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ABSTRACT

Special education professionals in Illinois were surveyed regarding case study procedures for use with mentally retarded students, rating usefulness of procedure, modifications desired for use with different age groups and severity of retardation, and what professional should hold primary responsibility for component completion. Processes rated include child interview, parent consultation, adaptive and cultural social development studies, medical histories, vision and hearing screenings, academic history, learning environment assessment, and specialized evaluations in several therapeutic fields. Psychoeducational and medical components were generally considered more useful than social/environmental ones. A substantial reliance on specialists for assessment was observed, while both administrators and special educators were generally not considered especially important to diagnostic teams in case study work. Five references. (PB)

# An Analysis of Case Study Methods Used to Diagnose Mental Retardation

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## Introduction

Though there is considerable agreement regarding the definition of mental retardation (Grossman, 1983), the same is not true of those methods employed to diagnose mental retardation and determine eligibility for special education services (Swartz, Mundschenk and Mosley, 1989). School psychologists' assessment of mental retardation was examined and great variation among a group using state mandated identification procedures was found. A surprising finding was the importance, or lack of importance, the majority of respondents placed on impairments in adaptive behavior as a major factor in arriving at a diagnosis of mental retardation. The definition of mental retardation is very clear on the point that in order to make a diagnosis of mental retardation, the individual being assessed must show subaverage intellectual functioning and impairments in adaptive behavior. Both these conditions must be met. Yet the responses received from school psychologists indicated that subaverage intellectual functioning was the primary factor leading to a diagnosis of mental retardation.

The assessment process which lead to the diagnosis, insofar as the sample of school psychologists was concerned, was essentially a single criterion approach. This approach violates both the spirit and letter of federal legislation. P.L. 94-142

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This study was completed under a contract with the Illinois State Board of Education.

mandates a multifactored and nondiscriminatory evaluation to determine special education eligibility (EHA, 1977). Specific requirements were included in the law to ensure protection in the evaluation process. Though most states make policy level assurances that these prctections are in place in their state, few have established guidelines for special education eligibility or procedures for diagnosis that would ensure that these safeguards are implemented (Swartz and Mosley, 1988).

Some states have extensive evaluation requirements and an analysis of one was initiated to identify evaluation procedures perceived tc be valuable in the process of diagnosing children with mental retardation. In Illinois, a case study approach is used to determine special education eligibility. Required case study components and their operational definitions include the following:

1. An interview with the child - the purpose of the child interview is to obtain the child's perceptions related to the school, home, and community environments.

2. Consultation with the child's parents - the purpose of consulting with the parents is to ascertain the parents' perceptions and provide the parents with an opportunity to express their issues and concerns.

3. Social developmental study - the purpose of the social developmental study is to assist the educational team to understand the student, his/her in-school and out-of-school behaviors and how the many environments affect the student so that the team members may develop the best possible educational plan for the student.

4. Assessment of the child's adaptive behavior - a simplified definition of adaptive behavior is the effectiveness with which an individua' functions independently and meets

culturally imposed standards of personal and social responsibility.

5. Assessment of the child's cultural background - the purpose of the cultural background assessment is to determine how the student's culture or background affects the ability of a student to function in the school, as well as to determine if the school and community are responding to the child appropriately.

6. Child's medical history/current health status - the purpose of the review is to determine if there are health problems which contribute to the student's current educational problem, interfere with the student's learning processes, and/or require a change in the student's educational program.

7. Vision screening - all students being evaluated for special education services must have a vision screening completed at the time of the evaluation or within the previous six months.

8. Hearing screening - all students must have a hearing screening completed at the time of the evaluation or within the previous six months.

9. Review of child's academic history and current educational functioning - the purpose of reviewing the child's academic history is to determine if there is any pattern in the student's schooling which affects the child's ability to complete his/her current educational program.

10. Educational evaluation of the child's learning processes - learning process deficits can be observed by a teacher who systematically observes the areas of attention, discrimination, memory, multiple sensory integration, concept formation and problem solving.

11. Level of educational achievement - information on what a student has learned, how he/she processes information and the current amount of learned information.

12. Assessment of the child's learning environment - the intent of the learning environment assessment is to determine the level of match between a classroom environment and the particular student evaluated for potential placement in special educational programming.

