysis and the constant comparative method were adopted to treat the phone interview data. The data obtained from both documentary analysis and phone interview were evaluated by the guidelines based on literature review and formulated for the purpose of evaluation.

The results of the study revealed some features and problems of the assessment models evaluated. Finally, some implications derived from the results were indicated.

Introduction
The early intervention services for young children with special needs in Taiwan have gradually been systematized since 1990s. An operation procedure for early intervention services has been formulated by the Ministry of the Interior (2005) and has been followed nationwide. The operation procedure has been flowcharted as Figure 1.

For the administrative operation of early intervention needs assessment for young children with special needs, the Early Intervention Notification, Referral and Case Management Center for Children with Developmental Delays and Center of Team Evaluation for Children’s Development have been established in every municipality and county (city). In addition, the Early Intervention Promotion Unit or Early Intervention Promotion Committee is also organized in every local government for the purpose of policy formation, coordination and guidance of early intervention
services. In essence, the Early Intervention Notification, Referral and Case Management Center for Children with Developmental Delays and Center of Team Evaluation for Children’s Development are actually two departments related to finding, assessment, referral, and case management of young children with special needs.

Figure 1 presents the general flowchart of early intervention notification, referral, evaluation, and referral.

1. Prenatal checkup
   - Newborn screening
   - Children’s clinic
     - Community nurse
     - Hospital policlinic
     - Public and private kindergartens
   - Public and private nursery schools
   - Others

2. Preschool
   - Child welfare institution and nursery center
   - Parents or guardian
   - Nanny

3. Referral center
   - Team evaluation: In-hospital and out of hospital models (Team and special policlinic)

4. Referral center
   - Rehabilitation department or policlinic
     - School and educational institution for children with special needs
   - Other rehabilitation programs
     - Rehabilitation centers in children’s welfare institution and organization

5. Closure
   - Referral
Young children with special needs might be notified from prenatal checkup, newborn screening, children’s clinic, community nurse, hospital policlinic, public and private kindergartens, preschool, public and private nursery schools, child welfare institution and nursery center, parents or guardian, nanny, etc. When these notifications reach the Early Intervention Notification, Referral and Case Management Center for Children with Developmental Delays, all cases are arranged to receive assessment and evaluation from the Center of Team Evaluation for Children’s Development. After the individualized intervention plan and relevant recommendations are developed by the center of team evaluation, the Early Intervention Notification, Referral and Case Management Center for Children with Developmental Delays will take over the case for arranging placement or referral to intervention services. If no further placement is needed, the case will be closed. The intervention-relevant rehabilitation placement institutions may include rehabilitation department or policlinic, school and educational institution for children with special needs, inclusive nursery school and kindergarten for children with developmental delays, rehabilitation centers in children’s welfare institution and organization, and so on.

In the whole administrative operation of early intervention needs assessment for young children with special needs, the Center of Team Evaluation for Children’s Development seems to be the pivotal part of the assessment for young children with special needs. Thus, the purpose of this study was intended to evaluate the assessment models of two representative centers of team evaluation for children’s development in Taiwan.

**Evaluation Procedure**
For accomplishing the evaluation work, documentary analysis and phone interview were employed in the study to collect the needed data. The centers of team evaluation for children’s development in both Chiayi Christian Hospital and Chiayi Chang-Gung Memorial Hospital were selected as the representative centers of team evaluation for children’s development.

Documentary analysis was used to understand the current status of assessment model, problems and coping strategies in the aforementioned centers of team evaluation. In addition to literature review, other data were obtained from the Children’s Bureau of Ministry of the Interior, Department of Health, some municipality and county (city) governments, and Centers of Team Evaluation for Children’s Development in Chiayi Christian Hospital and Chiayi Chang-Gung Memorial Hospital. Documentary data were collected through phone call or official correspondence contacts with related agencies or organizations and through Internet search.

Phone interview was conducted to understand problems and coping strategies of the assessment models. Two directors from the Centers of Team Evaluation for Children’s Development in the two hospitals were interviewed through phone calls. The researcher independently completed all phone interviews.

The self-developed “Team Evaluation for Children’s Development Questionnaire” was the instrument for phone interviews. This questionnaire was designed to elicit responses from directors working in the field of team evaluation for children’s development in order to understand the difficulties and coping strategies in the assessment of children’s development. It pertains to a semi-structured format and the interviewees are free to respond. The interviewees were asked to express their opinions in terms of difficulties encountered and coping strategies recommended. The modified analysis and the constant comparative method were adopted to treat the phone interview data.

