Adequate sleep during childhood is regarded as an imperative component of effective learning and successful school performance. Sleep also improves memory by promoting off-line consolidation. A period of sleep, compared to a similar period of wakefulness reorganizes memory traces in a way that encourages creativity and rule extraction. Slow-wave sleep and sleep spindles have been shown to play an important role in this sleep-dependent memory reinforcement. The relationship between poor sleep and cognitive outcomes has been frequently investigated in healthy children. We will present results obtained in children suffering from sleep disorders. We will also discuss about the impact of sleep education on learning.