13. Specialized evaluations - selected on an as-needed basis.

Speech and language - the purpose of the speech and language evaluation is to determine the degree and extent of oral language

usage, receptively and expressively, and language processing abilities.

Medical examination - suspected physical, health, vision or hearing impairment.

Psychological evaluation - refers to the use of formal and informal data collection devices with individual children to obtain information which leads to knowledge of a child's learning rate and style and thus provides a basis for personalized instruction (23 Illinois Administrative Code 226).

Other specialized evaluations include: vocational, audiological, and evaluations to determine the need for occupational and physical therapy.

## Method

Data specific to the case study procedures used were collected by surveying professionals involved in special education evaluation throughout the State of Illinois (N=549, 53 per cent return). Respondents included: regular teachers (N=49), regular administrators (N=53), special education teachers (N=49), special education administrators (N-58), school psychologists (N=59), school social workers (N=59), speech and language therapists (N=50), school nurses (N=48), school counselors (N=42), audiologists (N=22), occupational therapists (N=33), and physical therapists (N=43). Respondents were asked to rate usefulness of the various case study components on a 1 (low) to 5 (high) scale and indicate what professional should have primary responsibility for component completion. In addition, respondents were asked what modifications should be made in case study requirements for children of different ages and levels of retardation (mild, moderate, and severe/profound).

## Results

Respondents were asked to rate each of the required case study components on a 1 (low) to 5 (high) scale depending on their perception of how useful each component was in the identification process. Mean rating and standard deviations for usefulness of case study components for all respondents are listed in Table 1. Ratings ranged from a low of 3.61 for vocational evaluation to a high of 4.63 for current educational functioning. Table 2 lists mean ratings for usefulness for regular teachers, special teachers, school psychologists and school social workers. These four groups were selected because of their primary role in the three assessment areas required by the definition of mental retardation, namely intellectual functioning (psychologists), adaptive behavior (social workers), and adverse effect on educational performance (teachers). As might be expected, each group rated their own area of responsibility slightly higher.

Recommended modifications or those case study components that might be omitted for different age levels (preschool, elementary, junior high, and high school) and severity of retardation (mild, moderate, and severe/profound) are listed in Table 3. Respondents consistently indicated various modifications for preschool aged children and for the severe/ profound severity level.

Table 1

Rating of Case Study Usefulness
(N=549)

| | Mean rating | SD |
|---|---|---|
| Child interview | 3.87 | 1.29 |
| Parent consultation | 4.52 | .88 |
| Social developmental study | 4.24 | 1.04 |
| adaptive behavior | 4.14 | 1.08 |
| cultural background | 3.94 | 1.14 |
| Medical history | 4.45 | .88 |
| current health status | 4.50 | .86 |
| Vision screening | 4.38 | .96 |
| Hearing screening | 4.40 | .96 |
| Academic history | 4.50 | .85 |
| current educational functioning | 4.63 | .82 |
| Evaluation of learning processes | 4.46 | .95 |
| levels of educational achievement | 4.44 | .94 |
| Assessment of learning environment | 3.81 | 1.19 |
| Specialized evaluations | | |
| psychological | 4.62 | .85 |
| medical | 4.14 | 1.16 |
| speech and language | 4.35 | .97 |
| audiological | 4.08 | 1.15 |
| vocational | 3.61 | 1.27 |
| occupational therapy | 3.77 | 1.28 |
| physical therapy | 3.80 | 1.27 |

