

## An Investigation of The Relation Between 8th Grade Students' Beliefs, Abstract Thought and Achievement; The Case of Mathematics

*An Investigation of The Relation Between 8th Grade Students' Beliefs, Abstract Thought and Achievement; The Case of Mathematics*  
, Ercan Masal

### Özet

The purpose of the current study was to examine the relationship between elementary 8th grade students' level of abstract thought in mathematics, their mathematical beliefs and their level of achievement in mathematics. The relational survey model, one of the quantitative research models, was employed in the study. The study group, formed through simple random sampling, was comprised of 527 8th grade students enrolled in a school in Hendek, Sakarya, during the 2012-2013 academic year. The data collection tools utilized in the study were the "Mathematics Belief Scale" and the "Mathematical Abstract Thought Test". The statistical analyses conducted with the data obtained by means of these instruments yielded a positive relationship between students' achievement scores and their mathematical beliefs and abstract thought levels, and between their abstract thought levels and mathematical beliefs. As a result, it was observed that the more positive students' mathematical beliefs were, the more successful they were in mathematics, and the more positive their mathematical beliefs were, the higher their abstract thought levels were.

### Anahtar Kelimeler

null

### Abstract

The purpose of the current study was to examine the relationship between elementary 8th grade students' level of abstract thought in mathematics, their mathematical beliefs and their level of achievement in mathematics. The relational survey model, one of the quantitative research models, was employed in the study. The study group, formed through simple random sampling, was comprised of 527 8th grade students enrolled in a school in Hendek, Sakarya, during the 2012-2013 academic year. The data collection tools utilized in the study were the "Mathematics Belief Scale" and the "Mathematical Abstract Thought Test". The statistical analyses conducted with the data obtained by means of these instruments yielded a positive relationship between students' achievement scores and their mathematical beliefs and abstract thought levels, and between their abstract thought levels and mathematical beliefs. As a result, it was observed that the more positive students' mathematical beliefs were, the more successful they were in mathematics, and the more positive their mathematical beliefs were, the higher their abstract thought levels were.

### Keywords

null

### References

- Ağır, M. (2007). Üniversite öğrencilerinin bilişsel çarpıtma düzeyleri ile problem çözme becerileri ve umutsuzluk düzeyleri arasındaki ilişki. Yayınlanmamış doktora tezi, İstanbul Üniversitesi, İstanbul.
- Akbaş, A., & Çelikkaleli, Ö. (2006). Sınıf öğretmeni adaylarının fen öğretimi öz-yeterlik inançlarının cinsiyet, öğrenim türü ve üniversitelerine göre incelenmesi. Mersin Üniversitesi Eğitim Fakültesi Dergisi, 2(1), 98– 110.
- Aksan, N. & Sözer, M.A. (2007). Üniversite Öğrencilerinin Epistemolojik İnançları ile Problem Çözme Becerileri

Arasındaki İlişkiler. Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD), 8(1), 3150.

Alkan Dilbaz, G. (2013). Araştırma temelli öğrenmenin tutum, akademik başarı, problem çözüme ve araştırma becerilerine etkisi. Yayımlanmamış yüksek lisans tezi. Mersin Üniversitesi, Mersin.

Altun, M. & Yılmaz, A. (2010). Lise öğrencilerinin parçalı fonksiyon bilgisini oluşturma ve pekiştirme süreci. Uludağ Üniversitesi Eğitim Fakültesi Dergisi XXIII (1), 311-33.

[Tam metne ulaşmak ve tüm referansları görmek için tıklayın.](#)