DATA ARRANGEMENT TYPES OF 10-12 YEAR OLD STUDENTS

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Three open-ended data tasks were completed by hundred and forty four Gr 4 -7 students. The data were collected in an upper-middle class primary school. The given data in each task had to be presented on a poster. The tasks included both categorical and numerical data in different contexts.

The research questions were to determine

- the type of spontaneous data arrangement and
- the SOLO level of the data arrangement of the students.

The different kinds of data arrangement evident in the student responses were classified in the following categories as adapted from the work of Johnson and Hofbauer (2002):

- no arrangement
- clustered arrangement
- sequential arrangement
- summative arrangement (clustered summative, sequential summative, regrouped summative).

The SOLO taxonomy (Biggs & Collis 1982, 1991) was used to categorise students' responses according to the way in which the data were arranged. The target mode for this age group is the concrete symbolic mode and the applicable levels are the prestructural (P), unistructural (U), multistructural (M) and relational (R) levels.

A hierarchical cluster analysis produced three clusters in which the determining factor was the increasing level of sophistication. 25% of students responded on a high SOLO level (M) of the target mode for all three tasks, while 23% responded on a low level (P) in the target mode for all three tasks. The overall preferences of responses in all tasks were on the prestructural and multistructural levels, with arrangement types no arrangement and summative arrangement.

Reference

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