



## Materials Review

**THE UNIVERSITY LANGUAGE LABORATORY: *Diagnostic Testing and Self-instruction* and THE UNIVERSITY LANGUAGE LABORATORY: *Experimental Findings*:** During the years 1970-72, the Department of English at the University of Turku, in Turku, Finland, conducted a project to investigate the use of the language laboratory as a fully self-instructional system. A description of this project, and the experimental findings resulting from it are contained in these two publications:

Black Colin. *The University Language Laboratory: Diagnostic Testing and Self-instruction*. Turku: University of Turku Department of English, 1971.

Kohonen, Viljo. *The University Language Laboratory: Experimental Findings*. Turku: University of Turku Department of English, 1972.

The program is composed of a battery of diagnostic tests and seven series of "self-instructional language laboratory programmes."<sup>1</sup> In terms of student involvement, the project appears to follow what might be referred to as a standardized sequence common to most auto-tutorial or individualized programs. That is, the student first takes a battery of tests to determine which of the programs (if any) he needs to work through. Upon completion of the prescribed programs, the student is re-tested and either leaves the system or is "looped" back in for additional work. This additional work is determined in consultation with a teacher. Apparently the tests are specific to the language areas covered by the programs, and are thought to have a high degree of reliability. It should also be noted that initially only one test was used, and functioned both as the pre and post evaluative instrument.

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<sup>1</sup>Colin Black, *The University Language Laboratory: Diagnostic Testing and Self-instruction* (Turku: University of Turku Department of English, 1971), p. 1.

Black has succinctly presented the three stages of the project as:<sup>2</sup>

1. Construction
  - a. Linguistic analysis of the areas selected as relevant (to students taking their first examination in university English).
  - b. Writing and recording self-instructional programmes covering these areas.
  - c. Construction of tests covering these areas.
2. Administration
  - a. The entire battery of tests is given to all students entering the Department of English.
  - b. Results are given, together with full instructions as to how to use the programmes.
  - c. The programmes are made available for individual and group use.
  - d. The tests are repeated at regular intervals.
3. Research and reconstruction
  - a. Test papers are date processed.
  - b. Weak items are weeded out or rewritten.
  - c. A follow-up study investigates the compatibility of programmes and tests, and assesses the effectiveness of the programmes.
  - d. The programmes are rewritten.

Subsequently, each stage is discussed, with numerous examples of items from all areas of the program. In fact, a major portion of the first report is sample programs, marking sheets, test items, etc.

In the follow-up report on the project, Viljo Kohonen investigates the statistical characteristics of the tests and the correlation between work on the programs and performance on the tests.<sup>3</sup> In addition, an attitudinal survey is included in this report, and contains some interesting comments from various participants in the project.

Primary concern was with the establishment of reliability and validity of the test battery. Item analysis was divided into two parts—analysis of level of difficulty and discrimination analysis. In this study, the tests were analyzed with a computer program, OPSAM, developed by Mikkonen and Mikkonen.<sup>4</sup> The report contains a summary of this analysis in terms of the information provided.

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<sup>2</sup>*Ibid.*, p. 3.

<sup>3</sup>Viljo Kohonen, *The University Language Laboratory: Experimental Findings* (Turku: University of Turku Department of English, 1972).

<sup>4</sup>Valde Mikkonen and Juhani Mikkonen, *OPSMA, Opintosavutusten mittaus* (Helsinki: n.d., 1971).

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Results of the item analysis indicate that the battery contains a range in facility value from 77.8% to 57.4%<sup>5</sup> and reliability indices after removal of weak items from .83 to .7. For the battery, however, the reliability index was quoted .92, and was considered good. Validity of the battery, on the other hand, required the establishment of a hierarchy of basic skills so that the language could be presented in the form of a detailed checklist of testable skills. By then checking to see if the hierarchy of skills was covered by the test, (emphasis being on receptive skills) the author concluded: "If it is assumed that the items in each test are representative of the skill in question, the test battery's content validity can be considered satisfactory; this assumption has been made here."<sup>6</sup>

In conclusion, the researchers have recognized the influence of intervening and uncontrollable variables in their research, and caution that the limited number of subjects involved in the project (74 in the test analysis), along with these variables are a defect in the present study. They suggest that the factors that emerged in this study should be regarded as preliminary, serving to provide a basis for further investigations. Undoubtedly, the University of Turku has taken a major step in perfecting a program of diagnostic testing and self-instruction which might well be adapted to language laboratories everywhere, and has published two reports that should be in the hands of all who are interested in this field.

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<sup>5</sup>An item solved correctly by 50 percent of the candidates has ideal discriminatory power; facility values between 15 percent and 85 percent are acceptable for normal purposes, according to the author.

<sup>6</sup>Kohonen, *op. cit.*, p. 26.