The data obtained from both documentary analysis and phone interview were evaluated by the guidelines based on literature review and formulated for the purpose of evaluation. The evaluation guidelines used in the study could be listed as follows (Greenspan & Meisels, 1996; Bagnato, Neisworth & Munson, 1997; Meisels & Atkins-Burnett, 2003; Ho, 2006):

1. Is the assessment based on the development principle of interdependence?
2. Is the assessment based on multiple sources and multiple components?
3. Does the assessment follow a sequence that begins with the family, moves through multiple means of data collection, and results in the creation of plans of action?
4. Does the assessment stress on the child-caregiver relationships that form the foundation of the child’s ability to organize and respond to his or her world?
5. Is the assessment based on the framework of typical development?
6. Does the assessment emphasize on organizing and functional capabilities of the child?
7. Does the assessment identify current and emerging competencies and strengths of the child?
8. Is the assessment a collaborative process?
9. Is the assessment as the beginning of intervention?
10. Is the reassessment as an ongoing process?
11. Is criterion-referenced assessment included in the assessment process?
12. Are multiple assessment techniques employed?

**Results and Discussion**

The results and discussion of the study were organized and presented as the following sections: Features of the assessment models and problems of these models.

*Features of the Assessment Models*

From 1997, Department of Health started to support the hospitals to establish Center of Team Evaluation for Children’s Development. Until July 2007, 29 centers had been established in the whole country (Lu, 2007). According to Department of Health, Executive Yuan (2001), the basis, principles, requirements, and professionals needed of the center establishment are as follows:

1. **Basis:** Promote early intervention for children with developmental delays in accordance with the Physically and Mentally Disabled Citizens Protection Act as well as the Children and Adolescents Welfare Act.

2. **Principles:** In considering the balanced distribution of resources and accessibility for the public, at least one center shall be established in every municipality and county (city) in order to set up the assessment and intervention service network.

3. **Requirements:**
   1. **Level of hospital:** In principle, the center should be above the level of regional hospital.
   2. **Professionals:**
      A. Pediatrics neurology, rehabilitation as well as child and adolescent psychiatry specialists (at least two departments are full-time and other one could be part-time).
      B. Clinical psychologists (at least one is full-time).
      C. Physical therapists (at least one is full-time).
      D. Occupational therapists (at least one is full-time).
      E. Speech therapists (at least one is full-time).
F. Social workers (at least one is full-time).

In order to enhance the quality of service, Department of Health also presented the Evaluation Guidelines for the Center of Team Evaluation for Children’s Development (Department of Health, Executive Yuan, 2007). The evaluation should be conducted at least once a year or irregularly scheduled.

From the above requirements and the evaluation measure done by the government, it seems evident that professional standards for the assessment of children’s development have been established and valued in this country. It is helpful to provide a quality assessment service for children with special needs.

Based on the assessment resources owned and the features of locality situated, each Center of Team Evaluation for Children’s Development in Taiwan has shown its characteristic assessment model. Of these assessment models, the center-based model (see Figure 2) and community itinerant model (see Figure 3) of Chiayi Chang-Gung Memorial Hospital (Hsu, Chang & Chou, 2006) as well as the department-visiting model (see Figure 4) and collective stage model (see Figure 5) of Chiayi Christian Hospital (Hoh & Lai, 2007) seem representative and popular ones in Taiwan.

Among the four models, the center-based, department-visiting and collective stage models all operate within the hospitals. The center-based and department-visiting models are quite similar since they just follow the original and regular service processes employed in the hospitals. On the other hand, the community itinerant model has some similarities in the assessment procedure with the collective stage model except the assessment locality. The collective stage model getting the assessment team together and the community itinerant model providing the assessment services close to the families all show their convenience and efficiency.
Initial Screening:
Assessment Outpatient Dept. or
Children Rehab Outpatient Dept.
(Single Service window)

- Qualified
  - Related Check-ups
    & Mental Tests and Inform Related Subspecialty Physicians
  - Finished
    - Team Assessment: Various Subspecialty Physicians Work Together
    - Get Consensus
      - Provide Recommendations and Reports

- Not Qualified
  - Case Closure, Referral or Follow Up
    - Periodic Follow Up
      - Entry to Notification, Referral & Case Management Systems
Figure 2. The Center-based Assessment Model of Chiayi Chang-Gung Memorial Hospital
Case Managers Take in Cases and Arrange Assessment Sites

Team Assessment Members go the Sites by Bus

Related Check-ups & Tests at Specific Sites (Institutions, Health Care Centers, etc.) in Remote Areas

Case Closure or Follow Up

Qualified

Not Qualified

Periodic Follow Up

Case Managers Refer Complicated Cases to the Center for Further Assessment

Integrate the Results of Assessment

Provide Reports and Recommendations

Entry to Notification, Referral & Case Management Systems

Figure 3. The Community Itinerant Assessment Model of Chiayi Chang-Gung Memorial Hospital
One week later, return to the original psychiatrist for the report

Returning to the Children’s Mental Health Outpatient Department:
1. The Physician refers children to the related outpatient departments (pediatrics, rehabilitation, otolaryngology, etc.) according to his/her individual needs.
2. The psychiatrist gives the Comprehensive Assessment Report Form (including the flowchart of the outpatient services) to parents during the outpatient service.

Department-Visiting Team Assessment:
1. The full time work-study students help parents to register and transfer them to the specific departments (pediatrics, rehabilitation, otolaryngology, etc.).
2. The full time work-study students collect the Comprehensive Assessment Report finished by various department physicians and key the data into computer.

