AN ANALYSIS OF THE PERFORMANCE OF FIRST-SEMESTER COLLEGE STUDENTS ON A MULTIPLE-CHOICE TEST OF PROFICIENCY IN GERMAN GRAMMAR REVEALED A CURIOUS PATTERN. LOW SCORING STUDENTS TRIED TO ESTABLISH A CORRELATION BETWEEN THE DETERMINER AND THE WORD PRECEDING IT, APPARENTLY BY MATCHING SIMILAR OR PARALLEL FINAL VOWELS OR CONSONANTS WITH INFLECTED ENDINGS (FOR EXAMPLE, "NEBEN DEN" OR "UEBER EINER"). TESTS SHOULD BE IMPROVED, CONSEQUENTLY, BY REVISING ALL ITEMS IN WHICH POOR STUDENT MIGHT COME UPON THE CORRECT RESPONSE BY FOLLOWING SUCH AN ERRONEOUS SYSTEM. THIS ARTICLE IS A REPRINT FROM "THE GERMAN QUARTERLY" VOLUME 40, NUMBER 1, JANUARY 1967. (AS)
IMPROVING MULTIPLE-CHOICE GRAMMAR TESTS
IN GERMAN
Rebecca M. Valette

One of the objections most frequently levelled against multiple-choice tests, be they in German or any other subject, is that poorer students often guess the right answers and occasionally obtain higher scores than merited. This danger can be considerably reduced by eliminating items in which students frequently tend to guess the right answer for the wrong reasons. It was precisely with this intention in mind that the following study was carried out: On what grounds does the poorer student tend to select the response to an item he does not know?

The experiment

Five classes of first-year first-semester college German (82 students) were simultaneously given a comprehensive objective-type final examination. The examination included sections on listening discrimination, listening comprehension, reading, writing and dictation. The written parts were graded objectively according to a prearranged point system and each student's total score was reduced to numerical terms. Overall performance determined the selection of the upper and lower 27% of the papers; item analyses were carried out on the machine-scored parts of the test.\(^1\)

The grammar items

Multiple-choice questions evaluating passive knowledge of morphology and syntax were presented as reading items. From the pedagogical point of view, this type of discrete item is not recommended as a homework or daily quiz device: for the audio-lingual classroom, pattern-type exercises are more effective in bringing the students to think in the foreign language. On a comprehensive test, however, the multiple-choice items allow the teacher to sample a large number

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of aspects of structure in a relatively short period of time. Moreover the scoring is rapid and objective.

Once the student has mastered the indirect-direct object pattern in German and acquired the linguistic habit of saying: "Ich gebe dem Mann das Buch," he should experience no difficulty with a test item such as:

Ich gebe — das Buch.

A. der Mann
B. des Mannes
C. dem Mann
D. den Mann

As the student reads the sentence, he automatically furnishes the correct form. In a sense such an item parallels the student's thought process in the foreign language: he first considers who is to receive the book, that is, the man, and employs the proper article and form of the noun as a matter of habit.\footnote{For pedagogical reasons the longer item form was preferred to the more common short forms: Ich gebe (der, des, den, dem) Mann das Buch.

or, Ich gebe — Mann das Buch. A. der  B. des  C. dem  D. den  E. die

In items where the student must select the proper article, the reading of whole word groups such as der Mann, das Land or die Uhr reinforces the proper association of noun and determiner.}

In this section of the final examination, the grammar items were all presented with four options. The response patterns of the upper 27%, as could be predicted, generally showed 17 to 21 correct responses per item; 22 papers were included in this group. The response patterns of the lower 27% were given special attention.

Performance of the lower group

The grammar section proved to be the most difficult part of the test. Generally the response of the lower group (22 papers) spread themselves evenly over the possible options; this pattern would indicate that the poorer students were guessing rather aimlessly and that on a series of four-option items only one-fourth of the sample would tend to select the correct answer.
MULTIPLE-CHOICE GRAMMAR TESTS

Let us consider some typical examples:

1. Das Auto gehört —.
   A. ich (6)
   B. mein (6)
   C. mir (7)
   D. mich (3)

2. Wir fahren alle auf —.
   A. das Land (7)
   B. des Landes (3)
   C. dem Lande (8)
   D. den Ländern (4)

3. Die Sonne schien durch —.
   A. der Wald (6)
   B. des Waldes (7)
   C. dem Wald (3)
   D. den Wald (4)

4. Richard geht heute zu —.
   A. ein Arzt (6)
   B. eines Arztes (6)
   C. einem Arzt (5)
   D. einen Arzt (5)

Other items, however, showed a distinct deviation from the expected random distribution of answers. Consider the following:

5. Der Schüler steht zwischen —.
   A. die Fenster (1)
   B. des Fenstern (7)
   C. das Fenster (3)
   D. den Fenstern (10)

6. Richard bat sie um —.
   A. der Zucker (3)
   B. des Zuckers (2)
   C. dem Zucker (10)
   D. den Zucker (6)

7. Vor — steht ein Tisch.
   A. der Stuhl (11)
   B. des Stuhles (2)
   C. dem Stuhl (3)
   D. den Stuhl (4)

* The number in parentheses indicates the number of students who selected the response. Occasionally the total responses for an item do not add up to 22 because one or more students left the item unanswered.
Here we note that in each case the most popular answer possessed
an inflectional ending identical to the final consonant and/or vowel
of the word preceding the blank. After the word über, a majority of
the students chose der (item 11); after habe, the majority selected
keine (item 9); after um, the majority picked dem (item 6).

If we look at items 1-4 again, we discover that the word pre-
ceeding the blank furnished no clue of this type; consequently the
answers were randomly selected.

Conclusion

It would seem quite apparent that in the particular test which we
have been describing the students of the lower 27% who answered
items 5 and 12 correctly did so for the wrong reason: they were
drawing parallels between the final vowels or consonants of the
preceding word and the inflected endings of the options.

With this in mind, the German teacher can proceed to eliminate
from his tests (or simply rework) all items in which such a parallel exists. The inflectional system in German lends itself very easily to such modification for words of another number or gender can always be found to replace the unwanted option.

As regards to the most common prepositions and their complements, the combinations to be avoided may be briefly outlined as follows:

prepositions governing the dative:
- von — avoid the plural
  (aus, bei, mit, nach, seit, zu — no problem)

prepositions governing the accusative:
- gegen — avoid masculine singular
- ohne — avoid feminine singular and the plural
- bis — avoid neuter singular
  (durch, für — no problem)

prepositions governing dative or accusative:
- an, in, neben, zwischen — avoid dative plural and accusative masculine singular
- hinter, über, unter, vor — avoid dative feminine singular
  (auf — no problem)

Similar considerations might also be taken into account in the planning of those writing tests in which the student is asked to provide the omitted non-content words. The teacher could check to see that none of the above combinations occur in the test, for if consonant and vowel similarities tend to govern the poorer student's passive choice of inflectional endings, perhaps they also tend to govern his active use of the same endings.

By eliminating dubious multiple-choice and fill-in-the-blank items, the teacher will be taking a definite step in improving the reliability and the validity of his tests.

Boston College

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