Table 2

Rating of Case Study Usefulness
by Primary Diagnosticians

| Mean ratings | reg tch | spec tch | psyc | soc work |
|---|---|---|---|---|
| Child interview | 4.53 | 3.64 | 4.04 | 4.22 |
| Parent consultation | 4.56 | 4.29 | 4.44 | 4.71 |
| Social developmental study | 4.29 | 4.26 | 4.45 | 4.77 |
| adaptive behavior | 4.32 | 4.05 | 4.24 | 4.43 |
| cultural background | 4.08 | 3.90 | 3.94 | 4.29 |
| Medical history | 4.54 | 4.17 | 4.35 | 4.73 |
| current health status | 4.43 | 4.40 | 4.38 | 4.71 |
| Vision screening | 4.42 | 4.29 | 4.28 | 4.61 |
| Hearing screening | 3.94 | 4.33 | 4.25 | 4.65 |
| Academic history | 4.76 | 4.35 | 4.45 | 4.53 |
| current educational functioning | 4.70 | 4.62 | 4.57 | 4.71 |
| Evaluation of learning processes | 4.54 | 4.40 | 4.24 | 4.51 |
| levels of educational achievement | 4.48 | 4.45 | 4.53 | 4.36 |
| Assessment of learning environment | 4.06 | 4.87 | 3.52 | 3.87 |
| Specialized evaluations | | | | |
| psychological | 4.50 | 4.43 | 4.80 | 4.77 |
| medical | 4.30 | 4.13 | 3.86 | 4.12 |
| speech and language | 4.15 | 4.17 | 4.45 | 4.30 |
| audiological | 4.00 | 3.91 | 3.94 | 3.90 |
| vocational | 3.46 | 3.43 | 3.32 | 3.66 |
| occupational therapy | 3.40 | 3.55 | 3.43 | 3.67 |
| physical therapy | 3.40 | 3.58 | 3.50 | 3.74 |

Table 3

Recommended Modifications of Case Study Requirements
(N=502)

| | | Age* | | | | Severity** | | |
|---|---|---|---|---|---|---|---|---|
| | % | P | E | J | H | MILD | MOD | S/P |
| Child interview | 22 | 15 | 9 | 10 | 10 | 13 | 29 |
| Parent consultation | 7 | 4 | 3 | 3 | 1 | 2 | 4 |
| Social developmental study | 7 | 6 | 5 | 3 | 3 | 3 | 6 |
| adaptive behavior | 4 | 6 | 3 | 1 | 1 | 3 | 2 |
| cultural background | 4 | 3 | 4 | 6 | 4 | 17 | 23 |
| Medical history | 6 | 0 | 1 | 1 | 6 | 2 | 1 |
| current health status | 2 | 1 | 1 | 2 | 2 | 1 | 1 |
| Vision screening | 2 | 1 | 0 | 1 | 2 | 3 | 4 |
| Hearing screening | 3 | 2 | 1 | 1 | 1 | 1 | 2 |
| Academic history | 14 | 8 | 2 | 3 | 5 | 6 | 3 |
| current educational functioning | 4 | 4 | 3 | 6 | 9 | 11 | 13 |
| Evaluation of learning processes | 3 | 1 | 2 | 6 | 2 | 7 | 8 |
| levels of educational achievement | 8 | 6 | 6 | 2 | 2 | 9 | 10 |
| Assessment of learning environment | 6 | 7 | 3 | 2 | 2 | 5 | 17 |
| Specialized evaluations | | | | | | | |
| psychological | 11 | 2 | 1 | 4 | 7 | 12 | 20 |
| medical | 1 | 2 | 2 | 0 | 1 | 2 | 3 |
| speech and language | 1 | 1 | 1 | 2 | 2 | 8 | 17 |
| audiological | 2 | 1 | 0 | 1 | 2 | 3 | 2 |
| vocational | 14 | 11 | 7 | 3 | 3 | 5 | 11 |
| occupational therapy | 6 | 3 | 2 | 4 | 3 | 2 | 10 |
| physical therapy | 2 | 2 | 3 | 2 | 2 | 4 | 14 |

* age levels: preschool, elementary, junior high school, and high school

** severity: mild, moderate, and severe/profound

Table 4 lists responses indicating those professionals who should have primary responsibility for completion of each case study component. Though considerable overlap is seen for some components, teachers, psychologists, and social workers emerge as primary diagnosticians. Other specialists were perceived as having more narrow areas of responsibility.

## Discussion

Overall ratings for usefulness of case study components were high. Highest ratings for current educational functioning and psychological evaluation suggest their importance in diagnosing mental retardation. The third assessment area in the definition of mental retardation, adaptive behavior, was not as highly rated.

It is interesting to note that of four traditional assessment components (current educational functioning, psychological, educational achievement and learning processes), three were perceived to fall under the jurisdiction of the school psychologist. Evidently there is still a strong belief that information relative to those areas is best obtained by school psychologists. Only current educational functioning was perceived to be an area where regular educators and special educators could collect information.

