

Contents

1	Introduction	1
2	Theory of Obstacles and Cognitive Conflict	3
3	Theory of Horizon and Natural Infinity	7
4	Research Design	15
5	Detected Obstacles and Their Structure	19
5.1	Knowledge about finite sets	19
5.2	Replacement of an object by its model	27
5.3	Knowledge about finite processes, potential perception of the infinite process	41
5.4	Knowledge about the set of natural numbers	50
6	Conclusion	61
6.1	The occurrence of obstacles with reference to an age group and a considerable disorder of the expected development of success	61
6.2	The omega position and four types of infinity conceptions .	64
	Bibliography	69
	Index	75