1. Record Nr. UNIORUON00345431

Autore	KOEPPEN, Wolfgang
Titolo	Jugend / Wolfgang Koeppen
Pubbl/distr/stampa	Frankfurt am Main, : Suhrkamp, 1987
ISBN	35-18-01500-1
Descrizione fisica	146 p. ; 18 cm.
Disciplina	833.91
Lingua di pubblicazione	Tedesco
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9911020149003321

Autore	Guille-Biel Winder Claire
Titolo	Articulations Between Tangible Space, Graphical Space and Geometrical Space : Resources, Practices and Training
Pubbl/distr/stampa	Wiley-Blackwell, 2023 Newark : , : John Wiley & Sons, Incorporated, , 2023 ©2023
ISBN	9781394229598 1394229593 9781394229604 1394229607 9781394229581 1394229585
Descrizione fisica	1 online resource (342 pages)
Altri autori (Persone)	AssudeTeresa
Soggetti	Geometry Educational technology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Nota di contenuto

Cover -- Title Page -- Copyright Page -- Contents -- Preface -- Part 1. Articulations between Tangible Space, Graphical Space and Geometric Space -- Chapter 1. The Geometry of Tracing, a Possible Link Between Geometric Drawing and Euclid's Geometry? -- 1.1. Introduction -- 1.2. Geometry in middle school -- 1.2.1. What underlying axiomatics? -- 1.2.2. An example -- 1.2.3. The current lack of consistency -- 1.3. Geometry of tracing, a possible link between material geometry and Euclid's geometry? -- 1.3.1. Figure visualization and figure restoration -- 1.3.2. The geometrical use of tracing instruments, a first step to make sense to an axiomatic -- 1.3.3. Distinguishing between the hypothesis and the conclusion -- 1.3.4. Restoration, description, construction of figures and geometric language -- 1.4. Dialectics of action, formulation and validation with regards to the reproduction of figures with instruments -- 1.4.1. Formulation situations and possible variations -- 1.4.2. Validation situations -- 1.5. From tracing to the characterization of objects and geometric relationships -- 1.5.1. On the concepts of segments, lines and points -- 1.5.2. On the notion of perpendicular lines -- 1.6. Towards proof and validation situations in relation to figure restoration -- 1.6.1. Equivalence between two construction programs and the need for proof -- 1.6.2. Validation situations involving programs for the construction of a square and introducing a proof process -- 1.7. Conclusion -- 1.8. References -- Chapter 2. How to Operate the Didactic Variables of Figure Restoration Problems? -- 2.1. Introduction -- 2.2. Theoretical framework -- 2.2.1. Studying a specific type of problem: figure restoration -- 2.2.2. Studying the concepts involved in figure restoration problems -- 2.3. Values of the didactic variables of the first problem family.
2.3.1. Values of the didactic variables for the "figure" and the "beginning of the figure" -- 2.3.2. Value for the didactic variable "instruments made available" -- 2.3.3. Rules of action and theorems-in-action associated with development on the geometrical usage of the ruler -- 2.4. Conclusion -- 2.5. References -- Chapter 3. Early Geometric Learning in Kindergarten: Some Results from Collaborative Research -- 3.1. The emergence of the first questions -- 3.2. Theoretical insights -- 3.2.1. Global understanding and visual perception of geometric shapes -- 3.2.2. Operative understanding and visual perception of geometric shapes -- 3.2.3. Topological understanding and visual perception of geometric shapes -- 3.2.4. Haptic perception -- 3.2.5. Association of visual and haptic perceptions: towards a sequential understanding of geometric shapes -- 3.3. The role of language in early geometric learning -- 3.3.1. But which lexicon? -- 3.3.2. Verbal and gestural language -- 3.4. Assembling shapes -- 3.4.1. Free assembly of shapes -- 3.4.2. Assembling triangles -- 3.5. Gestures to learn -- 3.6. Conclusion -- 3.7. References -- Chapter 4. Using Coding to Introduce Geometric Properties in Primary School -- 4.1. Coding in geometry -- 4.2. Two examples of communication activities requiring the use of coding -- 4.2.1. A co-constructed coding -- 4.2.2. Personal coding -- 4.3. Conclusion: perspectives on the introduction of coding in geometry -- 4.4. References -- Chapter 5. Freehand Drawing for Geometric Learning in Primary School -- 5.1. Introduction -- 5.2. Drawings in geometry and their functions -- 5.3. Freehand drawing in research -- 5.4. Exploring the milieu around a freehand reproduction task of the Mitsubishi symbol on a blank white page -- 5.4.1. Freehand drawing reveals a reasoning between spatial knowledge and geometric knowledge.
5.4.2. Freehand drawing as a dynamic process to build and transform knowledge -- 5.5. Conclusion -- 5.6. References -- Part 2. Resources

-- 11.1. Introduction -- 11.2. Research background -- 11.2.1. Study on dissemination possibilities in ordinary education -- 11.2.2. Resource design approach -- 11.2.3. A working methodology based on assumptions -- 11.2.4. Designing a situation using the didactic engineering approach for development -- 11.3. Focus on the adaptability of this situation to ordinary education -- 11.3.1. Details about the theoretical framework and the research question -- 11.3.2. Presentation on the follow-up of teachers, details of the research question and the methodology -- 11.3.3. Presentation of the analysis methodology -- 11.4. Elements of the analysis -- 11.4.1. Analysis a priori of the situation and anticipatory analysis of the teacher's activity -- 11.4.2. Analysis of practices -- 11.5. Conclusion -- 11.6. References -- Chapter 12. Geometric Reasoning in Grades 4 to 6, the Teacher's Role: Methodological Overview and Results -- 12.1. Introduction -- 12.2. Theoretical choices and the problem statement -- 12.2.1. Geometrical paradigms -- 12.2.2. The different spaces -- 12.2.3. Study on reasoning -- 12.2.4. The role of the teacher -- 12.2.5. Problem statement -- 12.3. Methodology -- 12.3.1. General principle -- 12.3.2. The situations -- 12.3.3. Analysis methodology -- 12.4. Conclusion -- 12.5. References -- Chapter 13. When the Teacher Uses Common Language Instead of Geometry Lexicon -- 13.1. Introduction -- 13.2. An attempt to categorize the uses of common vernacular terms in place of geometry lexicon terms within teacher discourse -- 13.2.1. The phenomenon of didactic reticence. 13.2.2. The phenomenon of semantic analogy: comparison with common concepts to construct meaning for mathematical knowledge.

Sommario/riassunto

This book explores the interconnections between tangible space, graphical space, and geometrical space, particularly in educational contexts. It delves into the theoretical and practical aspects of geometric learning, from middle school to kindergarten, emphasizing the role of figure restoration and the use of geometric tools. The authors, Claire Guille-Biel Winder and Teresa Assude, aim to enhance understanding and teaching of geometry by exploring different dimensions of space and incorporating modern educational practices such as coding. The book targets educators and researchers in mathematics education, providing insights into geometric drawing, the axiomatic foundations of geometry, and the integration of coding in teaching geometry.