

## Faculty Page



Name: Athanasios Gagatsis  
Title: Professor  
Specialization: Mathematics Education  
Address: Department of Education  
University of Cyprus  
P.O.Box. 20537  
1678 Nicosia  
Cyprus  
Telephone Number: 00357 22753725  
Fax number: 00357 22753702  
Email: gagatsis@ucy.ac.cy

Personal webpage (link to personal website)

## MENU: Hypertext links:

- Education
- Awards
- Professional Experience
- Research
- Teaching
- Publications
  - Journals
  - Books
  - Edited Books
  - Chapters in Books
  - Conference proceedings
- Conference Presentations
- Editorial and Review Boards
- Professional Memberships
- Supervision of student research
  - Undergraduate
  - Graduate
- Committees
  - Departmental
  - International
  - Public
  - Scientific
  - University
- Other Professional Activities

## Profile

Undergraduate Studies at the Aristotelian University of Thessaloniki, Greece (B.A. Department of Mathematics, Faculty of Sciences, 1973), graduate studies at the University Louis Pasteur of Strasbourg, France (DEA Didactics of Mathematics, 1980, Ph.D. Didactics of Mathematics, 1982). Postdoctoral research at the same University (1982-83). Lecturer and Assistant Professor in Didactics of Mathematics, University of Thessaloniki, Department of Mathematics (1983-1996). Associate Professor (1996-2002) and Professor (2002-today) in Didactics of Mathematics, University of Cyprus. Dean of the Faculty of Social Sciences and Education, University of Cyprus (2006-today). Visiting Fellow at European Universities.

Research Interests: representations in the learning of mathematics, pictures in problem solving, representations in the understanding of functions, History of Mathematics Education, epistemological, didactical and ontogenetic obstacles in the learning of mathematics, transition from elementary to secondary education with respect to mathematics learning. Member of the Editorial Board of International Journals in Didactics of Mathematics.

### ○ **Education**

Louis Pasteur de Strasbourg, France, Thèse de Doctorat en Didactique des Mathématiques, 1982 (French government scholarship)

Louis Pasteur de Strasbourg, France, DEA en Didactique des Mathématiques, 1980 (Aristotle University Scholarship)

Aristotle University of Thessaloniki, Greece, Degree in Mathematics, 1973 (Greek government scholarship) (Class: Excellent)

Secondary School Leaving Certificate, 1968 (Grade: Excellent)

### ○ **Awards**

Distinctions/ Scholarships

- Collaboration with the elementary school teachers Eleni Michaelidou and Niki Michaelidou as a principal investigator of the project “MERA”, which has received an award (the third prize), 2005.
- Supervision of the undergraduate research study by Constantinos Constantinou and Georgia Tanou of the Department of Education, University of Cyprus (2005), which has received an award by the Cyprus Research Promotion Foundation.
- Granted the title of Expert on the Didactics of Mathematics by UNESCO. Organization of seminars (8<sup>th</sup> November-8<sup>th</sup> December 2003) for 100 primary school teachers in collaboration with the Ministry of Education and Culture and editing of a book on the Didactics of Mathematics (Fund 9000 USD).
- Honorary member of the Italian Pedagogical Society MATHESIS for 10 years.
- Award by the senate of the University of Lujan of Buenos Aires at the conference “V Simposio de Educacion Matematica”, 10-17 May, 2003, Argentina. Granted the title of Distinguished Visiting Fellow according to a Senate decree.
- French government scholarship for the PhD studies, 1980-1982
- Aristotle University Scholarship for the Master’s studies, 1978-1980
- Greek government scholarship for the undergraduate studies, 1969-1973

### ○ **Professional Experience**

Academic positions held

2002-today Professor of Mathematics Education, Department of Education, University of Cyprus, Cyprus

1996-2002 Associate Professor, Department of Education, University of Cyprus, Cyprus

1998-2005 Visiting Fellow, Faculty of Education, University of Warwick, Great Britain

1999-2001 Associate Fellow, Faculty of Education, Brunel University, Great Britain

1992-1996 Visiting Fellow, Faculty of Education, Roehampton Institute, London, Great Britain

1993 Visiting Fellow, Faculty of Education, University of Veliko Tirnovo, Bulgaria

1983-1996 Lecturer, Assistant Professor, Department of Mathematics, Aristotle University, Thessaloniki, Greece

1982-1983 Postdoctoral Researcher, Louis Pasteur de Strasbourg, France (French government scholarship)

1975-1983 Research and Teaching Assistant, Department of Mathematics, Aristotle University, Thessaloniki, Greece

○ **Research**

**Research programs**

- REPRESENTATION: The role of representation in learning functions and geometry in the concept of the shift from the lower secondary education (gymnasium) to the upper second education (lyceum). A research project of the IPE (Institute of Research – Cyprus). (Principal Investigator) (2008-2011).
- The functioning of representations in mathematics education with respect to the shift from elementary to secondary education, Medium Size Research Project, University of Cyprus, (Cyprus), Funding: University of Cyprus (Principal Investigator) (2007-2009).
- The development of students' problem solving ability and their ability to self-regulate their cognitive performance (Program of Distinguished Scientists – with Erik De Corte), University of Cyprus (Cyprus), Funding: Research Promotion Foundation (Member of the research team) (2006- 2008).
- History of Mathematics Education in Cyprus 1878-1960, University of Cyprus (Cyprus), Centre of Scientific Research of the Ministry of Education and Culture (Principal Investigator) (2005-2008).
- Identification, motivation and support of mathematical talents in European schools (MATEU), Intercollege (Cyprus), Funding: European Commission (Comenius 2.1) (Member of the research team) (2004 -2006).
- Reform of mathematics curriculum and evaluation of mathematics textbooks, University of Cyprus, Ministry of Education and Culture (Cyprus), Funding: UNESCO (Principal Investigator) (2003-2004).
- Investigation of the role of representations in the first three grades of primary school, University of Cyprus (Cyprus), Funding: Cyprus Research Promotion Foundation (Cyprus) (Principal Investigator) (2002-2004).
- The development of a digital portfolio for teachers: Tool for their Self Performance and their evaluation, Intercollege (Cyprus), Funding: Cyprus Research Promotion Foundation, (Cyprus) (Member of the research team) (2001-2003).

○ **Teaching**

Teaching at the University of Cyprus

1996-2007 EDU 171 Basic Concepts in Mathematics I (Undergraduate)

EDU 272 Topics from Modern Mathematics (Undergraduate)

EDU 331 Mathematics Education (Undergraduate)

EDU 471 Special issues in Mathematics Education (Undergraduate)

EDU 170 Pre-maths concepts (Undergraduate)

EDU 332 Mathematical concepts in the Kindergarten school (Undergraduate)

- EDU 671 Cognitive Analysis of Mathematics learning (Postgraduate)
- EDU 675 Contemporary trends in research in Mathematics education (Postgraduate)
- EDU 677 Theories of Representation and Educational Teaching (Postgraduate)
- EDU 678 Affect and Mathematics Learning (Postgraduate)
- EDU 684 Space, Visualization and Reasoning in Geometry (Postgraduate)

#### Teaching at other institutions and universities

- 2006-2007 “Representations and Learning in Mathematics”, Department of Mathematics, University of Athens
- 2000-today “Educational Assessment” to prospective teachers in the framework of the Cyprus Pedagogical Institute preservice training programme
- 2004-2005 “Representations and Learning in Mathematics”, Department of Mathematics, University of Athens
- 1992-1996 Research on Mathematics Education, Faculty of Education, Roehampton Institute, London, Great Britain
- 1993 Research on Mathematics Education, Faculty of Education, University of Veliko Tirnovo, Bulgaria
- 1983-1996 Mathematics Education and History of Mathematics Teaching Department of Mathematics, Aristotle University of Thessaloniki, Greece.  
 Medical Statistics and Educational Statistics, Departments of Medicine and Kindergarten Education, Aristotle University of Thessaloniki, Greece.  
 Mathematics for the Pre-school age, Department of Kindergarten Education, Aristotle University of Thessaloniki, Greece.  
 Mathematics Education, Centre for in-service education of teachers (Thessaloniki, Larissa, Katerini, Kozani in Greece).
- 1975-1979 Mathematics, Department of Mathematics, Aristotle University of Thessaloniki
- 1974-1975 Secondary School Mathematics

- **Publications**

- **Journals**

#### **In Greek journals**

1. Gagatsis, A., Elia, I., & Andreou, S. (2003). Representations and mathematics learning: Functions and number line. *Euclides γ*, 59, 5-34 (in Greek).
2. Gagatsis, A., & Lemonides, C. (1994). Oral arithmetic: a basic and useful skill ignored by teaching. *Diastassi* 4, 30-40 (in Greek).
3. Gagatsis A., Papadopoulou, P., Sarika, M., Tsaoulidis, A. (1994). On three exercises in Classical Geometry of the French Secondary Curriculum. *Diastassi* 3-4, 4-18 (in Greek).
4. Gagatsis, A. (1993). The theory of additive structures of Gérard Vergnaud and their application in Greek Mathematics Textbooks. *Diastassi* 1-2, 85-117 (in Greek).
5. Gagatsis, A. (1992). The utility and interest of Didactics of Mathematics to the Mathematics teacher. *Diastassi* 3-4, 76-91 (in Greek).

6. Gagatsis, A., & Kaldrimidou, M. (1991). Résumé des Actes du Symposium en Didactique des Mathématiques. *Cahiers de Didactique des Mathématiques*, 9, 11-33 et 101-124 (in Greek).
7. Gagatsis, A. (1990). Résumé des Actes de la Première Rencontre Européenne en Didactique des Mathématiques. *Cahiers de Didactique des Mathématiques*, 5, 1-47 (in Greek).
8. Gagatsis, A. (1990). The Teaching of Logic in the First Lyceum grade. *Educational Review* 12, 83-117, (in Greek).
9. Gagatsis, A., & Patronis, T. (1990). Utilisation des modèles géométriques dans l'enseignement des Mathématiques. *Cahiers de Didactique des Mathématiques*, 6, 55-71 et 131-149 (in Greek).
10. Gagatsis, A., & Thomaidis, I. (1991). Errors of candidate teachers in school exercises on absolute value. *Educational Review* 14-15, 87-106 (in Greek).
11. Gagatsis, A., & Galli, E. (1989). Conceptions of Greek students concerning axial symmetry. *Educational Review* 11, 173-207 (in Greek).
12. Gagatsis, A. (1988). Enseignement des Mathématiques avec des problèmes ouverts. *Cahiers de Didactique des Mathématiques*, 1, 26-28 et 64-67 (in Greek).
13. Gagatsis, A. (1988). New ways of writing of Mathematics textbooks. *Diastassi* 6-35 (in Greek).
14. Gagatsis, A., Katsoulou, M., & Marketos, A. (1988). Taxonomy of objectives and exercises in Mathematics. *Euclides* γ 1, 6-38 (in Greek).
15. Gagatsis, A. (1987). Alternative evaluation methods of the readability of Mathematical texts. *Diastassi*, 33-55 (in Greek).
16. Gagatsis, A. (1987). Experimental Didactics of Mathematics. Part I: Historical origins of the Experimental Didactics. *Contemporary Education* 35, 43-48 (in Greek).
17. Gagatsis, A. (1987). Experimental Didactics of Mathematics. Part II: Concepts and Methods of Didactics of Mathematics- Comments on a paper of Laborde. *Contemporary Education* 36, 70-77 (in Greek).
18. Gagatsis, A. (1987). Experimental Didactics of Mathematics. Part III: A research in Didactics of Mathematics - The comprehension of probabilistic situations by students of secondary schools (12 - 14 years). *Contemporary Education* 37, 44-52 (in Greek).
19. Gagatsis, A. (1985). Readability of Mathematics Textbooks. *Contemporary Education* 20, 40-48 (in Greek).
20. Gagatsis, A. (1985). Oral formulation of Mathematical Formulae. *Educational Review* 3, 21-46 (in Greek).
21. Gagatsis, A. (1985). Readability Formulae. *Educational Review* 2, 95-121 (in Greek).

### **In international journals (English, French, Italian, Bulgarian and German)**

22. Modestou, M., & Gagatsis, A. (in press, 2010). Cognitive and metacognitive aspects of proportional reasoning. *Mathematical Thinking and Learning*.
23. Panaoura, A., Gagatsis, A., Deliyianni E., & Elia, I. (2009). The structure of students' beliefs about the use of representations and their performance on the learning of fractions. *Educational Psychology*, 29(6), 713-728.
24. Elia, I., Gagatsis, A., Panaoura, A., Zachariades, T., & Zoulinaki, F. (2009). Geometric and algebraic approaches in the concept of limit and the impact of the "didactic contract". *International Journal of Science and Mathematics Education*, 7(4), 765-790.

25. Deliyianni, E. & Gagatsis, A. (2009). La comprensione dell'addizione di frazioni nella scuola primaria: Il ruolo delle rappresentazioni multiple. *La Matematica e la sua Didattica*, 23(3), 299-318.
26. Gagatsis, A., Modestou, M., Elia, I., & Spanoudes, G. (2009). Structural modelling of developmental shifts in grasping proportional relations underlying problem solving in area and volume. *Acta Didactica Universitatis Comenianae – Mathematics*, 9, 9-23.
27. Modestou, M., & Gagatsis, A. (2009). Proportional reasoning: The strategies behind the percentages. *Acta Didactica Universitatis Comenianae – Mathematics*, 9, 25-40.
28. Panaoura, A., Gagatsis, A., & Demetriou, A. (2009). An intervention to the metacognitive performance: Self-regulation in mathematics and mathematical modeling. *Acta Didactica Universitatis Comenianae – Mathematics*, 9, 63-79.
29. Pantziara, M., Gagatsis, A., & Elia, I. (2009). Using diagrams as tools for the solution of non-routine mathematical problems. *Educational Studies in Mathematics*, 72, 39-60.
30. Elia, I., Panaoura, A., Gagatsis, A., Gravvani, K., & Spyrou, P. (2008). Exploring different aspects of the understanding of function: Toward a four-facet model. *Canadian Journal of Science, Mathematics and Technology Education*, 8(1), 49-69.
31. Modestou, M., Elia, I., Gagatsis, A., & Spanoudis, G. (2008). Behind the scenes of pseudo-proportionality. *International Journal of Mathematical Education in Science and Technology*, 39(3), 313-324.
32. Elia, I., Gagatsis, A., & Demetriou, A. (2007). The effects of different modes of representation on the solution of one-step additive problems. *Learning and Instruction*, 17, 658-672.
33. Elia, I., Panaoura, A., Eracleous, A., & Gagatsis, A. (2007). Relations between secondary pupils' conceptions about functions and problem solving in different representations. *International Journal of Science and Mathematics Education*, 5, 533-556.
34. Modestou, M., & Gagatsis, A. (2007). Students' improper proportional reasoning: A result of the epistemological obstacle of "linearity". *Educational Psychology*, 27(1), 75-92.
35. Modestou, M., & Gagatsis, A. (2007). Le difficoltà degli studenti nel ragionamento proporzionale costituiscono un ostacolo didattico, di sviluppo o epistemologico? *La matematica e la sua didattica*, 21(2), 143-162.
36. Gagatsis, A., Elia, I., & Mousoulides, N. (2006). Are registers of representations and problem solving processes on functions compartmentalized in students' thinking? *Revista Latinoamericana de Educacion Matematica, Special Volume*, 105-132.
37. Gagatsis, A., Sriraman, B., Elia, I., & Modestou, M. (2006). Exploring young children's geometrical strategies. *Nordic Studies in Mathematics Education*, 11(2), 23-50.
38. Elia, I., Gagatsis, A., & Gras, R. (2006). La « magie » et le pouvoir de l'image pour les petits enfants : application dans la résolution des problèmes du type additif. *Scientia Paedagogica Experimentalis*, 43, 89-114.
39. Panaoura, A., Elia, I., Gagatsis, A., & Giatilis, G.P. (2006). Geometric and algebraic approaches in the concept of complex numbers. *International Journal of Mathematical Education in Science and Technology*, 37(6), 681-706.
40. Panaoura, G., & Gagatsis, A. (2006). Confronto di risultati nel problem solving geometrico nel caso di studenti di scuola primaria e di scuola secondaria. *La matematica e la sua didattica*, 20(3), 425-441.
41. Xistouri, X., Pitta-Pantazi, D., & Gagatsis, A. (2006). A dyslexic child's mental representations and strategies in elementary arithmetic. *Curriculum and Teaching*, 21(1), 71-94.