Sending Out the Comprehensive Assessment Report and Case Closure
After filing the comprehensive Assessment Report, the copy of the report will be sent, respectively, to the parents of cases and the social workers at the Early Intervention Notification, Referral and Case Management Center for arranging the intervention services needed, and then the cases will be closed.

Figure 4. The Department-visiting Assessment Model of Chiayi Christian Hospital
Early Intervention Notification and Referral Centers

Referred by Outpatient Departments (Psychiatry, Rehabilitation, Pediatrics, etc.) in Hospital

Center of Team Evaluation for Children’s Development (Intake)

Psychologists Schedule the Psychological Assessments

Outpatient Services for Team Evaluation (Consultations among Specialists in Children Psychiatry, Rehabilitation, Pediatrics, Psychology, PT, and Social Work)

Referral to Other Departments:
- Rehabilitation Department (PT, OT, Speech Therapy)
- Children’s Mental Health Outpatient Department (Play Therapy, Behavior therapy)
- Children’s Neurology Outpatient Department
- Children’s Genetics Outpatient Department
- Ophthalmology Department
- Otolaryngology Department

Referral to Other Intervention Services

Professional Discussion and Integration of the Assessment Results
Forward the Assessment Report to Parents and Notification and Referral Centers

Periodic Case Conferences

Figure 5. The Collective Stage Assessment Model of Chiayi Christian Hospital
Based on documentary analysis and phone interview, the center-based, community itinerant, department-visiting and collective stage models seem to present the following similarities:

1. All the assessment models emphasize on multiple sources and components.
2. All the models follow a sequence that begins with the family, moves through multiple means of data collection, and results in the creation of plans of action.
3. All the assessments are based on the framework of typical development.
4. All the models follow a collaborative process.
5. All the models see the assessment as the beginning of intervention.
6. Multiple assessment techniques are employed in all the models.
7. All the assessment models are hospital-oriented.

In addition, all the assessment models investigated in the study also show, more or less, the following phenomena:

1. Less attention has been paid to the development principle of interdependence in the assessment.
2. The child-caregiver relationships affecting the child’s ability to organize and respond to his or her world is less stressed in the assessment.
3. Organizing and functional capabilities of the child are less emphasized in the assessment.
4. The identification of the child’s current and emerging competencies and strengths has been less attended to.
5. The reassessment is not followed as an ongoing process in most of the assessment cases.
6. The criterion-referenced assessment might be included in the assessment process but not all the cases.

Problems of the Assessment Models

Although four different names of the assessment models were used by the two centers of team evaluation for children’s development, frankly speaking, they could be categorized into departmental (the center-based and department-visiting models) and collective (the community itinerant and the collective stage models) approaches. According to Hsu (2007), the departmental approach might be more appropriate than the collective approach especially for children who are hyperactive or have sensory integration problems. However, Hoh & Lai (2007) insisted that the departmental approach might cause parents inconvenient in the assessment process.

In addition, from the documentary analysis and phone interview, some common problems related to operation of the assessment models are also indicated. First of all, most of the assessment resources are available only at a few regional hospitals. The
accessibility of assessment resource seems limited. Poorly funded and understaffed are also problems. Insufficient yearly funding not only affects the early intervention needs assessment but also influences the recruitment of the professionals needed. Professional manpower insufficiency and mobility are great concerns mentioned too. Insufficient professional manpower such as psychotherapist, speech therapist and so on and professional mobility all have impacts, more or less, on the operation of current assessment models (Hsu, Chang & Chou, 2006; Hoh & Lai, 2007).

**Implications**

From the results of the evaluation, it is obvious that Taiwan has developed a substantiated assessment policy for young children with special needs. Professional standards for the assessment of children’s development have been established and valued in this country. Most of the assessment models are hospital oriented and could be categorized into departmental and collective approaches.

Some common advantages appear in all assessment models such as emphasizing multiple sources and components, multiple means of data collection, and multiple assessment techniques, following the framework of typical development and a collaborative process as well as seeing the assessment as the beginning of intervention. All of these features are a must for a quality assessment service.

However, some phenomena found in most of the assessment models might affect the validity of assessment such as less attention being paid to the development principle of interdependence, child-caregiver relationships, organizing and functional capabilities of the child, identification of the child’s current and emerging competencies and strengths, reassessment and criterion-referenced assessment. On the other hand, many times, in most models found, assessment efforts are formally focused only on the child, with assessment of interaction and environment being performed informally. These phenomena might be a limitation to provide a whole picture of child development in the assessment. All of these phenomena seem to reflect a need for all professionals involved in the assessment to be equipped with better knowledge of child development.

Although the departmental model and the collective model might show respective applicability, some common problems related to operation of the assessment models are also revealed. All of these problems are literally related to the resource allotment. Therefore, reasonable and stable financial support for professional development as well as assessment services seems to be a requirement for further improving the assessment services for young children with special needs in Taiwan.
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