The main goal of this work is to bring a new view on the teaching approach to the mathematical logic. The main issue is therefore the using of logical paradoxes in the math teaching at the high schools. This work contains (1) a brief overview of the particular paradoxes (mainly the Zeno's paradoxes and the paradoxes of naive set theory) which are subsequently used for practical teaching, (2) study of the present state at the Czech schools and (3) a practical part. This practical part is composed from the factual proposes of the teaching plans, verification and possible improvements of these plans.