42. Gagatsis, A., & Elia, I. (2005). Il concetto di funzione e le sue rappresentazioni nell'educazione secondaria. *Bollettino dei Docenti di Matematica*, 50, 41-54.
43. Anastasiadou, S., Gagatsis, A., & Elia, I. (2005). The relation between the perceived math ability and the feelings about mathematics and statistics. *Scientia Paedagogica Experimentalis*, 42, 351-364.
44. Michaelidou, E., & Gagatsis, A. (2005). The geometrical model of number line as a representation of equivalence and addition of fractions. *Scientia Paedagogica Experimentalis*, 42, 185-204.
45. Shiakalli, M., & Gagatsis, A. (2005). The geometrical model of the number line in the teaching of whole number addition and subtraction. *Scientia Paedagogica Experimentalis*, 42, 167-184.
46. Gagatsis, A., Christou, C., & Elia, I. (2004). The nature of multiple representations in developing mathematical relationships. *Quaderni di Ricerca in Didattica*, 14, 150-159.
47. Gagatsis, A., Kyriakides, L., & Panaoura, A. (2004). Assessing the cross-cultural applicability of number line in conducting arithmetic operations using structural equation modeling: A comparative study between Cypriot, Italian and Greek primary pupils. *World Studies in Education*, 5(1), 85-101.
48. Gagatsis, A., & Shiakalli, M. (2004). Translation ability from one representation of the concept of function to another and mathematical problem solving. *Educational Psychology, An International Journal of Experimental Educational Psychology*, 24(5), 645-657.
49. Theodoulou, R., Gagatsis, A., & Theodoulou A. (2004). Un'immagine vale più di mille parole...Ma che tipo di immagine risulta più efficace nelle attività di problem solving matematico degli studenti? *La matematica e la sua didattica*, 2, 4-32.
50. Gagatsis, A., Shiakalli, M., & Panaoura, A. (2003). La droite arithmétique comme modèle géométrique de l'addition et de la soustraction des nombres entiers. *Annales de didactique et de sciences cognitives*, 8, 95-112.
51. Elia, I., & Gagatsis, A. (2003). Young Children's Understanding of Geometric Shapes: The Role of Geometric Models. *European Early Childhood Education Research Journal*, 11(2), 43-65.
52. Koutselini, M., & Gagatsis, A. (2003). Curriculum Development for Differentiation in Mathematics. *World Studies in Education*, 4(1), 45-65.
53. Kyriakides, L., & Gagatsis, A. (2003). Assessing Student Problem-Solving Skills. *Structural Equation Modeling: A Multidisciplinary Journal*, 10(4), 609-621.
54. Markou, A., & Gagatsis, A. (2003). Rappresentazioni e apprendimento matematico: applicazioni nel campo delle frazioni. *La matematica e la sua didattica*, 2, 124-138.
55. Gagatsis, A., & Christou, C. (2002). The structure of translations among representations in functions. *Scientia Paedagogica Experimentalis*, 39(1), 39-58.
56. Gagatsis, A., Elia, I., & Mougi, A. (2002). The nature of multiple representations in developing mathematical relations. *Scientia Paedagogica Experimentalis*, 39(1) 9-24.
57. Gagatsis, A., & Michaelidou, E. (2002). Le relazioni tra le diverse rappresentazioni del concetto di funzione e la comprensione del concetto stesso. Una ricerca riferita a gli studenti della scuola secondaria superiore. *La matematica e la sua didattica*, 4, 411-429.
58. Christou, C., Gagatsis, A., & Zachariadis, T. (2002). The Difficulty Level of Representations in Mathematical Relationships. *Scientia Paedagogica Experimentalis*, 39(1), 25-38.

59. Gagatsis, A., & Demetriadou, H. (2001). Classical versus vector geometry in problem solving: An empirical research among Greek secondary students. *International Journal of Mathematical Education in Sciences and Technology*, 32(1), 105-125.
60. Gagatsis, A., & Pitta-Pantazi, D. (2001). Difficoltà di apprendimento in aritmetica: Esame di un caso. *La matematica e la sua didattica*, 1, 57-74.
61. Pitta-Pantazi, D., & Gagatsis, A. (2001). Exploring a high achiever's and a low achiever's strategies and images in early number arithmetic. *Early Child Development and Care*, 166, 63-79.
62. Gagatsis, A. (2000). Processi di traduzione ed il concetto di funzione. *Quaderni di Ricerca in Didattica, G.R.I.M.*, 9, 1-24.
63. Gagatsis, A., & Christou, C. (2000). Investigating students' understanding of multiplication and division by analysing their textual Eigne productions. *Scientia Paedagogica Experimentalis*, 37(2), 219-240.
64. Gagatsis, A., & Kyriakides, L. (2000). Teachers' attitudes towards their pupils' mathematical errors. *Educational Research and Evaluation*, 6(1), 24-58.
65. Gagatsis, A., & Panaoura, G. (2000). Rappresentazioni semiotiche e apprendimento in matematica. Un esempio: la linea aritmetica. *Bolletino dei Docenti di Matematica*, 41, 25-58.
66. Christou, C., Gagatsis, A., & Panaoura, A. (2000). Analisi di una ricerca sulla moltiplicazione e divisione per mezzo del metodo implicativo di Regis Gras. *La matematica e la sua didattica*, 3, 292 – 303.
67. Kyriakides, L., Campbell, J., & Gagatsis, A. (2000). The significance of the classroom effect in primary schools: An application of Cremer's comprehensive model of educational effectiveness. *School effectiveness and School Improvement*, 11(4), 501-529.
68. Gagatsis, A. (1999). Communicative interaction situations between children with symptoms of dyslexia constructing geometrical figures. *Early Child Development and Care*, 151, 29-40.
69. Gagatsis, A., Demetriou A., Afantiti, T., Michaelidou, E., Panaoura, R., Shiakalli, M., & Christoforides, M. (1999). L' influenza delle rappresentazioni semiotiche nella risoluzione di problemi additivi. *La matematica e la sua didattica*, 3, 382-403.
70. Gagatsis, A., Ganchev, I., & Lalchev, Z. (1999). The influence of Greek mathematics teaching on mathematical culture of Bulgarians during 18th-19th century. *Pedagogika*, 5, 103-110 (in Bulgarian).
71. Gagatsis, A., Patronis, T., & Spanos, D. (1999). Readability formulae and semantic width of terms and expressions. *Scientia Paedagogica Experimentalis*, 36(2), 207-223.
72. Gagatsis, A. (1998). Solving methods in problems of proportions by Greek students in secondary education, ages 13-16. *Scientia Paedagogica Experimentalis*, 35(1), 241-262.
73. Gagatsis, A. (1997). Problemi di Interpretazione Connessi Con il Concetto di Funzione. *La matematica e la sua didattica*, 4, 400-425.
74. Gagatsis A., Anastasiadou S., & Bora-Senta E. (1997). Errori commessi da studenti greci di Matematica in questioni di probabilità. *Bolletino dei Docenti di Matematica*, 35, 87-102.
75. Gagatsis, A., & Christou, C. (1997). Errors in Mathematics: A multidimensional approach. *Scientia Paedagogica Experimentalis*, 34, 89-116.
76. Dimarakis, I., & Gagatsis, A. (1997). Alcune difficoltà nella comprensione del concetto di limite. *La matematica e la sua didattica*, 2, 132-149.



77. Gagatsis, A., Lambis, St., & Ntziachristos, E. (1996). Metodi risolutivi per i problemi di proporzionalit  impiegati dagli studenti greci nella scuola secondaria. *La matematica e la sua didattica*, 3, 270 - 281.
78. Gagatsis, A. (1995). Modi di valutazione della leggibilit  dei testi matematici. *La matematica e la sua didattica* 2, 136 - 146.
79. Gagatsis, A., & Thomaidis, I. (1995). Eine Studie zur historischen Entwicklung und didaktischen Transposition des Begriffs "absoluter Betrag". *Journal f r Mathematik-Didaktik*, 16, 3 - 46.
80. Demetriadou, H., & Gagatsis, A. (1995). Problemi di insegnamento del concetto di vettore in Grecia. *La matematica e la sua didattica*, 16-32.
81. Gagatsis, A. (1994). Mathematics Textbooks: Tendencies and problems. *Matematika et Informatika*, 2, 9-15 (in Bulgarian).
82. Gagatsis, A. (1994). The theory of additive structures of G rard Vergnaud. *L'Education Primaire* 5, 52-61 (in Bulgarian).
83. Gagatsis, A. (1994). Histoire dell'enseignement de la g om trie en Gr ce: L'influence des g om tres fran ais de 1830   1884. *Rep res IREM*, 17, 47-69.
84. Patronis, T., Spanos, D., & Gagatsis, A. (1994). A notion of semantic distance between terms and expressions and its application in the case of mathematical terms used in the classroom. *International Journal of Mathematical Education in Science and Technology*, 25(1), 31-43.
85. Gagatsis, A. (1993). Su alcuni problemi dell'insegnamento della geometria in Grecia: un esempio: la simmetria ortogonale. *La matematica e la sua didattica*, 3, 244-260 (in Italian).
86. Gagatsis, A. (1992). The age of the captain and the errors in Mathematics: on some concepts and methods of Didactics of Mathematics. *Matematika*, 4, 7-9 (in Bulgarian).
87. Gagatsis, A., & Kaldrimidou, M. (1991). R sum  des Actes du Symposium en Didactique des Math matiques. *Cahiers de Didactique des Math matiques*, 9, Thessaloniki, 11-33 and 101-124 (in Greek and French).
88. Gagatsis, A. (1990). R sum  des Actes de la Premi re Rencontre Europ enne en Didactique des Math matiques. *Cahiers de Didactique des Math matiques*, 5, Thessaloniki, 1-47 (in Greek and French).
89. Gagatsis, A., & Patronis, T. (1990). Utilisation des mod les g om triques dans l'enseignement des Math matiques. *Cahiers de Didactique des Math matiques*, 6, Thessaloniki, 55-71 and 131-149 (in Greek and French).
90. Gagatsis, A., & Patronis, T. (1990). Using geometrical models in a process of reflective thinking in learning and teaching mathematics. *Educational Studies in Mathematics*, 21(1), 29-54.
91. Gagatsis, A., & Patronis, T. (1990). Understanding of mathematical texts: Cloze test - Readability formulae. *Scientia Paedagogica Experimentalis XXVII* (2), 251-265.
92. Gagatsis, A. (1988). Teaching of Mathematics with "open problems. *Cahiers de Didactique des Math matiques* 1, Thessaloniki, 26-28 and 64-67 (in Greek and French).
93. Duval, R., Gagatsis, A., & Pluinage, F. (1987). Evaluation multimensionnelle de l'activit  de lecture. *Scientia Paedagogica Experimentalis*, XIV (1).
94. Gagatsis, A. (1985). Questions soulev es par le test de closure. *Revue Fran aise de P dagogie*, 70, 41-50.
95. Gagatsis, A. (1984). Pr alables   une mesure de la compr hension. *Recherches en Didactique des Math matiques*, 5(1), 43-80.

96. Gagatsis, A., & Chaney, E. (1983). Le test de closure testé en classe. *L'Ouvert*, 32, 21-33.
97. Gagatsis, A. (1983). Ont-ils compris? *L'Ouvert*, 30, 17-25.

○ **Books**

**Authorship**

**In Greek**

98. Gagatsis, A., Deliyianni, E., Elia, I., Monoyiou, A., & Panaoura, A. (2009). *Experimental Didactics of Mathematics: Concepts-Methods-Researches*. Nicosia: University of Cyprus, School of Social Sciences and Sciences of Education (in Greek).
99. Gagatsis, A., Deliyianni, E., Elia, I., Monoyiou, A., & Panaoura, A. (2008). *Learning problems in mathematics at the transition from elementary to secondary education: Fractions- Decimals- Geometry*. Nicosia: University of Cyprus, School of Social Sciences and Sciences of Education (in Greek).
100. Panaoura, R., Demetriou, A., & Gagatsis, A. (2007). *Development of problem solving ability and the self regulation of cognitive behavior*. Nicosia: University of Cyprus, Cyprus Research Promotion Foundation (in Greek).
101. Elia, I., & Gagatsis, A. (2004). *Pictures in problem solving: Facilitator or obstacle?* Nicosia: University of Cyprus, Cyprus Research Promotion Foundation (in Greek).
102. Gagatsis, A., Michaelidou, E., & Shiakalli, M. (2001). *Theories on Representations and Learning of Mathematics*. Nicosia: ERASMUS IP1 (in Greek).
103. Gagatsis, A., Michaelidou, E., & Shiakalli, M. (2000). *Functions: A game of translations between representations*. Nicosia: ERASMUS IP1 (in Greek).
104. Gagatsis, A. (1997). *Didactics of Mathematics and Dyslexia*. Nicosia: Ofeltis (in Greek).
105. Gagatsis, A. (1994). *Didactics of Mathematics. Theory and Research*. Thessaloniki: Art of text (in Greek).
106. Gagatsis, A. (1993). *Elements on History of Mathematics Education*. Thessaloniki: Aristotle University (in Greek).
107. Gagatsis, A. (1991). *Topics on Didactics of Mathematics*. Thessaloniki: Kyriakides publications (in Greek).
108. Gagatsis, A. (1985). *Mathematics for the Pre-school age*. Thessaloniki: Aristotle University (in Greek).
109. Gagatsis, A. (1985). *Evaluation of Understanding of Mathematical Texts*. Thessaloniki: Aristotle University (in Greek).

**In English, French and Italian**

110. Gagatsis, A. (2003). *Comprensione e apprendimento in Matematica - Un approccio multidimensionale*. Bologna: Pitagora Editrice Bologna.

111. Gagatsis, A. (1999). *Come misurare la leggibilità dei testi matematici*. Bologna: Pitagora Editrice - Grupo Editorial Iberoamerica.
112. Duval, R., Gagatsis, A., & Pluvineau, F. (1984). Evaluation multimensionnelle de l'activité de lecture. Strasbourg: IREM - Université Louis Pasteur (University publication).
113. Gagatsis, A. (1982). Discrimination des scores au test de closure et évaluation de la compréhension des textes mathématiques. (Thèse de Doctorat). Strasbourg: IREM - Université Louis Pasteur (University publication).
114. Gagatsis, A. (1980). *Le test de closure et mesure de la compréhension de textes mathématiques*. Strasbourg: IREM - Université Louis Pasteur (University publication).

