

Study Orientation for Mathematics (SOM)

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PURPOSE	To assess a learner's interest and study orientation in Mathematics
ADMINISTER TO	Learners in Grades 7 through 12
READING/EDUCATIONAL LEVEL	Grade 7 (NQF level: 1)
ADMINISTRATION TIME	20-45 minutes
SCORING OPTIONS	Hand-scoring
PUBLICATION DATE	2006
HPCSA	Not submitted
TRAINING	None
LANGUAGES	English and Afrikaans
SA NORMS	Yes

Despite the fact that achievement in school mathematics is one of the best predictors of success in tertiary studies, little attention has been given to learners' interest and study orientation in mathematics. Learners with an apparently high intellectual ability or aptitude for mathematics sometimes underachieve in the subject, while learners with an apparently lower general mental intellectual ability or aptitude for mathematics often achieve well in the subject. Research has shown a statistically significant association between aspects of study orientation in mathematics, including anxiety, motivation, attitudes, effective time management, parental expectation, and the social, physical, and experienced environment of learning mathematics on the one hand and mathematics achievement on the other. Unless these issues are addressed adequately, underachievement in mathematics may occur.

The Study Orientation to Mathematics (SOM) is a tool that can be used to identify such issues and determine ways of overcoming them, to enhance learner's mathematics performance..



ASSESSMENT SCALES

The SOM consists of the following scales:

- **Study Attitude:** Learners' "mathematical world view" about the self, the nature of mathematics, and the nature of learning mathematics.
- **Mathematics Anxiety:** Panic, emotional disturbance, emotional liability, and self-doubt.
- **Study Habits in Mathematics:** Time management, staying focused, and consistency in study habits.
- **Problem-solving Behaviour in Mathematics:** Cognitive and meta-cognitive learning strategies.
- **Study Milieu in Mathematics:** Non-stimulating environments, restrictive circumstances, and physical problems.
- **Information Processing:** Understanding mathematics and mathematical conceptualisation.
This scale is only completed by Grade 10s to 12s.
- **Study Orientation in Mathematics:** Summary of the above and a measure of a learner's study orientation.

AREAS OF APPLICATION

- The SOM is appropriate for use in educational settings, in schools, and for remedial purposes.
- Potential users of the SOM include career counsellors, psychologists, and mathematics teachers as well as persons with a solid background in mathematics.
- It is suited both as a diagnostic instrument to identify potential problems as well as a product to provide study guidelines in mathematics.
- It can be used to familiarise learners with certain basic principles of effective study in mathematics, as well as the important role of study conditions, including motivation and background factors in academic success.

REPORT OPTIONS

SOM Interpretive Report: provides a discussion on the person's scores on the five (or six, depending on the learner's grade) scales that make up Study Orientation, as well as an overall SOM score.