This traditional psychoeducational approach to evaluation is probably deeply rooted in the current concept of assessment. While many authors and some states are suggesting criterion

Table 4

Primary Responsibility for Case Study Component Completion (N=549)

| | Regular Teacher | Regular Admin. | Special Teacher | Special Admin. | Psychologist | Social Worker * | Speech & Lang. | Nurse | Counselor | Audiologist | OT | PT | Physician |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Child interview | 26 | 3 | 20 | 3 | 55 | 44 | 9 | 4 | 20 | 4 | 4 | 4 | 3 |
| Parent consultation | 25 | 10 | 17 | 9 | 30 | 61 | 5 | 7 | 15 | 3 | 3 | 3 | 3 |
| Social developmental | | | | | | | | | | | | | |
| study | 4 | 0 | 3 | 1 | 10 | 71 | 1 | 2 | 6 | 0 | 0 | 0 | 0 |
| adaptive behavior | 0 | 1 | 6 | 1 | 18 | 62 | 1 | 2 | 6 | 0 | 2 | 1 | 1 |
| cultural background | 4 | 1 | 2 | 1 | 10 | 65 | 2 | 5 | 6 | 0 | 0 | 0 | 1 |
| Medical history | 1 | 0 | 1 | 1 | 3 | 12 | 2 | 65 | 1 | 4 | 3 | 4 | 27 |
| current health status | 2 | 1 | 1 | 1 | 2 | 8 | 1 | 58 | 1 | 2 | 1 | 1 | 23 |
| Vision screening | 1 | 0 | 1 | 1 | 0 | 0 | 2 | 83 | 5 | 4 | 0 | 5 | 14 |
| Hearing screening | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 65 | 0 | 27 | 0 | 0 | 9 |
| Academic history | 48 | 10 | 25 | 4 | 18 | 5 | 1 | 0 | 13 | 0 | 0 | 0 | 0 |
| current educational functioning | 53 | 4 | 31 | 3 | 22 | 2 | 2 | 0 | 6 | 0 | 0 | 0 | 0 |
| Evaluation of learning | | | | | | | | | | | | | |
| processes | 25 | 2 | 32 | 5 | 56 | 2 | 2 | 4 | 3 | 1 | 1 | 1 | 0 |
| levels of educational achievement | 28 | 1 | 30 | 4 | 44 | 2 | 1 | 0 | 5 | 1 | 1 | 0 | 1 |
| Assessment of learning | | | | | | | | | | | | | |
| environment | 26 | 17 | 29 | 11 | 38 | 14 | 2 | 0 | 6 | 1 | 2 | 1 | 4 |
| Specialized evaluations | | | | | | | | | | | | | |
| psychological | 1 | 0 | 2 | 1 | 87 | 1 | 0 | 3 | 1 | 0 | 3 | 0 | 2 |
| medical | 1 | 4 | 1 | 0 | 1 | 2 | 2 | 37 | 1 | 2 | 2 | 2 | 63 |
| speech and language | 1 | 0 | 3 | 1 | 1 | 1 | 33 | 2 | 0 | 7 | 0 | 0 | 2 |
| audiological | 1 | 0 | 1 | 1 | 0 | 0 | 7 | 11 | 1 | 74 | 1 | 4 | 4 |
| vocational | 8 | 2 | 26 | 4 | 7 | 5 | 0 | 1 | 34 | 2 | 11 | 3 | 3 |
| occupational therapy | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 82 | 4 | 3 |
| physical therapy | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 5 | 76 | 6 |

referenced and curriculum-based assessments, professionals still perceive the need for specialized diagnostic services to be provided by the school psychologist. It seems obvious that professionals want information that not only accesses academic aptitude and achievement but also feel that data concerning how a child learns is important. However, either they do not feel competent in the collection of such data and thus rely heavily upon the school psychologist or there is still a strong belief in the value of intelligence testing as a measure of academic or school based performance.