○ **Edited Books- Conference Proceedings**

**In Greek**

115. Gagatsis, A., Philippou, A., Damianou, P., & Avgerinos, E. (Eds.) (2009). *Proceedings of the 11<sup>th</sup> Cypriot Conference on Mathematics Education*. Nicosia: Cyprus Mathematical Society (in Greek).
116. Gagatsis A. (Ed.) (2008). *The psychology today: Recent research and perspectives*. Nicosia: University of Cyprus, School of Social Sciences and Sciences of Education (in Greek).
117. Gagatsis, A., Damianou, P., & Philippou, A. (Eds.) (2008). *Proceedings of the 10<sup>th</sup> Cypriot Conference on Mathematics Education*. Nicosia: Cyprus Mathematical Society (in Greek).
118. Gagatsis A. (Ed.) (2007). *Learning problems in mathematics at the transition from elementary to secondary education*. Nicosia: University of Cyprus (in Greek).
119. Gagatsis, A., Elia, I., & Lemonides, Ch. (Eds.) (2007). *Proceedings of the 9<sup>th</sup> Cypriot Conference on Mathematics Education*. Nicosia: Cyprus Mathematical Society (in Greek).
120. Gagatsis, A., Elia, I., Kousiappas, A., Modestou, M., Mousoulides, N., & Pittalis, M. (Eds.) (2006). *Contemporary research in mathematics education*. Nicosia: University of Cyprus (in Greek).
121. Phtiaka, E., Gagatsis, A., Elia, I., Kousiappas, A., Modestou, M., Mousoulides, N., & Pittalis, M. (Eds.) (2006). *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (CD-ROM). Nicosia: University of Cyprus (in Greek).
122. Gagatsis, A., Panaoura, A., & Damianou, P. (Eds.). (2006) *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space*. Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
123. Gagatsis, A. (Ed.) (2004). *Contemporary Trends in the Didactics of Mathematics*. Nicosia: UNESCO, Ministry of Education and Culture, University of Cyprus (in Greek).
124. Makrides, Gr., Gagatsis, A., Damianou, P., Christou, C., Petrou, P., & Philippou, A. (Eds.) (2004). *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space*. Nicosia: Cyprus Mathematical Society (in Greek).
125. Gagatsis, A., Evangelidou, A., Elia, I., & Spyrou, P. (Eds.) (2004). *Representations and Learning in Mathematics* (Vol. 1-2). Nicosia: Intercollege Press (in Greek).
126. Gagatsis, A., Evangelidou, A., Phtiaka, E., Kyriakides, L., Tsangaridou, N., & Koutsoulis, M. (Eds.) (2004). *Proceedings of the VIII Conference of the Pedagogical Society in Cyprus: Contemporary Trends in Educational Research and Practice*. Nicosia: Cypriot Pedagogical Society (in Greek).

127. Gagatsis, A., Philippou, A., Pitta, D., & Spyrou, P. (Eds.) (2004). *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space*. Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
128. Gagatsis, A., & Elia, I. (Eds.) (2003). *Representations and Geometrical Models in the Learning of Mathematics* (Vol. 1-2). Nicosia: Intercollege Press (in Greek).
129. Gagatsis, A., Kyriakides, L., Tsangaridou, N., Phtiaka, E., & Koutsoulis, M. (Eds.). (2002). *Proceedings of the VII Conference of the Pedagogical Society in Cyprus: Educational Research in the Age of Globalization*. Nicosia: Cypriot Pedagogical Society (in Greek).
130. Gagatsis, A., & Makrides, G. (Eds.) (2002). *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space*. Nicosia: Cyprus Mathematical Society (in Greek).
131. Makrides, G., & Gagatsis, A. (Eds.) (2001). *Proceedings of the 4<sup>th</sup> Cypriot Conference on Mathematics Education and Symposium of Astronautics and Space*. Nicosia: Cyprus Mathematical Society (in Greek).

#### **In English, French German and Italian**

132. Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (2009). *Cyprus and France Research in Mathematics Education*. Lefkosia: University of Cyprus.
133. Gagatsis, A., & Grozdev, S. (2009). *Proceedings of the 6<sup>th</sup> Mediterranean Conference on Mathematics Education*. Plovdiv, Bulgaria: Cyprus Mathematical Society, University of Plovdiv.
134. Gagatsis A. (Ed.) (2008). *Research in Mathematics Education*. Nicosia: University of Cyprus.
135. Avgerinos, E., & Gagatsis, A. (2007). *Proceedings of the 5<sup>th</sup> Mediterranean Conference on Mathematics Education*. Athens: Aegean University.
136. Gagatsis, A., Spagnolo, F., Makrides, Gr., & Farmaki, V. (Eds.) (2005). *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education*. Palermo, Italy: University of Palermo, Cyprus Mathematical Society, MATHEU Project.
137. De Bock, D., Isoda, M., Garcia Cruz, J. A., Gagatsis, A., & Simmt, E. (Eds.) (2004). *Proceedings of 10th International Congress on Mathematical Education-Topic Study Group 2: New Developments and Trends in Secondary Mathematics Education*. Copenhagen: ICME-10.
138. Makrides, Gr., Gagatsis, A., & Nicolaou, K. (Eds.) (2004). *Proceedings of the CASTME International and CASTME Europe Conference: Linking Science, Mathematics and Technology Education and their social relevance*. Nicosia: Cyprus Mathematical Society.
139. Gagatsis, A., & Papastavrides, S. (Eds.) (2003). *Proceedings of the Third Mediterranean Conference on Mathematics Education*. Athens: Greek Mathematical Society.
140. Gagatsis, A. (Guest Editor) (2002). *Scientia Paedagogica Experimentalis: The role of representations in the learning of Mathematics*, 39(1).
141. Gagatsis, A. (Ed.) (2001). *Learning in Mathematics and Science and Educational Technology*. Nicosia: Intercollege Press.
142. Gagatsis, A., Constantinou, C., & Kyriakides, L. (Eds.) (2000). *Learning and Assessment in Mathematics and Science*. Nicosia: ERASMUS IP1.
143. Gagatsis, A., & Makrides, G. (Eds.) (2000). *Proceedings of the Second Mediterranean Conference on Mathematics Education*. Nicosia: Cyprus Mathematical Society.

144. Gagatsis, A. (Ed.) (1999). *A multidimensional approach to learning in Mathematics and Sciences*. Nicosia: Intercollege Press.
145. Gagatsis, A. (Guest Editor) (1998). *Scientia Paedagogica Experimentalis: Mathematics Education*, 35(1).
146. D'Amore, B., & Gagatsis, A. (Eds.) (1997). *Didactics of Mathematics - Technology in Education*. Thessaloniki: Art of text.
147. Gagatsis A., & Rogers, L. (Eds.) (1996). *Didactics and History of Mathematics*. Thessaloniki: Art of text.
148. Gagatsis, A., & Maier, H. (Eds.) (1996). *Texte zur Didaktik der Mathematik*. Regensburg: ERASMUS.
149. Gagatsis, A. (Ed.) (1995). *Didactics and History of Mathematics*. Thessaloniki: Art of text.
150. Gagatsis, A. (Ed.) (1994). *Histoire et enseignement des Mathématiques*. Thessaloniki: Institut Français de Thessalonique.
151. Gagatsis, A. (Ed.) (1994). *Didactics of Mathematics*. Thessaloniki: Art of text.
152. Gagatsis, A. (Ed.) (1993). *Didactics of Mathematics*. Thessaloniki: Art of text.
153. Gagatsis, A. (Ed.) (1992). *Topics on Didactics of Mathematics*. Thessaloniki: Art of text.

○ **Chapters in Books**

**In Greek**

154. Gagatsis, A. (in press). A picture really worth a thousand of words? The role of representations in the learning and teaching of Mathematics. *YearBook of the Pedagogical School of the University of Western Macedonia* (in Greek).
155. Gagatsis, A., & Modestou, M. (2006). A framework of interpreting and confronting the phenomenon of the illusion of linearity. In A. Trilianou, G. Dimakou, I. Keke, E. Fyrippi, K. Fasouli, E. Mylonakou-Keke & Th. Babali (Eds.), *Acknowledgment: Honorary dedication to Professor Theodoros G. Exarchakos* (pp. 176-204). Athens: National and Capodistrian University of Athens (in Greek).
156. Gagatsis, A. (2004). Representations and proportional problem solving by secondary school students in Greece and Cyprus. In A. Gagatsis (Ed.), *Contemporary Trends in the Didactics of Mathematics* (pp. 159-175). Nicosia: UNESCO, Ministry of Education and Culture, University of Cyprus (in Greek).
157. Gagatsis, A., & Andronicou, E. (2004). The effect of pictures in solving division problems. In A. Gagatsis (Ed.), *Contemporary Trends in the Didactics of Mathematics* (pp. 83-97). Nicosia: UNESCO, Ministry of Education and Culture, University of Cyprus (in Greek).
158. Gagatsis, A., Elia, I., Rousou-Michaelidou, P., & Tsakiri, M. (2004). The effect of pictures on solving addition and subtraction problems. In A. Gagatsis (Ed.), *Contemporary Trends in the Didactics of Mathematics* (pp. 17-62). Nicosia: UNESCO, Ministry of Education and Culture, University of Cyprus (in Greek).
159. Gagatsis, A., & Markou, A. (2004). The effect of pictures in solving non-realistic problems. In A. Gagatsis (Ed.), *Contemporary Trends in the Didactics of Mathematics* (pp. 125-138). Nicosia: UNESCO, Ministry of Education and Culture, University of Cyprus (in Greek).
160. Gagatsis, A., & Modestou, M. (2004). Proportionality or pseudoproportionality: Gymnasium students' difficulties in identifying them. In A. Gagatsis (Ed.), *Contemporary Trends in the*

- Didactics of Mathematics* (pp. 139-158). Nicosia: UNESCO, Ministry of Education and Culture, University of Cyprus (in Greek).
161. Gagatsis, A., & Modestou, M. (2004). The effect of pictures on solving multiplication problems. In A. Gagatsis (Ed.), *Contemporary Trends in the Didactics of Mathematics* (pp. 63-81). Nicosia: UNESCO, Ministry of Education and Culture, University of Cyprus (in Greek).
  162. Gagatsis, A., & Pantziara, M. (2004). The use of diagrams in solving non-routine problems. In A. Gagatsis (Ed.), *Contemporary Trends in the Didactics of Mathematics* (pp. 99-122). Nicosia: UNESCO, Ministry of Education and Culture, University of Cyprus (in Greek).
  163. Gagatsis, A., Angelidi E., Gravvani, K., Karayiannakis, G., & Spyrou, P. (2004). Representations and their transformation by seventh grade students. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 355-366). Nicosia: Intercollege Press (in Greek).
  164. Gagatsis, A., & Deliyianni, E. (2004). Pictures, number line and solving problems of the four arithmetical operations: A comparative study. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 133-166). Nicosia Intercollege Press (in Greek).
  165. Gagatsis, A., Evangelidou, A., Ioannou, G., & Antoniou, S. (2004). The geometry of Legendre. In A. Gagatsis, A. Evangelidou, I. Elia, & P. Spyrou (Eds), *Representations and Learning in Mathematics, Vol. 2: Geometry* (pp.259-267). Nicosia: Intercollege Press (in Greek).
  166. Gagatsis, A., Spyrou, P., Evangelidou, A., & Elia, I. (2004). Conceptions of second year students of the Department of Education about function: Learning obstacles and changes after teaching intervention. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 303-354). Nicosia: Intercollege Press (in Greek).
  167. Gagatsis, A., Spyrou, P., Kapetanidou, Th., Patsiomitou, S., & Evangelidou, A. (2004). Representations of trigonometric functions and problem solving. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 367-386). Nicosia: Intercollege Press (in Greek).
  168. Gagatsis, A., Tsakiri, M., & Rousou-Michaelidou, P. (2004) How do sixth grade students define, recognize and represent the geometrical shapes of square, rectangle, parallelogram and triangle: A comparative study between Cypriot and Greek students. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds), *Representations and Learning in Mathematics, Vol. 2: Geometry* (pp.105-137). Nicosia: Intercollege Press (in Greek).
  169. Gagatsis, A., Zouvelos, D., Zoulinaki, F., Pansides, H., & Spyrou, P. (2004). Understanding of the ordering of numbers and the use of absolute value on the axis of real numbers. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 387-394). Nicosia: Intercollege Press (in Greek).
  170. Constantinou, R., Kaouri, Z., & Gagatsis, A. (2004). Discrete models of fractions in problem solving. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 215-234). Nicosia: Intercollege Press (in Greek).
  171. Deliyianni, E., & Gagatsis, A. (2004). The interaction of concept and picture in geometrical reasoning. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds), *Representations and Learning in Mathematics, Vol. 2: Geometry* (pp.3-20). Nicosia: Intercollege Press (in Greek).
  172. Elia, I., & Gagatsis, A. (2004). The use of the iconic, verbal and symbolic representation in problem solving: A new research approach. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou

- (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 91-132). Nicosia: Intercollege Press (in Greek).
173. Evangelou-Kouttouki, D., Athanasiou-Iona, G., & Gagatsis, A. (2004). The use of representations in the teaching of the concept of multiplication at second grade of primary school in Cyprus: The mathematics textbooks and students' performance. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 235-252). Nicosia: Intercollege Press (in Greek).
  174. Kyprianou, D., Hadjinicolaou, P., & Gagatsis, A. (2004). The use of representations in the teaching of the concept of multiplication at third grade of primary school in Cyprus: The mathematics textbooks and students' performance. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 253-268). Nicosia: Intercollege Press (in Greek).
  175. Modestou, M., & Gagatsis, A. (2004). Proportionality or pseudoproportionality: A longitudinal problem from "Menon" of Platon to the students in our day. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 2: Geometry* (pp. 141-162). Nicosia: Intercollege Press (in Greek).
  176. Panagidou, E., Tsianni, M., & Gagatsis, A. (2004). The role of didactical variables and perception of shape in the finding of the perimeter. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 2: Geometry* (pp.37-50). Nicosia: Intercollege Press (in Greek).
  177. Papadopoulos, Ch., Christodoulidou, Ch., & Gagatsis, A. (2004). Percentages, decimal numbers and their representations. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 181-194). Nicosia: Intercollege Press (in Greek).
  178. Papadopoulos, Ch., Christodoulidou, Ch., & Gagatsis, A. (2004). Sixth grade children's perceptions of angle. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 2: Geometry* (pp.73-88). Nicosia: Intercollege Press (in Greek).
  179. Spyrou, P., & Gagatsis, A. (2004). Function: Epistemological dimension and its didactic transposition. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 287-302). Nicosia: Intercollege Press (in Greek).
  180. Theodoulou, R., Gagatsis, A., & Theodoulou, A. (2004). The phenomenon of the illusion of linearity in solving verbal geometrical problems by sixth grade students and the role of diagrams. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 163-184). Nicosia: Intercollege Press (in Greek).
  181. Vourgias, Ch., Vourgia, S., & Gagatsis, A. (2004). Representations and learning of mathematical concepts: Application in decimal numbers. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 1: Problem solving, models and functions* (pp. 167-180). Nicosia: Intercollege Press (in Greek).
  182. Xistouri, X., Koukkoufis, A., Nicolaou, A., & Gagatsis, A. (2004). The nature of external representation in geometry and mathematical problem solving. In A. Gagatsis, A. Evangelidou, I. Elia & P. Spyrou (Eds.), *Representations and Learning in Mathematics, Vol. 2: Geometry* (pp.21-36). Nicosia: Intercollege Press (in Greek).
  183. Gagatsis, A., Elia, I., Tsakiri, M., & Michaelidou, P. (2003). The effect of pictures and number line on solving addition and subtraction problems by third grade students of primary school. In

- A. Gagatsis & I. Elia (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 13-50). Nicosia: Intercollege Press (in Greek).
184. Andreou, S., Neokleous, E., & Gagatsis, A. (2003). One-step problem representations and their transformation by fourth grade students. In A. Gagatsis & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 129-152). Nicosia: Intercollege Press (in Greek).
  185. Christoforides, M., Savva, A., & Gagatsis, A. (2003). Algebraic structure and representation form in the process of recognizing patterns. In A. Gagatsis & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 213-234). Nicosia: Intercollege Press (in Greek).
  186. Deliyianni, E., Gagatsis, A., & Koukkoufis, A. (2003). The effect of pictures in solving multiplication problems at third grade of primary school. In A. Gagatsis & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 87-104). Nicosia: Intercollege Press (in Greek).
  187. Markou, A., & Gagatsis, A. (2003). A theoretical classification of external systems of representation in the learning and understanding of mathematics. In A. Gagatsis & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 171-178). Nicosia: Intercollege Press (in Greek).
  188. Michaelidou, E., & Gagatsis, A. (2003). The use of the geometrical model of number line for the representation of equivalence and addition of fractions at the level of fifth grade students: A research proposal. In A. Gagatsis & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 2* (pp. 71-98). Nicosia: Intercollege Press (in Greek).
  189. Modestou, M., & Gagatsis, A. (2003). The use of representations in the teaching of the concept of multiplication at first grade of primary school in Cyprus: The mathematics textbooks and students' performance. In A. Gagatsis & I. Elia (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 261-278). Nicosia: Intercollege Press (in Greek).
  190. Mousoulides, N., & Gagatsis, A. (2003). Geometrical and algebraic solution approach in representations of functions. In A. Gagatsis & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 311-344). Nicosia: Intercollege Press (in Greek).
  191. Panaoura, G., & Gagatsis, A. (2003). From three-dimensional space to the space of two dimensions. The representations of geometrical shapes. In A. Gagatsis & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 2* (pp. 153-178). Nicosia: Intercollege Press (in Greek).
  192. Shiakalli, M., & Gagatsis, A. (2003). The use of the geometrical model of number line for the teaching of addition and subtraction at first and second grade students: A research proposal. In A. Gagatsis & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 2* (pp. 39-70). Nicosia: Intercollege Press (in Greek).
  193. Theodoulou, R., Gagatsis, A., & Theodoulou, A. (2003). Are pictures always a facilitator in mathematical problem solving? In A. Gagatsis, & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 67-86). Nicosia: Intercollege Press (in Greek).
  194. Theodoulou, A., Gagatsis, A., & Theodoulou, R. (2003). The predominance of the linear model in solving non-proportional geometrical problems and the role of diagrams. In A. Gagatsis, & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 2* (pp. 215-232). Nicosia: Intercollege Press (in Greek).



