

A letter to judges for validating the geometric creativity test (GCT)

Dear

The researcher is preparing Ph. D. thesis entitled “The effectiveness of an enrichment program using interactive dynamic geometry software in developing mathematically gifted students' geometric creativity in the high schools”. The researcher prepared a test to assess the geometric creativity of the mathematically gifted students before and after administering the suggested enrichment program. The GCT has 12 items designed to measure the following creative thinking abilities in the field of geometry:

1. Fluency: the student’s ability to pose or come up with many geometric ideas or configurations related to a geometric problem or situation in a short time. It is objectively defined as the number of relevant responses toward a geometric problem or situation. It is intended to be measured by items 1, 2, 3, and 4.
2. Flexibility: the student’s ability to vary the approach or suggest a variety of different methods toward a geometric problem or situation. It is objectively defined as the number of different categories of relevant responses: answers, methods, or questions toward a geometric problem or situation. It is intended to be measured by items 5, 6, and 9
3. Originality/Novelty: the student’s ability to try novel or unusual approaches toward a geometric problem or situation. It is objectively defined as the statistical infrequency of responses in relation to peer group. It is intended to be measured by items 7, 8, and 12.
4. Elaboration: the student’s ability to redefine a single geometric problem or situation to create others, which is not the geometric problem, situation itself, or even its solutions but rather the careful thinking upon the particular aspects that govern the geometric problem or situation, changing one or more of these aspects by substituting, combining, adapting, altering, expanding, eliminating, rearranging, or reversing and then speculating on how this single change would have a ripple effect on other aspects of the problem or the situation at hand. It is objectively defined as the number of follow-up questions or problems that are posed by elaborating one or more aspects of the given geometric problem or situation. It is intended to be measured by items 10 and 11.

I hope that you can help me to validate the test items by reviewing and judging them in the framework of the following considerations:

- To what extent the test items are clear and readable.
- To what extent the test items are appropriate in measuring what they are designed to measure.
- To what extent the test items are appropriate to the level of the mathematically gifted students in the high schools.
- Further comments for development.

Thank you very much in advance for your time and consideration in this test.

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