The impact of P.L. 94-142 can be seen through the high rating of parent consultation. Again, while many professionals rated this component as useful and important, the responsibility for collecting this data was given to the social worker and the school psychologist. It may well be that parent consultation is not really perceived as a sharing of experiences but rather as an assessment of the home environment. The intent of consultation as outlined in P.L. 94-142 is to provide parents with input into their child's educational program and to develop a partnership between home and school. The heavy reliance on specialized personnel to obtain data from parents may not necessarily provide this. Of the direct educational service personnel involved in a child's program, the special education teacher was perceived as the least responsible, behind the regular education and special education administrators. Perhaps special education teachers perceive themselves and are perceived by others as being too

involved in the child's educational program to discuss parent input relative to assessment or, perhaps, as alluded to earlier, parent involvement is not perceived as an assessment collection process as intended in P.L. 94-142 but as a means to access the child's home environment. It is important to note that the special education teacher was not perceived as having strong primary responsibility for any of the case study components. It would seem that special education teachers are perceived as having a job description that does not include the collection of assessment data.

Two other case study components that rated high were those of medical and academic history. As with two of the previous components, both of these were seen as important for all ages and levels of severity. The emphasis on these two areas supports the suggestion that the trend is still towards the more traditional evaluation methods. Special education and related service personnel still have a strong need to see the history of a child being referred. It was not surprising to find that the nurse was seen as the primary person responsible for collecting the medical data even though this could be supplied by the family physician. Also not unusual was the focus on the regular educator to provide information on the academic history of the child. This reliance on the nurse for medical history and the regular teacher for academic history appears to be a simple case of assigning data collection responsibility to the professional closest to the

data. Interpretation by the nurse is obvious, but what about the reliance on the regular teacher for interpretation of academic history. Perhaps, special education professionals perceive that regular teachers are more expert on the regular education curriculum and that they are needed to interpret this information.

The area of adaptive behavior has long been one of concern for mental retardation professionals. Questions arise in the literature relative to quantitative and qualitative measurements of a students behavior. Concerns over cultural considerations, environmental constraints and validity/reliability measures often cause confusion and hesitation over the use of standardized measures for assessing adaptive behavior. These concerns are reflected in the survey results. Indeed, while the mean ranking for usefulness was high, twelve other components ranked higher. Sixty-two per cent of the respondents indicated that the social worker had primary responsibility for collecting adaptive behavior information. This was also the case for cultural background and parent consultation. These three areas when linked to social development form the core of primary responsibility in the case study for the social worker. Respondents, while agreeing (4) that social workers should always be involved in the case study process, did not strongly agree (5) to this. And yet, four major components of the case study, one of which ranked within the top group and two of which also held mean rankings above 4.0, were perceived as falling under the

domain of the social worker in over 60 per cent of the respondents views. It would certainly seem that aspects of the child that are considered outside the schools domain (i.e., community) are perceived as not being best evaluated by persons based in the school.

Two of the required case study components rated lower than the others in terms of their usefulness; assessment of learning environment and child interview. Though the concept of the learning environment and its importance are probably well accepted, how to collect and use the information about it are less clear. Of primary diagnosticians, both the regular and special teachers have ranked it higher than the psychologists and social workers. Those who work in the environment obviously think it is more important than those who don't. Child interview ratings were clearly impacted by the fact that it was the highest modification recommendation. The value of information obtained during the child interview was rated lowest for the preschool and severe/profound categories (22, 29 per cent) but certainly lower generally than m other case study components. Information provided by retarded children is either hard to understand, hard to use, or both.

The majority of recommendations for modification in the case study were for preschool aged and severe/profound groups. In the case of the preschooler, much of the information collected in some procedures would still be minimal or perhaps missing

entirely (e.g., academic history) and of obvious limited value. Procedural changes for the severe/ profound group are more likely to reflect differences in programming (vocational) and the limitations that are associated with this level of functioning (speech and language).

In summary, while all the components of the case study were rated as useful, those that were psychoeducational and medical ranked as more useful than those that were sociological/ environmental. The reliance on specialists, especially the school psychologist and social worker, for collecting and interpreting assessment data was obvious. The apparent lack of inclusion of special educators in the assessment process was disconcerting. Apparently, special education teachers are not perceived as an important part of the diagnostic team as it relates to the case study. Also obvious was the distinct lack of inclusion of the administrators in the case study process. Given their perceptions of what is or is not needed, perhaps including these personnel is more important than was previously suspected.

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