195. Xistouri, X., Pitta, D., & Gagatsis, A. (2003). Mental representations and arithmetic strategies of children with symptoms of dyslexia. In A. Gagatsis, & I. Elia, (Eds.), *Representations and Geometrical Models in the Learning of Mathematics: Vol. 1* (pp. 195-212). Nicosia: Intercollege Press (in Greek).

### **In English, French, Italian and German**

196. Deliyianni, E., Elia, I., Panaoura A., & Gagatsis, A. (2009). Tracing students' representational flexibility profiles in decimals. In Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (Eds). *Cyprus and France Research in Mathematics Education* (pp. 189-198). Lefkosia: University of Cyprus.
197. Gagatsis, A., Deliyianni, E., Elia I., & Panaoura A. (2009). The functioning of representations in mathematics education with respect to the shift from elementary to secondary education. In Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (Eds). *Cyprus and France Research in Mathematics Education* (pp. 199-222). Lefkosia: University of Cyprus.
198. Kalogirou, P., Elia, I., & Gagatsis A. (2009). Spatial Ability and Geometrical Figure Understanding. In Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (Eds). *Cyprus and France Research in Mathematics Education* (pp. 105-118). Lefkosia: University of Cyprus.
199. Michael, P., Gagatsis, A., Deliyianni, E., Monoyiou A., & Philippou, A. (2009). The Functioning of Geometrical Figures in Cypriot Geometry Textbooks. In Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (Eds). *Cyprus and France Research in Mathematics Education* (pp. 91-104). Lefkosia: University of Cyprus.
200. Modestou, M., & Gagatsis, A. (2009). Proportional Reasoning Reformed. In Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (Eds). *Cyprus and France Research in Mathematics Education* (pp. 19-34). Lefkosia: University of Cyprus.
201. Monoyiou, A., & Gagatsis, A. (2009). A Five-Dimensional Model for the Understanding of Function. In Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (Eds). *Cyprus and France Research in Mathematics Education* (pp. 223-232). Lefkosia: University of Cyprus.
202. Philippou, A., Gagatsis, A., Timotheou, S., Christofia-Palatou M., & Elia, I. (2009). Cognitive Style and Differentiation of Teaching Mathematics. In Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (Eds). *Cyprus and France Research in Mathematics Education* (pp. 235-244). Lefkosia: University of Cyprus.
203. Philippou, A., Gagatsis, A., Timotheou, S., & Dialeraki E. (2009). Development of Creativity in Mathematics. In Gagatsis, A., Kuzniak, A., Deliyianni, E., & Vivier, L. (Eds). *Cyprus and France Research in Mathematics Education* (pp. 245-264). Lefkosia: University of Cyprus.
204. Gagatsis, A. (2008). Distribution of Men and Women at the University of Cyprus. In M. Chionidou-Moskofoglou, A. Blunk, R. Siemprinska, Y. Solomon & R. Tanzberger (Eds.), *Future Learning, Promoting Equity in Maths Achievement*, Vol. 4 (pp. 177- 182). Universitat de Barcelona.
205. Elia, I., & Gagatsis, A. (2008). A comparison between the hierarchical clustering of variables, implicative statistical analysis and confirmatory factor analysis. In R. Gras, E. Suzuki, F. Guillet, & F. Spagnolo (Eds.), *Studies in Computational Intelligence 127: Statistical Implicative Analysis* (pp. 131-163). Heidelberg: Springer-Verlag.
206. Agathangelou, S., Gagatsis, A., & Papakosta, V. (2008). The role of verbal description, representational and decorative picture in mathematical problem solving. In A. Gagatsis (Ed.), *Research in Mathematics Education* (pp. 39-56). Nicosia: University of Cyprus.

207. Deliyianni, E., Elia, I., Gagatsis, A., & Panaoura, A. (2008). The structure of fraction addition understanding: A comparison between the hierarchical clustering of variables, implicative statistical analysis and confirmatory factor analysis. In A. Gagatsis (Ed.), *Research in Mathematics Education* (pp. 23-38). Nicosia: University of Cyprus.
208. Menelaou, A., Gagatsis, A., & Sergios, S. (2008). Fractions, decimal numbers and their representations: A research in 5<sup>th</sup> and 6<sup>th</sup> grade of elementary school. In A. Gagatsis (Ed.), *Research in Mathematics Education* (pp. 85-98). Nicosia: University of Cyprus.
209. Modestou, M., & Gagatsis, A. (2008). Proportional reasoning in elementary and secondary education: Moving beyond the percentages. In A. Gagatsis (Ed.), *Research in Mathematics Education* (pp. 147-162). Nicosia: University of Cyprus.
210. Monoyiou, A., & Gagatsis, A. (2008). The stability of students' approaches in function problem solving: A coordinated and an algebraic approach. In A. Gagatsis (Ed.), *Research in Mathematics Education* (pp. 3-12). Nicosia: University of Cyprus.
211. Panaoura, G., & Gagatsis, A. (2008). Spatial abilities in relation to performance in items involving net-representations of geometrical solids. In A. Gagatsis (Ed.), *Research in Mathematics Education* (pp. 101-114). Nicosia: University of Cyprus.
212. Panaoura, G., & Gagatsis, A. (2008). Investigating the structures of students' geometrical performance. In A. Gagatsis (Ed.), *Research in Mathematics Education* (pp. 131-144). Nicosia: University of Cyprus.
213. Sophocleous, P., Michael, E., & Gagatsis, A. (2008). Students' motivational beliefs, metacognitive strategies and the ability to solve volume problems in different representations. In A. Gagatsis (Ed.), *Research in Mathematics Education* (pp. 115-130). Nicosia: University of Cyprus.
214. Gagatsis, A. (2003). La formazione iniziale degli insegnanti di matematica a Cipro. In M. I. Fandino (Ed.), *Riflessioni sulla formazione iniziale degli insegnanti di matematica: una rassegna internazionale* (pp.105-114). Bologna: Pitagora Editrice Bologna.
215. Gagatsis, A. (2003). Rappresentazioni ed apprendimento della matematica: due facce della stessa medaglia? In B. D'Amore & S. Sbaragli. *La didattica della matematica in aula* (pp.41-53). Bologna: Pitagora Editrice Bologna.
216. Gagatsis, A., Hadjichristou, C., & Constantinou, C. P. (2001). The role of representations in gymnasium students understanding of sets and their operations. In A. Gagatsis (Ed.), *Learning in Mathematics and Science and Educational Technology: Vol. 1* (pp. 349-367). Nicosia: Intercollege Press.
217. Gagatsis, A., & Palechorou, C. (2001). Difficulties with additive structure problems and their representations. In A. Gagatsis (Ed.), *Learning in Mathematics and Science and Educational Technology: Vol. 1* (pp. 271 - 304). Nicosia: Intercollege Press.
218. Gagatsis, A., & Patronis, T. (2001). Geometrical models in mathematics and in mathematics teaching. In A. Gagatsis (Ed.), *Learning in Mathematics and Science and Educational Technology: Vol. 1* (pp. 333-336). Nicosia: Intercollege Press.
219. Pitta - Pantazi, D., & Gagatsis, A. (2001). Arithmetical understanding and mental representations of a child with dyslexic type symptoms. In A. Gagatsis (Ed.), *Learning in Mathematics and Science and Educational Technology: Vol. 1* (pp. 305 - 332). Nicosia: Intercollege Press.
220. Gagatsis, A., & Bagni, G. T. (2000). Classical versus vector and cartesian geometry in problem solving in Greece and in Italy. In A. Gagatsis, C. Constantinou & L. Kyriakides (Eds.), *Learning and Assessment in Mathematics and Science* (pp.171-196). Nicosia: ERASMUS IP1.

221. Gagatsis, A., Ganchev, I., & Lalchev, Z. (2000). The influence of Greek mathematics teaching on mathematical culture of Bulgarians during 18<sup>th</sup> - 19<sup>th</sup> century. In N. Terzis (Ed.), *Education in the Balkans: From the Enlightenment to the founding of the Nation-States, Education and Pedagogy in Balkan Countries: Vol. 2* (pp.359-368). Thessaloniki: Kyriakides.
222. Gagatsis, A., & Bagni, G. T. (1999). Euclid, Apollonios, Cavalieri: Historical references for an empirical educational research. In A. Gagatsis (Ed.), *A multidimensional approach to learning in mathematics and sciences* (pp. 195-216). Nicosia: Intercollege press.
223. Gagatsis, A., & Koutselini, M. (1999). Curriculum development as praxis and differentiation in practice: The case of mathematics. In A. Gagatsis (Ed.), *A multidimensional approach to learning in mathematics and sciences* (pp.107-122). Nicosia: Intercollege press.
224. Gagatsis, A., Kyriakides, L., & Savva, A. (1999). The comprehensive model of educational effectiveness tested by an evaluative research in primary mathematics: Implications for research on school effectiveness. In A. Gagatsis (Ed.), *A multidimensional approach to learning in mathematics and sciences* (pp. 469-490). Nicosia: Intercollege press.
225. Gagatsis, A., Anastasiadou, S., & Bora-Senta, E. (1997). Errors made by Greek students of Mathematics in probabilities. In B. D' Amore & A. Gagatsis (Eds.), *Didactics of Mathematics - Technology in Education* (pp. 47-65). Thessaloniki: Art of Text.
226. Gagatsis, A., & Lambis, S. (1997). The originality of students' solution: the case of proportion. In Br. D Amore & A. Gagatsis (Eds), *Didactics of Mathematics - Technology in Education* (pp. 67-94), Thessaloniki.
227. Gagatsis, A. (1996). Zum Verstehen mathematischer Begriffe - Beobachtungen zu den Begriffen "Funktion" und "Vektor" bei griechischen Schülern. In A. Gagatsis & H. Maier (Eds.), *Texte zur Didaktik der Mathematik* (pp. 36 – 57). Regensburg: ERASMUS-1995.
228. Gagatsis, A., & Dimarakis, I. (1996). The limit concept difficulties - obstacles of students' understanding. In A. Gagatsis & L. Rogers (Eds.), *Didactics and History of Mathematics* (pp. 89 – 118), Thessaloniki: ERASMUS ICP-95-G-2011/11.
229. Gagatsis, A., & Thomaidis, I. (1996). Eine studie zur historischen Entwicklung und didaktischen transposition des Begriffs "absoluter Betrag". In A. Gagatsis & H. Maier (Eds.), *Texte zur Didaktik der Mathematik* (pp. 153–200). Regensburg: ERASMUS.
230. Gagatsis, A., & Lambis, S. (1996). A research about the Greek pupils' errors at "Pierre and Robert" of G. Vergnaud' s problems. In A. Gagatsis & L. Rogers (Eds.), *Didactics and History of Mathematics* (pp. 83-88). Thessaloniki: ERASMUS ICP-95-G-2011/11
231. Demetriadou, H. & Gagatsis, A. (1996). On the History of the Concept of Vector and its Introduction in Elementary Geometry Textbooks. In A. Gagatsis & L. Rogers (Eds.), *Didactics and History of Mathematics* (pp. 371 – 403). Thessaloniki: ERASMUS ICP-95-G-2011/11.
232. Gagatsis, A. (1995). Modi di valutazione della leggibilità dei testi matematici. In B. Jannamorelli (Ed.), *Lingue e linguaggi nella pratica didattica* (pp. 21-32). Torre Dei Nolfi: Edizioni Qualenita.
233. Gagatsis, A., & Demetriadou, H. (1995). Comparison between the conceptions of Greek and Cypriot students related to the concept of vector. In A. Gagatsis (Ed.), *Didactics and History of Mathematics* (pp. 39 - 66, 443 – 474). Thessaloniki: ERASMUS 1994 (in Greek and English).
234. Gagatsis, A., & Kafidas, A. (1995). Errors of Greek primary school and College students on problems of proportion. In A Gagatsis (Ed.), *Didactics and History of Mathematics* (pp. 67 - 94, 475 – 502). Thessaloniki: ERASMUS 1994 (in Greek and English).

235. Asvesta, A., & Gagatsis, A. (1995). Problems of Interpretation related to the concept of function. In A. Gagatsis (Ed.), *Didactics and History of Mathematics* (pp. 17 - 38, 419 – 442). Thessaloniki: ERASMUS 1994 (in Greek and English).
236. Gagatsis, A. (1994). Quelques caractéristiques de l'enseignement de la Géométrie en Grèce de 1830 à 1884: L'influence des Géomètres français. In A. Gagatsis (Ed.), *Histoire et enseignement des Mathématiques* (pp. 37-52 and 165-176). Thessaloniki: Art of Text.
237. Gagatsis, A. (1994). Histoire de Mathématiques – Enseignement de Mathématiques. – Dimension Européene. In A. Gagatsis (Ed.), *Histoire et enseignement des Mathématiques* (pp. 21 - 36, 147 - 163). Thessaloniki: Art of Text (in Greek and French).
238. Gagatsis, A., & Demetriadou, H. (1994). Teaching and learning problems of the concept of vector in Greece. In A. Gagatsis (Ed.), *Didactics of Mathematics* (pp. 29-77 and 361-412). Thessaloniki: ERASMUS-ICP-93-G-2011/11 (in Greek and English).
239. Gagatsis, A., & Dinas, A. (1994). Conceptions of Greek pupils and teachers about axial symmetry. In A. Gagatsis (Ed.), *Didactics of Mathematics* (pp. 79-127 and 413-460). Thessaloniki: ERASMUS -ICP-93-G-2011/11 (in Greek and English).
240. Gagatsis, A., & Thomaidis, I. (1994). Une étude multidimensionnelle du concept de valeur absolue. In M. Artigue, C. Laborde & R. Gras (Eds.), *20 ans de Didactique des Mathématiques en France* (pp. 343-348). Grenoble: La Pensée Sauvage.
241. Gagatsis, A. (1993). Le test de closure. In A. Gagatsis (Ed.), *Didactics of Mathematics* (pp.23-40 and 341-360). Thessaloniki: Art of Text.
242. Gagatsis, A. (1992). Concepts and methods of didactics of mathematics - Relations between history and didactics of mathematics. In A. Gagatsis (Ed.), *Topics on Didactics of Mathematics* (pp. 11-21 and 145-170). Thessaloniki (in Greek and English).
243. Gagatsis, A. (1990). Sur certains problèmes sur l'enseignement de la Géométrie en Grèce: Un exemple, la symétrie orthogonale. In *Séminaire de Didactique des Mathématiques et de l'Informatique de Grenoble* (pp. 29-53). Grenoble: LSD-IMAG (University publication).
244. Gagatsis, A. (1980). La transmission de l'information et son application à deux manuels scolaires. In *Rapports et Diplomes de DEA en Didactique des Mathématiques* (pp. 81 - 128). Strasbourg: IREM - Université Louis Pasteur (University publication).

