

## **Educational Assessment**

**Programme director: Tibor Vidákovich, Dr. habil.**

### *The overall framework of the training programme*

The Institute of Education at the University of Szeged (formerly JATE) has been playing a decisive role for decades in Hungarian research and development related to educational assessment, and to the assessment of knowledge and abilities. At the end of the 1960s, the development and publication of standardized achievement and ability tests, item banks, and the regular study of the related assessment methodological problems started here. From the 1980s onwards, the development of ability tests and the studies on knowledge structures, as well as the development of diagnostic assessment forms and instrument systems that support educational innovation also started here.

From the beginning of the nineties, the role of educational assessment and testing increased significantly. The strengthening of the output regulation and the continuous development of the Hungarian national assessment and examination system require the work of more and more specialists with a high level competence of assessment and testing methodology. It shows the needs and interests that the national lists of experts include a large number of experts undertaking educational assessment tasks. In order to satisfy the needs for assessment experts, the in-service training of educational assessment experts was launched, with approximately 50 graduates obtaining this qualification per year. This type of training was significantly renewed and expanded in 2010. The in-service training programmes preparing the participants for educational assessment and teacher researcher tasks were specialized in four different areas.

However, in addition to the expert and the developer level, there is also a need for training at the researcher level in the field. The Educational Assessment program of the Doctoral School of Education aims to meet this need. Within the framework of the program, PhD students can get acquainted with the most important theoretical and practical knowledge on educational assessment (measurement and testing), learn the basics of research methodology, of the statistical tools and of computer software for data analysis. After the foundation studies, PhD students can specialize in different areas of achievement and ability testing and in different applications of test theories.

In order to satisfy the needs detailed above, the existing educational assessment and test theory courses at the Institute of Education have been expanded and new courses have been introduced, the curricula and topics of which rely significantly on the knowledge and results accumulated in about three decades of research at the Institute. In addition to theoretical and practical training, involvement in research projects provides an opportunity for doctoral students to study the methods of empirical research in practice and to conduct independent empirical research.

There has been a long-standing collaboration between the University of Szeged and assessment and examination centres in the Netherlands and in the USA on research topics related to educational assessment and testing. As a result of the cooperation, the methods

already developed elsewhere and, in some cases, the computer software packages supporting data analyses, can be used in the planning of national examination reforms or system-level assessment programs, and in the analysis of measurement data. Within the framework of the Center for Research on Learning and Instruction, a program for the development of an online diagnostic assessment system was launched in 2009, which also offers PhD students a wide range of research opportunities in the field of educational assessment.

### *Main areas of research*

#### 1. Classical and modern test theories and their educational applications

Attempts to apply modern test theory models appeared since the 1980s, first in psychological research in Hungary. At a few university and R+D institutes, including the Institute of Education at the University of Szeged and the former Árpád Kiss OKSZI Assessment and Measurement Center, the educational application of modern test theory procedures also began. The related research aims to explore new methods of assessment and testing which have not been used in Hungary so far, or present to a lesser extent, and to explore their applicability in educational research, primarily in achievement and ability testing. By applying the new methods of analysis methodology, we can obtain better applicable models for achievement testing, for analysing the structure of knowledge, and for studying the development and structure of abilities (for example, thinking, mother tongue, mathematical abilities).

#### 2. Issues in the development and application of task and test systems

One of the most demanding practical applications in the field of educational assessment and testing is the development of item (task) and test banks, the theoretical and methodological foundations of which have been known for a long time, but their further development is needed for educational applications. As a research area, the equivalence problems of tests and test versions are of interest, which include the validity studies of test versions, and, within this framework, the issues of the stability of knowledge and the ability structures they cover. In addition to the traditional development method of task and test systems that is based on the norm-referenced testing model, the issues arising during the development of criterion-referenced and structure-referenced systems – such as the interpretation of equivalence and the development of equivalent task and test versions – are an interesting and important area of research.

#### 3. Diagnostic educational assessment and the innovation in education

Diagnostic methods of educational assessment and testing can play a key role in the continuous development and renewal of the education system and instruction. Diagnostic assessment can effectively help the work of decision-makers and teachers in the regulation and planning of both classroom teaching and learning, and ability development. The model and general methods of diagnostic assessment can be considered as established as a result of the research carried out at the Institute of Education, however, significant adaptation work, including new research, must be carried out for practical applications. These include studies on models and methods for exploring knowledge and ability systems, item writing and test construction methods that enable diagnostic analysis, and studies on statistical tools and procedures of diagnostic analysis.

#### 4. The concepts of added value and options for determining it in education

Issues of the effectiveness of education have again become the focus of professional interest in recent years. Within this, one of the most interesting issues is the examination of changes, the educational added value attributable to the work of a school or a teacher. Although there is a long-standing need for achievement studies to take into account not only the performance of the learners leaving, but also the personal and environmental conditions of those entering the school, as well as the personal and material conditions of educational activities, the appropriate methods have not been widely known, and the practical tools of implementation still cannot be considered properly developed. Due to this, a number of research tasks are waiting to be solved in the field, such as the international and national trends and alternatives regarding the interpretation of added value, the background factors to be taken into account during its determination, the methods of their assessment, and the options of computing added value.

#### 5. The theory and practice of exams and examination procedures

The development of the Hungarian examination system (the elaboration of a new secondary school final exam, or the reform of secondary school admission procedures) raises a number of issues in assessment and testing methodology. Key questions include the issue of the reliability, the validity, and the equivalence of exam tests. Research based upon the results of assessments that have been carried out regularly for years can help to establish the appropriate level of reliability and the study of the validity of examination procedures. Research can also prepare the development of new approaches to the development of exam tools, and the development of new models for assessment. New test development and test analysis methods can be developed, for example, in the fields of mother tongue and foreign language, Mathematics, and Science. The evaluation of oral and practical products (such as visual culture exam projects) through jurying can also be an important research topic.

#### 6. System-level educational studies: International and national assessments and the development of the education

Numerous results from decades of international comparative studies (assessments conducted by the IEA and the OECD) provide opportunities to analyse the problems of education in Hungary. The results of the PISA surveys conducted every three years can be important sources for decisions on the reform of the education system, but the analysis of the data and the interpretation of the results require special expertise. National assessments and research projects conducted in parallel with international programs also provided a body of important data for determining the developmental directions for the Hungarian education system. Further research in this area may include the methodological issues of comparative studies, assessment and testing methods that allow comparisons of data from different socio-cultural backgrounds, different age groups, and at different times, as well as the issues of feedback based on the results of the studies to the actors of the education system and to the decision-makers.