

MICRO-TOWER

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Description of Micro-TOWER

The Micro-TOWER system of vocational evaluation was developed in the mid 1970's at the ICD-International Center for the Disabled in New York. The system was structured to supplement TOWER. Micro-TOWER consists of thirteen work samples designed to measure major aptitudes required in many semi-skilled and unskilled jobs. In addition, the system makes use of group discussions, presentations of occupational information, behavioral and attitudinal scales completed by the evaluator and client. The complete battery can be administered by one evaluator to a group of five to twelve clients in a two to five day period.

The Micro-TOWER work samples measure major aptitudes as defined by the Dictionary of Occupational Titles. A factor analysis led to the organization of the work samples into five areas: Motor (electronic connector assembly, bottle capping and packing and lamp assembly), Clerical Perception (mail sorting, filing, zip coding and record checking), Verbal (message taking, and want ads comprehension), Spatial (blueprint reading and graphics illustration) and Numerical (payroll computation and making change). Through the use of Micro-TOWER Photobooks (a series of large photographs depicting actual work situations), the clients being tested are provided a better idea of how these work samples relate to the real world. Other features of the system include standardization of administration of work samples, audio and visual approach, and programmed learning.

Each work sample is divided into a learning and practice period and actual evaluation period. Information is presented by tape during the learning period and the evaluator may stop the tape at any time to assist clients and to answer questions. During the evaluation period no help is permitted. For most of the work samples, the learning period is three times as long as the evaluation period.

Population Served

Micro-TOWER was designed for use with a general rehabilitation population including the learning disabled, special education students, disadvantaged adults, adolescents and the educable mentally retarded. The system is being used in a variety of settings: rehabilitation centers, psychiatric hospitals, correctional institutions, the armed forces, private industry, special education classes in junior and senior high schools. Recently we arranged a one day evaluation for the learning disabled and mentally retarded in 7th and 8th grades in numerous junior high schools in the New York City school systems. The latter program was being used to provide vocational assessment and educational recommendations prior to high school entrance mandated by the Carl D. Perkins

Vocational Education Act. The schools used bottle capping and packing and electronic connector assemble and an interest test. This resulted in a data pool of close to 2,000 clients. Separate norms are provided for the educable mentally retarded, the emotionally ill, the physically disabled, the brain damaged, the cerebral palsied, adult offenders, substance abusers, the socio-economically disadvantaged and learning disabled students in special education.

Use of Micro-TOWER

At ICD and many other agencies Micro-TOWER is given the first week of the client's three week vocational evaluation program. Group discussions are held the last part of each day. The sample schedules present to the evaluator a wide variety of options, ranging from a two day to a two week testing period (mornings or afternoons only). All work samples need not be given, but to obtain a more thorough vocational profile the entire 13 work samples should be administered. Discussion sessions are optional, but are encouraged to supplement counseling information and provide support to the clients in their evaluation. The results of vocational evaluation is used as a quick pre-screening device for clients who can benefit from a group approach in a brief period of time.

What Information Does Micro-TOWER Provide

The use of Micro-TOWER with educably mentally retarded and other groups may disclose specific skills overlooked by traditional intelligence and paper and pencil tests. Four work samples, Making Change, Payroll Computation, Bottle Capping and Packing and Electronic Connector Assembly have special tasks and materials for the mentally retarded. Thus, Micro-TOWER can pinpoint occupational areas in which clients could be further evaluated through on-the-job or situational assessments. For more advanced clients, sufficient information can be obtained from the test results to consider direct placement in appropriate jobs or training program.

Through extensive field testing the Micro-TOWER work samples have demonstrated a high correlation with General Aptitude Test Battery factors assessing similar aptitudes. These results lend support to the construct validity of Micro-TOWER. The General Manual consists of a listing of jobs from the Dictionary of Occupational Titles that are classified according to the combination of aptitudes required. This list provides assistance to vocational rehabilitation counselors and evaluators regarding possible training programs or jobs for those showing strengths on the Micro-TOWER work samples in particular areas. In addition, Micro-TOWER scores can be used to estimate DOT aptitude levels.

MODAPTS and Micro-TOWER

In an effort to develop industrial norms based on the average non-handicapped worker, ICD explored the MODAPTS method of work analysis. MODAPTS stands for Modular Arrangement of Predetermined Time Standards.

It is a predetermined time standard system using an advance work measurement technique whereby established standard time data for basic human motions are calculated. MODAPTS is based on the principle that all body movements can be expressed in terms of multiples of a simple finger movement and analyzes a manual operation in terms of the time required to complete a task with various motions by a non-handicapped person. Industrial engineers and industry have already accepted MODAPTS as a valid and useful predetermined time system as evidenced by its use by SONY, NISSAN, Hitachi, Ampex, Pioneer and ten of the leading banks in New York City. ICD has had each Micro-TOWER work sample analyzed by MODAPTS time standards and all thirteen areas showed a high correlation between the performance scores of general agency handicapped population and time standards developed from MODAPTS.

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