○ **Conference proceedings**

**In Greek**

245. Antoniou, Ch., Gagatsis, A., & Kalogirou, P. (2009). Students' attitudes and beliefs concerning decorative pictures in comparison problems. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 113-124). Nicosia: Cyprus Mathematical Society (in Greek).
246. Chrysostomou, M., Christoforou, E., & Gagatsis, A. (2009). Students' performance in solid geometry tasks and their grade in mathematics as a predictive factor. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 75-88). Nicosia: Cyprus Mathematical Society (in Greek).
247. Dalieraki-Koliva, E., Gagatsis, A., & Philippou, A. (2009). Historical and epistemological elements concerning the concept of function and tasks of drawing graphs. In A. Gagatsis, A.

- Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 497-514). Nicosia: Cyprus Mathematical Society (in Greek).
248. Deliyianni, E., Gagatsis, A., Dimakos, G., Elia, I., Panaoura, A., & Ambrazis, St. (2009). Multiple representations and the understanding of fraction addition of seventh graders in Cyprus and Greece. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 329-340). Nicosia: Cyprus Mathematical Society (in Greek).
  249. Demetriou, M., Michael, P., & Gagatsis, A. (2009). Dyslexic childrens' performance in solving problems with organizational picture. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 89-102). Nicosia: Cyprus Mathematical Society (in Greek).
  250. Efstathiou, X., Petridou, A., Gagatsis, A., & Kalogirou, P. (2009). The role of pictorial representations in fraction division. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 125-142). Nicosia: Cyprus Mathematical Society (in Greek).
  251. Evangelou, K., Tsimbimbaki, K., & Gagatsis, A. (2009). The role of representational pictures in the solution of multiplication problems. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 155-168). Nicosia: Cyprus Mathematical Society (in Greek).
  252. Gagatsis, A., Philippou, A., Timotheou, S., & Dalieraki, E. (2009). The development of creativity in mathematics. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 421-436). Nicosia: Cyprus Mathematical Society (in Greek).
  253. Gagatsis, A., Xatzimina, M., & Kalogirou, P. (2009). The operative understanding of geometrical figure of tenth and eleventh graders. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 389-402). Nicosia: Cyprus Mathematical Society (in Greek).
  254. Iakovou, E., Xatziantoni, A., Gagatsis, A., Aggelou, S., & Kalogirou, P. (2009). Middle and high school students' ability in handling symmetry tasks. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 311-328). Nicosia: Cyprus Mathematical Society (in Greek).
  255. Kagkoura, Th., Gagatsis, A., Monoyiou, A., & Elia, I. (2009). Unusual problem-solving and beliefs of primary and secondary school students in Greece toward Mathematics. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 445-468). Nicosia: Cyprus Mathematical Society (in Greek).
  256. Kalogirou, P., Sophocleous, P., & Gagatsis, A. (2009). Mental pictures of geometrical figures and creativity in geometry. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 59-74). Nicosia: Cyprus Mathematical Society (in Greek).
  257. Karanikkis, Ph., Kiprianou, N., Michael, A., & Gagatsis, A. (2009). Understanding of geometrical figure: a comparison of the performance of fifth and sixth graders. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 211-228). Nicosia: Cyprus Mathematical Society (in Greek).
  258. Kavouzi, I., Xenofontos, P., Elia, I., & Gagatsis, A. (2009). Strategies of geometrical figures transformations. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings*

of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science (pp. 197-210). Nicosia: Cyprus Mathematical Society (in Greek).

259. Kleovoulou, R., Moiseos, M., Gagatsis, A., & Christofia-Palatou, M., Elia, I. (2009). The role of decorative picture in solving combine additive problems. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 45-58). Nicosia: Cyprus Mathematical Society (in Greek).
260. Kousiappas, A., & Gagatsis, A. (2009). The understanding of charts and problem solving ability in statistics. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 33-44). Nicosia: Cyprus Mathematical Society (in Greek).
261. Michael, P., Gagatsis, A., Elia, I., Deliyianni, E., Monoyiou, A., & Kalogirou, P. (2009). Operative understanding of geometrical figures by sixth grade students. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 19-31). Nicosia: Cyprus Mathematical Society (in Greek).
262. Monoyiou, A., Gagatsis, A., Christofia-Palatou, M., & Elia, I. (2009). Teaching differentiation, cognitive styles and the concept of function. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 297-310). Nicosia: Cyprus Mathematical Society (in Greek).
263. Papageorgiou, E., & Gagatsis, A. (2009). Multiculturalism, points and the number concept. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 341-360). Nicosia: Cyprus Mathematical Society (in Greek).
264. Philippou, A., Gagatsis, A., Timotheou, S., Christofia-Palatou, M., & Elia, I. (2009). Cognitive styles and differentiation of mathematics instruction. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 411-420). Nicosia: Cyprus Mathematical Society (in Greek).
265. Traxilou, E., Christou, Z., & Gagatsis, A. (2009). Volume calculation strategies and the use of the computers. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 241-256). Nicosia: Cyprus Mathematical Society (in Greek).
266. Tsiakkouri, G., Gagatsis, A., & Kalogirou, P. (2009). The use of auxiliary-representational pictures in problem solving. In A. Gagatsis, A. Philippou, P. Damianou, & E. Avgerinos (Eds.), *Proceedings of the 11<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 229-240). Nicosia: Cyprus Mathematical Society (in Greek).
267. Ambrazis S., Deliyianni, E., Elia, I., & Spyrou, P. (2008). The affective domain and the use of multiple representations in fraction addition. In E. Ftiaka, S. Simenidou, & M. Socratous (Eds.), *Proceeding of the 10<sup>th</sup> Conference of Pedagogical Society in Cyprus- Quality in Education: Research and Teaching* (CD ROM): Nicosia: University of Cyprus (in Greek).
268. Christofia-Palatou M., Elia, I., & Gagatsis, A. (2008). Differentiation of teaching, cognitive styles and representations in mathematics. *Proceedings of the 25<sup>th</sup> Panhellenic Conference of Mathematics Education: The Mathematics Education and the composite reality of the 21<sup>st</sup> century* (pp. 840-855). Volos: Greek Mathematical Society- University of Thessaly (in Greek).
269. Deliyianni, E., Gagatsis, A., Ambrazis, S., Panaoura, A., Elia, I., Karanikkis, F., & Chrysostomou, M. (2008). The role of multiple representations in fraction addition understanding: Comparison between the Greek and Cypriot studnets' performance. In E. Ftiaka, S. Simenidou & M. Socratous (Eds.), *Proceeding of the 10<sup>th</sup> Conference of Pedagogical Society*

in Cyprus- *Quality in Education: Research and Teaching* (CD ROM): Nicosia: University of Cyprus (in Greek).

270. Gagatsis, A., Demetriadis, C., Elia, I., & Syrimi-Skitsa, Ch. (2008). Arithmetic and sets by P.L. Varnavidi. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 25-44). Nicosia: Cyprus Mathematical Society (in Greek).
271. Agathangelou, S., Papakosta, V., & Gagatsis, A. (2008). The impact of iconic representations in solving mathematical one-step problems of the additive structure by primary second grade pupils. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 283-298). Nicosia: Cyprus Mathematical Society (in Greek).
272. Chimoni, M., & Gagatsis, A. (2008). The development of algebraic thinking in primary school: didactical interventions and epistemological obstacles. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 359-370). Nicosia: Cyprus Mathematical Society (in Greek).
273. Christoforou, E., Chrysostomou, M., & Gagatsis, A. (2008). Is it possible to initiate the concept of variable in primary school using patterns? In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 315-330). Nicosia: Cyprus Mathematical Society (in Greek).
274. Dalieraki-Koliva, E., Gagatsis, A., & Giasoumi, N. (2008). Comments on a parabola lesson plan based on the results of researches in mathematics education. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 107-122). Nicosia: Cyprus Mathematical Society (in Greek).
275. Georgiou, M., Pylina, A., Toumazou, E., & Gagatsis, A. (2008). The role of representations in the understanding of sets and of their operations. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 155-168). Nicosia: Cyprus Mathematical Society (in Greek).
276. Iakovou, E., Seneki, M., Hatziantoni, A., Gagatsis, A., & Dalieraki-Koliva, E. (2008). Representations in statistics of seventh and eighth grade. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 197-212). Nicosia: Cyprus Mathematical Society (in Greek).
277. Karanikkis, F., Xatzipapas, G., & Gagatsis, A. (2008). The impact of iconic representations in solving multiplication problems by primary third grade pupils. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 331-344). Nicosia: Cyprus Mathematical Society (in Greek).
278. Kavouzi, I., Michael, A., Xenofontos, P., & Gagatsis, A. (2008). The role of representations in division problem solving of fractions. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 299-314). Nicosia: Cyprus Mathematical Society (in Greek).
279. Kleovoulou, A., Tsagaridou, N., Christofidou, Ch., & Gagatsis, A. (2008). The impact of iconic representations in solving mathematical problems of the additive structure. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 359-370). Nicosia: Cyprus Mathematical Society (in Greek).
280. Kousiappas, A., & Gagatsis, A. (2008). Treatment of multiple representations in the statistics of primary school. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 269-282). Nicosia: Cyprus Mathematical Society (in Greek).

281. Monoyiou, A., & Gagatsis, A. (2008). Flexible treatment of multiple representations in function problem solving. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 75-89). Nicosia: Cyprus Mathematical Society (in Greek).
282. Mousoulidou, M., Hatzigeorgiou, E., & Gagatsis, A. (2008). Teaching the concept of function in secondary education. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 91-106). Nicosia: Cyprus Mathematical Society (in Greek).
283. Philippou, A., & Gagatsis, A. (2008). Parametric equations in high school. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 123-136). Nicosia: Cyprus Mathematical Society (in Greek).
284. Traxilou, E., Christou, Z., & Gagatsis, A. (2008). Students' difficulties in the continuous and the discernible fractions' representation models. In A. Gagatsis, P. Damianou, & A. Philippou (Eds.), *Proceedings of the 10<sup>th</sup> Cyprus Conference on Mathematics Education and Science* (pp. 345-358). Nicosia: Cyprus Mathematical Society (in Greek).
285. Gagatsis, A., Demetriadis, C., Elia, I., & Syrimi-Skitsa, Ch. (2007). Geometry in Cyprus at the dawn of Democracy. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 111-122). Nicosia: Cyprus Mathematical Society (in Greek).
286. Gagatsis, A., Katalanou, S., & Elia, I. (2007). Mathematics teaching methods in elementary school in the early years of twentieth century in Cyprus. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 221-234). Nicosia: Cyprus Mathematical Society (in Greek).
287. Andronicou, E., & Gagatsis, A. (2007). Self-regulation and ability in representing and transforming problems of fractions' addition and subtraction. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 183-196). Nicosia: Cyprus Mathematical Society (in Greek).
288. Andronicou, E., & Gagatsis, A. (2007). Fifth grade students' conceptions of area through comparison tasks. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 263-276). Nicosia: Cyprus Mathematical Society (in Greek).
289. Constantinides, A., Constantinou, C., & Gagatsis, A. (2007). Interaction of concept and picture in Geometry. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 329-342). Nicosia: Cyprus Mathematical Society (in Greek).
290. Constantinou, C., Parisinos, M., Stylianou, M., & Gagatsis, A. (2007). Types of representations and fraction problem solving-Students' beliefs. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 207-220). Nicosia: Cyprus Mathematical Society (in Greek).
291. Herodotou, M., Ioannou, P., Kontoyianni, K., & Gagatsis, A. (2007). Self-efficacy and performance in statistics: The case of sixth and seventh grade. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 63-74). Nicosia: Cyprus Mathematical Society (in Greek).
292. Kapsalis, Ch., Tofarou, St., Fragkou, K., & Gagatsis, A. (2007). Pattern representations and emotions in Mathematics. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup>*



*Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 235-248). Nicosia: Cyprus Mathematical Society (in Greek).

293. Kyprou, Ch., Loizou, A., Parisinos, M., Charalambous, E., & Gagatsis, A (2007). The role of didactic variables and the perceptual conception of shape on the computation of area. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 249-263). Nicosia: Cyprus Mathematical Society (in Greek).
294. Kyriakou, M., Louka, P., Elia, I., & Gagatsis, A. (2007). Representations of quadratic functions and solution of quadratic equations, inequalities and systems by students of first grade of Lyceum. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 25-38). Nicosia: Cyprus Mathematical Society (in Greek).
295. Michael, S, Theoklitou, A., Elia, I., Gagatsis, A, & Michael, L. (2007). Development of algebraic thinking through an interpretation model of patterns in multiple representations. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 315-328). Nicosia: Cyprus Mathematical Society (in Greek).
296. Mousoulidou, M., Kousiappas, A., & Gagatsis, A. (2007). Relations between motivation beliefs and self-regulation strategies in the learning of mathematics. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 303-315). Nicosia: Cyprus Mathematical Society (in Greek).
297. Panaoura, A., Elia, I., Gagatsis, A., & Giatilis, G. (2007). The concept of complex numbers: Geometric and algebraic approach. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 13-24). Nicosia: Cyprus Mathematical Society (in Greek).
298. Skapoullarou-Hari, D., Papayiannis, K., Keperti-Pallari, M., Pierou-Mattheou, L., Elia, I., & Gagatsis, A. (2007). Beliefs and internal-external motivation in relation to self-regulation among students of first grade of lyceum. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 85-96). Nicosia: Cyprus Mathematical Society (in Greek).
299. Vasiliadou, E., Kyriakou, M., Charalambous, G., Elia, I., & Gagatsis, A. (2007). Primary and secondary students' emotions towards mathematics and mathematics problem solving and their intuitive ideas towards probability problems. In A. Gagatsis, I. Elia, & Ch. Lemonides (Eds.), *Proceedings of the 9<sup>th</sup> Cyprus Conference on Mathematics Education and 6<sup>th</sup> Symposium of Astronautics and Space* (pp. 97-110). Nicosia: Cyprus Mathematical Society (in Greek).
300. Gagatsis, A., Elia, I., Katalanou, St., Modestou, M., & Ioannou, O. (2006). Text readability and the role of pictures. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 67-78). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 111-122) (CD-ROM). Nicosia: University of Cyprus (in Greek).
301. Gagatsis, A., Georgiou, G., Tourvas, G., Charalambous, E. (2006). Visual perception, illusion of linearity and the concepts of perimeter and area. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 135-148). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.),

*Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 85-98) (CD-ROM). Nicosia: University of Cyprus (in Greek).

302. Gagatsis, A., Ioannou, K., Shimitra-Constantinou, A., & Christodoulidou, O. (2006). Why do students have difficulties in fractions? In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 201-212). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 99-110) (CD-ROM). Nicosia: University of Cyprus (in Greek).
303. Gagatsis, A., Kousiappas, A., & Kiliari, E. (2006). Representations in the Statistics of the sixth grade of elementary school. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 3-16). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 3-16) (CD-ROM). Nicosia: University of Cyprus (in Greek).
304. Gagatsis, A., Loizou, A., Stylianou, M., & Tofarou, St. (2006). Didactic contract and learning in mathematics. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 173-188). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 39-54) (CD-ROM). Nicosia: University of Cyprus (in Greek).
305. Anastasiou, M., Kaouri, Z., & Gagatsis, A. (2006). The understanding of probabilistic situations by 11-12 year-old students. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 93-106). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 233-246) (CD-ROM). Nicosia: University of Cyprus (in Greek).
306. Aristotelous, E., Perikleous, Chr., & Gagatsis, A. (2006). The role of representations on the understanding of sets and of their functions. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 25-38). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 219-232) (CD-ROM). Nicosia: University of Cyprus (in Greek).
307. Constantinou, C., Tanou, G., Elia, I., & Gagatsis, A. (2006). Elementary school students' intuitive ideas about the concept of probability. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 107-118). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 247-258) (CD-ROM). Nicosia: University of Cyprus (in Greek).
308. Fragkou, K., Kapsalis, Ch., & Gagatsis, A. (2006). Proportional and non-proportional reasoning among students with dyslexic symptoms. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 227-238). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.),

*Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 145-156) (CD-ROM). Nicosia: University of Cyprus (in Greek).

