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Measuring spatial visualization: test development study.

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Summary: There are many tests in the literature about measurement of spatial visualization ability. Spatial visualization ability is considered one of the most important components of spatial ability. The aim of this study is to develop a new test to measure spatial visualization ability among students with the use of contextual items specifically related to mathematics. The test consists of six different types of questions that make up a total of 29 items. A pilot test was conducted with 236 students who are studying in mathematics and mathematics education programs in two state universities in Turkey. Item analysis was conducted with the use of ITEMAN software and the validity and reliability of the test were analyzed by SPSS 17.0 software. In addition the confirmatory factor analysis was performed by LISREL 8.7. The analysis found that two items were causing the reliability of the test. It was found that after removing the two items the results improved significantly. The final analysis achieved the internal consistency coefficient (Cronbach α) 0.84; GFI = 0.90, CFI = 0.97, RMR = 0.014 and RMSEA value of test was calculated as 0.032. This chapter reports details of the findings and suggests in developing discipline specific spatial ability test.

Classification: C40 D60
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