309. Georgiou, Chr., Zannettou, E., & Gagatsis, A. (2006). The didactic contract among children in pre-school and in the first grade of elementary school. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 189-200). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 73-84) (CD-ROM). Nicosia: University of Cyprus (in Greek).
310. Herodotou, M., Ioannou, P., Kontoyianni, K., & Gagatsis, A. (2006). Solving mathematical word problems on proportionality. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 239-257). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 55-72) (CD-ROM). Nicosia: University of Cyprus (in Greek).
311. Kalogirou, P., Kattou, M., Olympiou, G., Vourgias, Chr., Chrysostomou-Vourgia, S., & Gagatsis, A. (2006). The ability to grasp perceptually geometric shapes. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 121-134). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 25-38) (CD-ROM). Nicosia: University of Cyprus (in Greek).
312. Michael, E., Mouski, Kl., & Gagatsis, A. (2006). The ability to recognize and construct geometric shapes in the third and fourth grade of elementary school. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 159-170). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 191-202) (CD-ROM). Nicosia: University of Cyprus (in Greek).
313. Stavropoulou, St., & Gagatsis, A. (2006). Static and dynamic representations: The case of probabilities. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 81-92). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 157-168) (CD-ROM). Nicosia: University of Cyprus (in Greek).
314. Tsoukas, L., Kyprou, Chr., & Gagatsis, A. (2006). Levels of the understanding of patterns in multiple representations and their application in pattern activities for an introduction in algebra. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 39-54). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 203-218) (CD-ROM). Nicosia: University of Cyprus (in Greek).
315. Xenofontos, C., Gagatsis, A., & Aslanides, A. (2006). Representations and understanding of statistical concepts. In A. Gagatsis, I. Elia, A. Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Contemporary Research in Mathematics Education* (pp. 17-24). Nicosia: Department of Education - University of Cyprus and in E. Phtiaka, A. Gagatsis, I. Elia, A.

- Kousiappas, M. Modestou, N. Mousoulides & M. Pittalis (Eds.), *Proceedings of the IX Conference of the Pedagogical Society in Cyprus* (pp. 17-24) (CD-ROM). Nicosia: University of Cyprus (in Greek).
316. Gagatsis, A., Argyrou, A., Vasiliou, C., & Elia, I. (2006). The auxiliary pictorial representations in the solution of problems of Vergnaud's 2nd and 4th category. In A. Gagatsis, A. Panaoura, P., & Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 213-226). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  317. Gagatsis, A., Demetriades, K., Elia, I., & Syrimi-Skitsa, C. (2006). A historical approach of the didactical methodology in Cyprus and Greece. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 131-142). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  318. Gagatsis, A., Elia, I., Erotokritou, I., Nicolaou, F., & Christodoulou, S. (2006). Methods of analyzing mathematics' school books: An application in gymnasium. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 121-130). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  319. Gagatsis, A., Georgiou, G., & Tourvas, G. (2006). Fractional numbers and their transformations from elementary school students. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 313-324). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  320. Gagatsis, A., Kousiappas, A., & Koiliari, E. (2006). Problem solving in elementary school and the use of the analogy diagram. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 187-200). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  321. Gagatsis, A., Liasidou, I., Tsitsi, D., & Panagi, S. (2006). Intuitive obstacles in addition. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 243-252). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  322. Anastasiou, M., Christou, A., & Gagatsis, A. (2006). Continuous models in fraction and problem solving. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 253-266). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  323. Anastasiadou, S., & Gagatsis, A. (2006). Representations in elementary statistics in Greece. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 163-174). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  324. Constantinou, C., Tanou, G., Elia, I., & Gagatsis, A. (2006). Solution of fraction problems and the use of diagrams: The transition from elementary school to gymnasium. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 267-278). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  325. Karaolis, A., Neofytides, N., Charalambous, M., & Gagatsis, A. (2006). Elementary school students' ability to formulate additive and multiplicative relation in transformation tasks. In A.

- Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 325-337). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
326. Kapsalis, C., Fragkou, K., & Gagatsis, A. (2006). Solution of pattern tasks and the role of representations. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 279-290). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
327. Michaelidou, N., & Gagatsis, A. (2006). The concept of the decimal number in the elementary school: comprehension and the effect of the epistemological obstacle. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 291-300). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
328. Modestou, M., Gagatsis, A., Avraam, A., Epthyhiou, M., Papaconstantinou, C., & Chrysafinis, M. (2006). Attempting the control of the illusion of linearity in high school. In A. Gagatsis, A. Panaoura, & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 11-22). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
329. Modestou, M., Gagatsis, A., Avraam, A., Epthyhiou, M., Papaconstantinou, C., & Chrysafinis, M. (2006). Can the credibility of the linear model be questioned? An attempt in lyceum with non-linear geometrical problems. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 39-52). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
330. Modestou, M., Gagatsis, A., Herodotou, M., Ioannou, P., Kontoyianni, K., Constantinides, A., & Parisinos, M. (2006). Second graders' erroneous application of the linear model in geometrical problems. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 53-64). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
331. Modestou, M., Gagatsis, A., Herodotou, M., Ioannou, P., Kontoyianni, K., Constantinides, A., & Parisinos, M. (2006). The erroneous application of the linear model in gymnasium geometrical problems. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 65-73). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
332. Nicolaou, A., Loizou, A., Stylianou, M., & Gagatsis, A. (2006). Pictorial representations and division problem solving of fractions. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 175-186). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
333. Orfanos, K., Stefanou, L., & Gagatsis, A. (2006). An investigation of informational and organisational pictures' effect on the solution of "problematic" problems. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 227-242). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
334. Panaoura, G., & Gagatsis, A. (2006). Spatial and geometrical efficiency of 2nd grader students. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference*

- on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 85-96). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
335. Panaoura, G., & Gagatsis, A. (2006). A comparative study of students' spatial efficiency in elementary school and in gymnasium. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 97-108). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  336. Theoklitou, A., Michael, S., & Gagatsis, A. (2006). A pattern interpretation model in various representations. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 301-312). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  337. Tofarou, A., & Gagatsis, A. (2006). Pictures, symbols and transformations between representations in elementary addition. In A. Gagatsis, A. Panaoura & P. Damianou (Eds.), *Proceedings of the 8<sup>th</sup> Cypriot Conference on Mathematics Education and 5<sup>th</sup> Symposium of Astronautics and Space* (pp. 201-212). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  338. Gagatsis, A., Aristeidou, I., Assiotou, I., Erotokritou, C., & Mourouzi, A. (2005). The nature of external representations in geometry. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 39-49). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  339. Gagatsis, A., Avraam, A., Agisilaou, K., Evangelidou, M., Eftyxiou, & Papaconstantinou, C. (2005). Using the absolute value on the real numbers' axis. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 29-38). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  340. Gagatsis, A., Papademetriou, P., Soteriou, G., & Christopoulos, N. (2005). The role of the real number axis in teaching absolute values and inequalities. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 51-62). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  341. Deliyianni E., & Gagatsis, A. (2005). The role of visualization in the learning of geometry. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 87-94). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  342. Eracleous, A., & Gagatsis, A. (2005). Representations of functions and their transformation by 11<sup>th</sup> grade students. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 63-73). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  343. Liasidou, I., Mourouti, A., & Gagatsis, A. (2005). Pictorial representations and their role in addition and subtraction problem solving, in elementary school. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 3-15).

- Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
344. Mpakos, N., Tzifas, N., & Gagatsis, A. (2005). Patterns and pictures in problem solving. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 103-116). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  345. Ttiki, A., & Gagatsis, A. (2005). Difficulties in the concept of function and the role of representations. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 17-28). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  346. Gagatsis, A., Palla, M., Houli, A., & Filippou, A. (2005). Solving 1st degree inequalities in Lyceum. In Gr. Makrides, A. Gagatsis, P. Damianou, C. Christou, P. Petrou & A. Philippou (Eds.), *Proceedings of the 7<sup>th</sup> Cypriot Conference on Mathematics Education and 4<sup>th</sup> Symposium of Astronautics and Space* (pp. 117-126). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  347. Gagatsis, A., Deliyianni, E., Elia, I., Rousou-Michaelidou, P., & Tsakiri, M. (2004). Pictures, number line and problem solving: A comparison of two studies. In A. Gagatsis, A. Evangelidou, E. Phtiaka, L. Kyriakides, N. Tsangaridou & M. Koutsoulis (Eds.), *Proceedings of the VIII Conference of the Pedagogical Society in Cyprus: Contemporary Trends in Educational Research and Practice* (pp. 451-465). Nicosia: Cypriot Pedagogical Society (in Greek).
  348. Gagatsis, A., & Markou, A. (2004). The role of representations in the learning of mathematical concepts. In A. Gagatsis, A. Evangelidou, E. Phtiaka, L. Kyriakides, N. Tsangaridou & M. Koutsoulis (Eds.), *Proceedings of the VIII Conference of the Pedagogical Society in Cyprus: Contemporary Trends in Educational Research and Practice* (pp. 435-450). Nicosia: Cypriot Pedagogical Society (in Greek).
  349. Gagatsis, A., Elia, I., Peskias, A., Modestou, M., & Loizou, E. (2004). The topological perception of space by young children: Which teaching approach is appropriate? In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 255-268). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  350. Gagatsis, A., Markou, A., Matthaïou, C., Antoniadis, M., Makrides, Gr., & Philippou, A. (2004). The ability to solve problems of functional type by students of the University of Cyprus. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 99-110). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  351. Gagatsis, A., Spyrou, P., & Evangelidou, A. (2004). Multiple representations, human intelligence and learning. In A. Gagatsis, A. Evangelidou, E. Phtiaka, L. Kyriakides, N. Tsangaridou & M. Koutsoulis (Eds.), *Proceedings of the VIII Conference of the Pedagogical Society in Cyprus: Contemporary Trends in Educational Research and Practice* (pp. 427-434). Nicosia: Cypriot Pedagogical Society (in Greek).
  352. Andronicou, E., & Gagatsis, A. (2004). The effect of pictures in solving division problems. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 281-290). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).

353. Christodoulou, A., Panagides, N., & Gagatsis, A. (2004). The use of diagrams by sixth grade students in solving problems with fractions. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 291-304). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
354. Deliyianni, E., & Gagatsis, A. (2004). The effect of picture and number line in solving comparison problems by second grade students. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 391-400). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
355. Evangelidou, A., Gagatsis, A., Elia, I., & Spyrou, P. (2004). Conceptual understanding of function and its identification in different modes of representation. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 73-84). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
356. Efstathiou, R., & Gagatsis, A. (2004). Representations of fractions and their transformation by sixth grade students. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 441-454). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
357. Hatzikiriakou, A., Karaolis, V., & Gagatsis, A. (2004). The use of representations in the teaching of the concept of division at the third grade of primary school: The mathematics textbooks and students' achievement. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 401-411). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
358. Hiras, A., Hadjiafxenti, M., & Gagatsis, A. (2004). The effect of pictures on proportional problem solving by primary school children. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 351-365). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
359. Kyprianou, D., Hatzinicolaou, P., Gagatsis, A., & Spyrou, P. (2004). The didactical contract in Geometry. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 327-336). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
360. Michael, L., Mouski, Cl., Gagatsis, A., Fotiades, P., & Anastasiadou, S. (2004). The role of pictures in problems of addition and subtraction. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 305-318). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
361. Michaelidou, N., & Gagatsis, A. (2004). The number line as a representation of decimal numbers: Research in sixth grade students. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 413-428). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
362. Modestou, M., & Gagatsis, A. (2004). Proportionality or pseydoproportionality? Gymnasium students' difficulties in identifying them. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou



- (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 157-169). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
363. Mousoulides, N., Pittalis, M., & Gagatsis, A. (2004). Representations of functions and problem solving. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 85-98). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  364. Panayidou, E., Chianni, M., & Gagatsis, A. (2004). The effect of informational picture and bar chart in problem solving. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 337-349). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  365. Papadopoulos, Ch., Christodoulidou, Ch., Gagatsis, A., Anastasiadou, S., & Photiades, P. (2004). Representations and teaching of percentages and decimals. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 367-380). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  366. Spyrou, P., & Gagatsis, A. (2004). Function: Epistemological dimension and its didactic transposition. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 63-71). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  367. Tsakiri, M., Rousou-Michaelidou, P., Elia, I., & Gagatsis, A. (2004). The effect of pictures and number line on solving problems of additive structure, involving composition of two measures, by second and third grade students of primary school. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 225-236). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  368. Vourgias, Ch., Peskias, A., Chrysostomou-Vourgia, S., & Gagatsis, A. (2004). The perceptual ability of geometrical shapes. In A. Gagatsis, A. Philippou, D. Pitta & P. Spyrou (Eds.), *Proceedings of the 6<sup>th</sup> Cypriot Conference on Mathematics Education and 3<sup>rd</sup> Symposium of Astronautics and Space* (pp. 429-439). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
  369. Demetriades, K., Karidas, Ch., Syrimi-Skitsa, Ch., Timotheou, S., & Gagatsis, A. (2004). A few elements of geometry in Greece and Cyprus of 19<sup>th</sup> century. *Proceedings of the 21<sup>st</sup> Greek Conference of Mathematics Education: The curriculum and the teaching approaches in mathematics in primary and secondary education* (pp. 622-636). Trikala: Greek Mathematical Society (in Greek).
  370. Elia, I., & Gagatsis, A. (2004). The role of representations in the learning of mathematics in primary and secondary education. *Proceedings of the 21<sup>st</sup> Greek Conference of Mathematics Education: The curriculum and the teaching approaches in mathematics in primary and secondary education* (pp. 157-167). Trikala: Greek Mathematical Society (in Greek).
  371. Gagatsis, A., & Elia, I. (2003). Compartmentalization or modularization of semiotic representations related to the concept of function. *Proceedings of the 2<sup>nd</sup> Conference for Mathematics in Secondary Education* (CD-ROM). Athens: University of Athens, University of Cyprus (in Greek).

372. Gagatsis, A., & Shiamari, E. (2003). Representations and solving problems of proportionality by second grade students in Greece and Cyprus. *Proceedings of the 2<sup>nd</sup> Conference for Mathematics in Secondary Education* (CD-ROM). Athens: University of Athens, University of Cyprus (in Greek).
373. Theodoulou, R., & Gagatsis, A. (2003). A picture is worth a thousand words... But what kind of picture facilitates mathematical problem solving? *Proceedings of the 2<sup>nd</sup> Conference for Mathematics in Secondary Education* [CD-ROM]. Athens: University of Athens, University of Cyprus (in Greek).
374. Christoforides, M., Savva, A., & Gagatsis, A. (2003). The ability to identify patterns in primary school: Mathematical structure and representational form. In T. Triantafyllides, K. Hadjikyriakou, P. Politi & A. Chronaki (Eds.), *Proceedings of the 6<sup>th</sup> Greek Conference on the Didactics of Mathematics and Informatics in Education* (pp. 100-107). Volos: University of Thessaly (in Greek).
375. Elia, I., Gagatsis, A., Modestou, M., Pachiti, S., & Deliyianni, E. (2003). How students perceive geometric shapes: The role of geometrical models. In T. Triantafyllides, K. Hadjikyriakou, P. Politi & A. Chronaki (Eds.), *Proceedings of the 6<sup>th</sup> Greek Conference on the Didactics of Mathematics and Informatics in Education* (pp. 191-198). Volos: University of Thessaly (in Greek).
376. Elia, I., & Gagatsis, A. (2003). The compatibility of the descriptive language for the concept of set and young children's natural language. *Proceedings of the 20<sup>th</sup> Greek Conference of Mathematics Education: The child's progression in mathematics from pre-primary age to adulthood* (pp. 341-359). Veria: Greek Mathematical Society (in Greek).
377. Gagatsis, A. (2002). The challenges of globalization for new educational identities. In A. Gagatsis, L. Kyriakides, N. Tsangaridou, E. Phtiaka & M. Koutsoulis (Eds.), *Proceedings of the VII Conference of the Pedagogical Society in Cyprus: Educational Research in the Age of Globalization: Vol. A* (pp. 3-13). Nicosia: Cypriot Pedagogical Society (in Greek).
378. Gagatsis, A., & Markou, A. (2002). Representations and learning of Mathematics: Two sides of the same phenomenon? In A. Gagatsis, L. Kyriakides, N. Tsangaridou, E. Phtiaka & M. Koutsoulis (Eds.), *Proceedings of the VII Conference of the Pedagogical Society in Cyprus: Educational Research in the Age of Globalization: Vol. B* (pp.263-287). Nicosia: Cypriot Pedagogical Society (in Greek).
379. Gagatsis, A., Michaelidou, E., & Shiakalli, M. (2002). Semiotic representations and the concept of function: Applications to Lyceum students and University students. In M. Tzekaki (Ed.), *Proceedings of the Fifth Greek Conference for the Didactics of Mathematics and Informatics in Education* (pp. 330-336). Thessaloniki: Aristotle University (in Greek).
380. Markou, A., & Gagatsis, A. (2002). Representations and the learning of mathematical concepts: An application in fractions. In M. Tzekaki (Ed.), *Proceedings of the 5<sup>th</sup> Greek Conference on Didactics of Mathematics and Informatics in Education* (pp. 324-329). Thessaloniki: Aristotle University (in Greek).
381. Pitta-Pantazi, D., & Gagatsis, A. (2002). Strategies and mental representations in arithmetic: Two study cases. In M. Tzekaki (Ed.), *Proceedings of the 5<sup>th</sup> Greek Conference on Didactics of Mathematics and Informatics in Education* (pp. 317-323). Thessaloniki: Aristotle University (in Greek).
382. Gagatsis, A., Elia, I., & Makrides, G. (2002). Relations between the History of Mathematics and the Didactics of Mathematics. *Proceedings of the 20<sup>th</sup> Greek Conference of Mathematics Education: Mathematics as a Diachronic Factor of Civilization* (pp. 269-283). Komotini: Greek Mathematical Society (in Greek).

383. Gagatsis, A., Chrisanthou, A., & Christodoulides, M. (2002). The effect of the didactical contract and the implicit intuitive models in the modeling and the solution of arithmetical verbal problems of multiplication and division. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 315-328). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
384. Gagatsis, A., †Dinas, A., & Pieros, G. (2002). Greek students' and teachers' perceptions of the axonic symmetry. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 147-156). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
385. Gagatsis, A., Giasoumi, N., & Philippou, A. (2002). Application of the concepts and methods of the didactics and history of mathematics in the concept of absolute value. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 135-146). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
386. Gagatsis, A., Palaichorou, Ch., & Charalambous, Ch. (2002). Aiming at the breach of the didactical contract: The results of two interventions. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 383-398). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
387. Gagatsis, A., Pieridou-Shimitra, M., & Magou-Parpetta, P. (2002). Fourth grade students' behavior in solving "routine" and "non-routine" verbal problems. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 421-430). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
388. Antoniadis, M., Gagatsis, A., & Makrides, G. (2002). The ability of students of the University of Cyprus to solve problems of functional type. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 123-133). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
389. Christoforides, M., Savva, A., Gagatsis, A., & Kyriakides, L. (2002). Developmental evaluation of primary school students in recognizing patterns. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 341-353). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
390. Elia, I., & Gagatsis, A. (2002). Choosing among unusual problems according to given answers. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 443-456). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
391. Giasoumi, N., & Gagatsis, A. (2002). Representations and the concept of function in First Grade of Comprehensive Lyceum. In A. Gagatsis & G. Makrides, (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp.109-122). Nicosia: Cyprus Mathematical Society (in Greek).
392. Ioannou, I., Gagatsis, A., & Constantinou, C.P. (2002). A study of the role of representations in the understanding of the concept of vector. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and*

- Space* (pp. 191-202). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
393. Markou, A., & Gagatsis, A. (2002). "Didactical Contract" and verbal problems: Effects and breach of the Contract in primary school students. In A. Gagatsis & G. Makrides, (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp.211-226). Nicosia: Cyprus Mathematical Society (in Greek).
  394. Markou, A., & Gagatsis, A. (2002). Representations and the learning of mathematical concepts: An application in fractions. In A. Gagatsis & G. Makrides, (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp.329-340). Nicosia: Cyprus Mathematical Society (in Greek).
  395. Vourgias, Ch., Vourgias, S., & Gagatsis, A. (2002). Didactics of Mathematics and mathematical problem. In A. Gagatsis & G. Makrides, (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp.399-408). Nicosia: Cyprus Mathematical Society (in Greek).
  396. Gagatsis, A., & Demarakis, I. (2001). Some difficulties in understanding the concept of limit. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprrian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 15-24). Nicosia: Cyprus Mathematical Society (in Greek).
  397. Gagatsis, A., Ioannou, I., & Demakos, G. (2001). The role of representations in curriculum in mathematics. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprrian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 37-48). Nicosia: Cyprus Mathematical Society (in Greek).
  398. Gagatsis, A., & Panaoura, A. (2001). A model of redaction projects for students of Grade 10 in mathematics - Examples. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprrian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 25-36). Nicosia: Cyprus Mathematical Society (in Greek).
  399. Gagatsis, A., Philippou, A., Makrides, G., & Demarakis, I. (2001). Concepts and methods of Didactics of Mathematics. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprrian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 3-14). Nicosia: Cyprus Mathematical Society (in Greek).
  400. Markou, A., Kazakou, P., & Gagatsis, A. (2001). Concrete representations and the procedural proportional theory. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprrian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 189-200). Nicosia: Cyprus Mathematical Society (in Greek).
  401. Papadopoulos, G., & Gagatsis, A. (2001). Teaching Euclidean and non-Euclidean geometry in secondary schools. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprrian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 105-116). Nicosia: Cyprus Mathematical Society (in Greek).
  402. Papadopoulos, G., Gagatsis, A., Makrides, G., & Fotiades, P. (2001). Intuitive model of arithmetic operations and multiplication and division problem solving. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprrian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 299-308). Nicosia: Cyprus Mathematical Society (in Greek).
  403. Kyriakides, L., Gagatsis, A., & Antoniou, P. (2001). Exploring language minority - based differential item functioning on primary teachers tests in mathematics: Implications for the development of assessment policy. *Proceedings of the Congress: Education of Language Minorities: Language and Mathematics Teaching*. Thessaloniki: Department of Primary Education, Aristotle University (in Greek).

404. Gagatsis, A., Kyriakides, L., Michaelidou, E., & Shiakalli, M. (2000). The interplay of translation between the different fields of representation of the concept of function to the learning of the concept. In S. Georgiou, C. Christou & L. Kyriakides (Eds.), *Proceedings of the 6<sup>th</sup> Conference of the Cyprus Pedagogical Association: Contemporary Research in Educational Sciences* (pp. 361-368). Nicosia: University of Cyprus (in Greek).
405. Gagatsis, A., & Mougi, A. (2000). Aptitude of primary school students in formulation of algebraic relations in a context of translation tasks. In S. Georgiou, C. Christou & L. Kyriakides (Eds.), *Proceedings of the 6<sup>th</sup> Conference of the Cyprus Pedagogical Association: Contemporary Research in Educational Sciences* (pp. 337-347). Nicosia: University of Cyprus (in Greek).
406. Gagatsis, A., & Panaoura, G. (2000). The interplay of the arithmetic line in the resolution of addition and subtraction tasks. In S. Georgiou, C. Christou & L. Kyriakides (Eds.), *Proceedings of the 6<sup>th</sup> Conference of the Cyprus Pedagogical Association: Contemporary Research in Educational Sciences* (pp. 348-359). Nicosia: University of Cyprus (in Greek).
407. Gagatsis, A., & Michaelidou, E. (2000). The capability of translation of the Cypriot Lyceum students: Application of the implicative statistical analysis method - CHIC. *Proceedings of the 17<sup>th</sup> Panhellenic Conference of Mathematics Education* (pp. 622-632). Athens: Greek Mathematical Society (in Greek).
408. Gagatsis, A., & Mougi, A. (2000). The contribution of the implicative statistical analysis to the elaboration of data in Didactics of Mathematics: Application to the translation between representations. *Proceedings of the 17<sup>th</sup> Panhellenic Conference of Mathematics Education* (pp. 210-221). Athens: Greek Mathematical Society (in Greek).
409. Gagatsis A., & Shiakalli M. (2000). CHIC: A program of statistical analysis for elaboration of data related to Didactics of Mathematics-Application to the representations of functions. *Proceedings of the 17<sup>th</sup> Panhellenic Conference of Mathematics Education* (pp. 602-612). Athens: Greek Mathematical Society (in Greek).
410. Gagatsis, A., Demetriou A., Afantiti, T., Michaelidou, E., Panaoura, R., Shiakalli, M., & Christoforides, M. (1999). The influence of semiotic representations in the solution of addition problems. In A. Kollias, A. Margetousaki & P. Michaelides (Eds.), *Proceedings of the 4<sup>th</sup> Panhellenic Conference on Didactics of Mathematics and Informatics in Education* (pp. 514-521). Rhethymno: University of Crete (in Greek).
411. Gagatsis, A. (1998). Dyslexia and Mathematics. In Gr. Makrides (Ed.), *Proceedings of the Second Cypriot Conference in Mathematics Education* (pp. 14-22). Nicosia: Cyprus Mathematical Society (in Greek).
412. Gagatsis, A., & Demetriadou, E. (1997). The controversy of the Euclidean and vector method in the solving of geometrical problems - an empirical research between third class Lyceum students. *Proceedings of the 14th Panhellenic Conference of Mathematics Education* (pp. 389 - 399). Athens: Greek Mathematical Society (in Greek).
413. Dimarakis, I., & Gagatsis, A. (1997). Some difficulties of understanding of the limit concept. In T. Patronis, & P. Pintelas (Eds.), *Proceedings of the Second Greek Congress on Didactics of Mathematics and Informatics* (pp. 91-101). Athens: Pnevmatikos.
414. Gagatsis, A., & Lambis, S. (1996). Greek pupils' difficulties on additive structure problems. *Proceedings of the First Greek Congress "Mathematics in Education and the Society"* (pp. 277-289). Athens: University of Athens - Centre of Research of the Science of Education (K.E.EP.E.K.) (in Greek).
415. Gagatsis, A., Lambis, S., & Ntziachristos, E. (1996). Greek secondary pupils' resolution methods of proportion problems. *Proceedings of the First Greek Congress "Mathematics in Education and the Society"* (pp. 277-289). Athens: Department of Primary Education, University of Athens (in Greek).

416. Gagatsis, A., & Lambis, S. (1996). Mathematics Curriculum and Dyslexia. *Proceedings of the 13th Congress of the Greek Mathematical Society* (pp. 85- 101). Athens: Greek Mathematical Society (in Greek).
417. Gagatsis, A., & Bora-Senta, E. (1995). Problems of understanding of statistical tests by University students of Mathematics. In G. Philippou & A. Kakas (Eds.), *Proceedings of the Second Greek Congress on Didactics of Mathematics and Informatics* (pp. 365 – 382). Nicosia: University of Cyprus (in Greek).
418. Gagatsis, A., & Demetriadou, H. (1995). Comparison between the conceptions of Greek and Cypriot students related to the concept of vector. In G. Philippou & A. Kakas (Eds.), *Proceedings of the Second Greek Congress on Didactics of Mathematics and Informatics* (pp. 353 – 364). Nicosia: University of Cyprus (in Greek).
419. Asvesta, A., & Gagatsis, A. (1995). Problems of Interpretation related to the concept of function. In G. Philippou & A. Kakas (Eds.), *Proceedings of the Second Greek Congress on Didactics of Mathematics and Informatics* (pp. 323 – 336). Nicosia: University of Cyprus (in Greek).
420. Gagatsis, A., Katsoulou, M., & Marketos, A. (1987). A proposition concerning a Taxonomy of Didactical Exercises in Mathematics. *Proceedings of the 4<sup>th</sup> Panhellenic Conference of the Greek Mathematical Society* (pp. 16-29). Athens: Greek Mathematical Society (in Greek).
421. Gagatsis, A. (1986). Application of cloze test in Greek texts. *Proceedings of the Seventh Congress of the Linguistic Section of the Faculty of Philosophy* (pp. 337-353). Thessaloniki: Aristotle University (in Greek).

### **In English, French and Italian**

422. Deliyianni, E., Elia I., Paraoura, A., & Gagatsis A. (2009). A Structural model for the understanding of decimal numbers in primary and secondary education. In M. Tzekaki, M. Kaldrimidou, & C. Sakonidis (Eds.), *Proceedings of the 33<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol.2* (pp.401-408). Thessaloniki, Greece: PME.
423. Elia, I., Gagatsis, A., Deliyianni, E., Monoyiou, A., & Michael, S. (2009). A structural model of primary school students' operative apprehension of geometrical figures. In M. Tzekaki, M. Kaldrimidou, & C. Sakonidis (Eds.), *Proceedings of the 33<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol.3* (pp.1-8). Thessaloniki, Greece: PME.
424. Kalogirou, P., Sophocleous, P., & Gagatsis, A. (2009). Mental images, prototypical figures and flexibility. In M. Tzekaki, M. Kaldrimidou, & C. Sakonidis (Eds.), *Proceedings of the 33<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol.1* (pp.402). Thessaloniki, Greece: PME.
425. Panaoura, A., Gagatsis, A., Deliyianni, E., & Elia I. (2009). Affective and cognitive factors on the use of representations in the learning of fractions and decimals. In M. Tzekaki, M. Kaldrimidou, & C. Sakonidis (Eds.), *Proceedings of the 33<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol.4* (pp.273-280). Thessaloniki, Greece: PME.
426. Sophocleous, P., Kalogirou, P., & Gagatsis, A. (2009). Creative ability and criteria in recognising geometric figures. In M. Tzekaki, M. Kaldrimidou, & C. Sakonidis (Eds.), *Proceedings of the 33<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol.5* (pp.153-160). Thessaloniki, Greece: PME.

427. Efstathiou, C., Petridou, A., Gagatsis, A., & Kalogirou, P. (2009). The Impact of Iconic Representations in Solving Mathematical Problems of the Fractions Division. In A. Gagatsis & S. Grozdev (Eds.), *Proceedings of the 6<sup>th</sup> Mediterranean Conference on Mathematics Education* (pp.31-42). Plovdiv, Bulgaria: University of Plovdiv, Cyprus Mathematical Society.
428. Evangelou, K., Tsimpimpaki, K., & Gagatsis, A. (2009). Students' Performance and Representational Pictures. What Do Students Believe? In A. Gagatsis & S. Grozdev (Eds.), *Proceedings of the 6<sup>th</sup> Mediterranean Conference on Mathematics Education* (pp.55-66). Plovdiv, Bulgaria: University of Plovdiv, Cyprus Mathematical Society.
429. Kalogirou, P., Kattou, M., Michael Th., & Gagatsis A. (2009). The Impact of Different Representations in Solving Non-Proportional Stereometry Problems. In A. Gagatsis & S. Grozdev (Eds.), *Proceedings of the 6<sup>th</sup> Mediterranean Conference on Mathematics Education* (pp.43-54). Plovdiv, Bulgaria: University of Plovdiv, Cyprus Mathematical Society.
430. Michael, S., Gagatsis, A., Elia, I., Deliyianni, E., & Monoyiou, A. (2009). Operative Apprehension of Geometrical Figures of Primary and Secondary School Students'. In A. Gagatsis & S. Grozdev (Eds.), *Proceedings of the 6<sup>th</sup> Mediterranean Conference on Mathematics Education* (pp.67-78). Plovdiv, Bulgaria: University of Plovdiv, Cyprus Mathematical Society.
431. Panaoura, A., Demetriou, A., & Gagatsis, A (2009, in press). Mathematical modeling, self-representation and self-regulation. *The 6<sup>th</sup> Conference of the European Society for Research in Mathematics Education*, Lyon, France.
432. Gagatsis, A., Panaoura, A., Deliyianni, E., & Elia, I. (2009, in press). Students' beliefs about the use of representations in the learning of fractions. *The 6<sup>th</sup> Conference of the European Society for Research in Mathematics Education*, Lyon, France.
433. Deliyianni, E., Elia, I., Gagatsis, A., Monoyiou, A., & Panaoura, A. (2009, in press). A theoretical model of students' geometrical figure understanding. *The 6<sup>th</sup> Conference of the European Society for Research in Mathematics Education*, Lyon, France.
434. Sophocleous, P. & Gagatsis, A. (2009, in press). Efficacy beliefs and ability to solve volume measurement tasks in different representations. *The 6<sup>th</sup> Conference of the European Society for Research in Mathematics Education*, Lyon, France
435. Christoforou, E., Chrysostomou, M. & Gagatsis, A. (2009, in press). The role of representations and students' attitudes in solving pattern problems. *The 6<sup>th</sup> Conference of the European Society for Research in Mathematics Education*, Lyon, France.
436. Panaoura, G., & Gagatsis, A. (2009, in press). The geometrical reasoning of primary and secondary school students. *The 6<sup>th</sup> Conference of the European Society for Research in Mathematics Education*, Lyon, France.
437. Gagatsis, A., Panaoura, A., Elia, I., Stamboulidis, N., & Spyrou, P. (in press, 2008). The axis of reflective symmetry as representation in mathematics learning. *Proceedings of the 11<sup>th</sup> International Congress of Mathematics Education*. Monterrey, Mexico: ICME.
438. Agathangelou, S., Papakosta, V., & Gagatsis, A. (in press, 2008). The impact of iconic representations in solving mathematical one-step problems of the additive structure by primary second grade pupils. *Proceedings of the 11<sup>th</sup> International Congress of Mathematics Education*. Monterrey, Mexico: ICME.
439. Deliyianni, E., Elia, I., Panaoura, A. & Gagatsis, A. (in press, 2008). The role of representations in the understanding of fractions in elementary and secondary education. *Proceedings of the 11<sup>th</sup> International Congress of Mathematics Education*. Monterrey, Mexico: ICME.
440. Monoyiou, A., & Gagatsis, A. (in press, 2008). A coordination of different representations in function problem solving. *Proceedings of the 11<sup>th</sup> International Congress of Mathematics Education*. Monterrey, Mexico: ICME.

441. Deliyianni, E., Panaoura, A., Elia, I., & Gagatsis, A. (2008). A structural model for fraction understanding related to representations and problem solving. In Figueras, O. & Sepúlveda, A. (Eds.). *Proceedings of the Joint Meeting of the 32nd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 2, pp. 399-406). Morelia, Michoacán, México: PME.
442. Anastasiadou, S., Elia, I., & Gagatsis, A. (2007). Apprentissage des statistiques et représentations chez l'élève de l'École primaire de Grèce. In R. Gras, P. Orús, B. Pinaud & P. Gregori (Eds), "*New Theoretical Contributions to Statistical Impicative Analysis and Applications*" 4<sup>th</sup> ASI,2007 (pp. 135-144). Castelló: Universitat Jaume I de Castelló.
443. Kontoyianni , K., Herodotou, M., Ioannou, P., Elia I., & Gagatsis, A.(2007). Solving proportional and analogical problems. In R. Gras, P. Orús, B. Pinaud & P. Gregori (Eds), "*New Theoretical Contributions to Statistical Impicative Analysis and Applications*" 4<sup>th</sup> ASI,2007 (pp.401-410). Castelló: Universitat Jaume I de Castelló.
444. Gagatsis, A, & Elia, I. (2007). Representations and the concept of Function. In E. Avgerinos & A. Gagatsis (Eds), "*Current Trends in Mathematics Education*". 5<sup>th</sup> Medconf 2007 (pp. 83-99). Athens: New Technology Publications.
445. Gagatsis, A, & Elia, I., Katalanou, S., Modestou, M., & Spagnolo I. (2007). Readability Formulae and Representations. In E. Avgerinos & A. Gagatsis (Eds), "*Current Trends in Mathematics Education*". 5<sup>th</sup> Medconf 2007 (pp.113-125). Athens: New Technology Publications.
446. Monoyiou, A, Spagnolo, F., Elia, I., & Gagatsis, A. (2007). Visual Representations in Mathematics Education. In E. Avgerinos & A. Gagatsis (Ed), "*Current Trends in Mathematics Education*". 5<sup>th</sup> Medconf2007 (pp.127-137). Athens: New Technology Publications.
447. Kyriakou, M, Louca, P., Gagatsis, A., & Elia, I. (2007). Representations of Quadratic Functions and Solution of Quadratic Equations,Inequalities and systems by High School Students. In E. Avgerinos & A. Gagatsis (Ed), "*Current Trends in Mathematics Education*". 5<sup>th</sup> Medconf 2007 (pp.139-154). Athens: New Technology Publications.
448. Deliyianni, E, Elia, I., Panaoura, A., & Gagatsis, A., (2007). The functioning of representations in Cyprus Mathematics Textbooks. In E. Avgerinos & A. Gagatsis (Ed), "*Current Trends in Mathematics Education*". 5<sup>th</sup> Medconf 2007 (pp.155-167). Athens: New Technology Publications.
449. Gagatsis, A., Kapsalis, C., Tofarou, S., Fragkou, K., (2007).Patterns`Representations and Affective Outcomes in Mathematics. Education. In E. Avgerinos & A. Gagatsis (Eds), "*Current Trends in Mathematics Education*". 5<sup>th</sup> Medconf 2007 (pp.179-206). Athens: New Technology Publications.
450. Gagatsis, A., Kapsis, T., Spyrou, P., Keisoglou, S., (2007).The Ability for Inverse Reasoning in Contrsuction Problems by Scholl Students. Education. In E. Avgerinos & A. Gagatsis (Eds), "*Current Trends in Mathematics Education*". 5<sup>th</sup> Medconf 2007 (pp.525-536). Athens: New Technology Publications.
451. Anastasiadou, S., & Gagatsis, A. (2007). Exploring the effects of representations on the learning of statistics in Greek primary school. In D. Pitta-Pantazi & G. Philippou (Eds.), *Proceedings of the Fifth Congress of the European Society for Research in Mathematics Education: Working Group 1, The role of images and metaphors in the learning and understanding of mathematics* (pp. 90-100). Larnaka, Cyprus: ERME, <http://www.cyprusisland.com/cerme/>
452. Monoyiou, A., Papageorgiou, P., & Gagatsis, A. (2007). Students' and teachers' representations in problem solving. In D. Pitta-Pantazi & G. Philippou (Eds.), *Proceedings of the Fifth Congress of the European Society for Research in Mathematics Education: Working*



*Group 1, The role of images and metaphors in the learning and understanding of mathematics* (pp. 141-151). Larnaka, Cyprus: ERME, <http://www.cyprusisland.com/cerme/>

453. Modestou, M., Elia, I., Gagatsis, A., & Spanoudes, G. (2007). Problem Solving in Geometry: The case of the illusion of proportionality. In D. Pitta-Pantazi & G. Philippou (Eds.), *Proceedings of the Fifth Congress of the European Society for Research in Mathematics Education: Working Group 7, Geometrical Thinking* (pp. 1052-1062). Larnaka, Cyprus: ERME, <http://www.cyprusisland.com/cerme/>
454. Panaoura, G., Gagatsis, A., & Lemonides, C. (2007). Spatial abilities in relation to performance in geometry tasks. In D. Pitta-Pantazi & G. Philippou (Eds.), *Proceedings of the Fifth Congress of the European Society for Research in Mathematics Education: Working Group 7, Geometrical Thinking* (pp. 1062-1072). Larnaka, Cyprus: ERME, <http://www.cyprusisland.com/cerme/>
455. Gagatsis, A. (2006). The effects of different modes of representations in mathematical problem solving. In S. Sbaragli (Ed.), *Proceedings of the International Conference "La Matematica e la Sua Didattica, vent'anni di impegno"* (pp. 143-146). Castel S. Pietro Terme: Carocci Faber.
456. Gagatsis, A., Elia, I., Panaoura A., Gravvani, K., & Spyrou, P. (2006). An empirical four-dimensional model for the understanding of function. In J. Novotná, H. Moraová, M. Krátká & N. Stehlíková (Eds.), *Proceedings of the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 3* (pp. 137-142). Prague: Charles University.
457. Elia, I., & Gagatsis, A. (2006). The effects of different modes of representation on problem solving: Two experimental programs. In J. Novotná, H. Moraová, M. Krátká & N. Stehlíková (Eds.), *Proceedings of the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 3* (pp. 25-32). Prague: Charles University.
458. Kontoyianni, K., Modestou, M., Herodotou, M., Ioannou, P., Constantinides, A., Parisinos, M., & Gagatsis A. (2006). Improper proportional reasoning: A comparative study in high school. In J. Novotná, H. Moraová, M. Krátká & N. Stehlíková (Eds.), *Proceedings of the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 3* (pp. 465-472). Prague: Charles University.
459. Michael, S., Elia, I., Gagatsis, A., Theoklitou, A., & Savva, A. (2006). Levels of understanding of patterns in multiple representations. In J. Novotná, H. Moraová, M. Krátká & N. Stehlíková (Eds.), *Proceedings of the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 4* (pp. 161-168). Prague: Charles University.
460. Modestou, M., & Gagatsis, A. (2006). Can the spontaneous and uncritical application of the linear model be questioned? In J. Novotná, H. Moraová, M. Krátká & N. Stehlíková (Eds.), *Proceedings of the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 4* (pp. 169-176). Prague: Charles University.
461. Shiakalli, M., & Gagatsis, A. (2006). Compartmentalization of representation in tasks related to addition and subtraction using the number line. In J. Novotná, H. Moraová, M. Krátká & N. Stehlíková (Eds.), *Proceedings of the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 5* (pp.105-112). Prague: Charles University.
462. Anastasiadou, S., & Gagatsis, A. (2005). Attitudes des étudiants, futurs enseignants de l'école primaire grecque a l'égard de la statistique. In R. Gras, F. Spagnolo & J. David (Eds.), *Proceedings of the Third International Conference I.S.A. Implicative Statistic Analysis* (pp. 109-118). Palermo, Italy: Università degli Studi di Palermo.
463. Elia, I., & Gagatsis, A. (2005). Le rôle des représentations dans la résolution des problèmes du type additif. In R. Gras, F. Spagnolo & J. David (Eds.), *Proceedings of the Third International Conference I.S.A. Implicative Statistic Analysis* (pp. 163-174). Palermo, Italy: Università degli Studi di Palermo.

464. Elia, I., Gagatsis, A., & Gras, R. (2005). Can we “trace” the phenomenon of compartmentalization by using the I.S.A.? An application for the concept of function. In R. Gras, F. Spagnolo & J. David (Eds.), *Proceedings of the Third International Conference I.S.A. Implicative Statistic Analysis* (pp. 175-185). Palermo, Italy: Universita degli Studi di Palermo.
465. Anastasiadou, S., & Gagatsis, A. (2005). Beliefs and academic behaviors in statistics elementary education. In J. Novotna (Ed.), *Proceedings of the Symposium of Elementary Mathematics Teaching: Vol. I* (pp. 59-66). Prague, Czech Republic: Univerzita Karlova V Praze, Pedagogická Fakulta.
466. Deliyianni, E., Gagatsis, A., & Dimakos, G. (2005). The interaction between conceptual and figural components of geometrical figures. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.175-186). Palermo: University of Palermo, Cyprus Mathematical Society.
467. Demetriades, C., Karydas, C., Timotheou, S., Syrimi-Skitsa, C., & Gagatsis, A. (2005). In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.227-238). Palermo: University of Palermo, Cyprus Mathematical Society.
468. Elia, I., Gagatsis, A., & Deliyianni, E. (2005). A review of the effects of different modes of representation in mathematical problem solving. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.271-286). Palermo: University of Palermo, Cyprus Mathematical Society.
469. Elia, I., Gagatsis, A., & Modestou, M. (2005). Young children’s aptitude to transform geometric figures: the role of geometrical models. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.149-162). Palermo: University of Palermo, Cyprus Mathematical Society.
470. Michaelidou, E., & Gagatsis, A. (2005). The use of the geometrical model of number line for the representation of equivalence and addition of fractions: A study with fifth grade students. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.315-327). Palermo: University of Palermo, Cyprus Mathematical Society.
471. Pansidis, C., Zoulinaki, F., Spyrou, P., Gagatsis, A., & Elia, I. (2005). Understanding of the ordering of numbers and the use of absolute value on the axis of real numbers. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.341-353). Palermo: University of Palermo, Cyprus Mathematical Society.
472. Pavlakos, G., Spyrou, P., & Gagatsis, A. (2005). The role of angle in understanding vectors. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.201-214). Palermo: University of Palermo, Cyprus Mathematical Society.
473. Shiakalli, M., & Gagatsis, A. (2005). The number line as a geometrical model for teaching whole number addition and subtraction. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.329-339). Palermo: University of Palermo, Cyprus Mathematical Society.
474. Theodoulou, A., Gagatsis, A., & Theodoulou, R. (2005). The role of pictures in solving verbal division problems and the translation ability of second grade students. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.287-301). Palermo: University of Palermo, Cyprus Mathematical Society.

475. Theodoulou, A., Gagatsis, A., & Theodoulou, R. (2005). The illusion of proportionality in solving verbal geometrical problems by sixth grade students and the role of diagrams. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.187-200). Palermo: University of Palermo, Cyprus Mathematical Society.
476. Xistouri, X., Nicolaou, A., Koukkoufis, A., & Gagatsis, A. (2005). The nature of external representation in geometry and the solution of mathematical problems. In A. Gagatsis, F. Spagnolo, Gr. Makrides & V. Farmaki (Eds.), *Proceedings of the 4<sup>th</sup> Mediterranean Conference on Mathematics Education: Vol. I* (pp.163-174). Palermo: University of Palermo, Cyprus Mathematical Society.
477. Elia, I., & Gagatsis, A. (2005). Research in mathematics education and teaching of mathematics. *Proceedings of the International Conference on Mathematics Education* (pp. 45-52). Sofia: Union of the Bulgarian Mathematicians.
478. Elia, I., Gagatsis, A., & Deliyianni, E. (2005). A review of the effects of different modes of representations in solving additive and multiplications problems. *Proceedings of the International Conference on Mathematics Education* (pp. 67-75). Sofia: Union of the Bulgarian Mathematicians.
479. Gagatsis, A., & Elia, I. (2005). A review of some recent studies on the role of representations in mathematics education in Cyprus and Greece. In M. Bosch (Ed.), *Proceedings of the Fourth Congress of the European Society for Research in Mathematics Education: Working Group 1, The role of metaphors and images in the learning and understanding of mathematics* (pp. 102-111). Saint Feliu de Guixols, Spain: ERME, <http://ermeweb.free.fr/CERME4/>.
480. Gagatsis, A. (2004). A multidimensional approach to mathematical learning and problem solving. In Gr. Makrides, A. Gagatsis & K. Nicolaou (Eds.), *Proceedings of the CASTME International and CASTME Europe Conference: Linking Science, Mathematics and Technology Education and their Social Relevance* (pp. 3-20). Nicosia: Cyprus Mathematical Society.
481. Modestou, M., & Gagatsis, A. (2004). Linear or not linear? Students' improper proportional reasoning. In Gr. Makrides, A. Gagatsis & K. Nikolaou (Eds.). *Proceedings of the CASTME International and CASTME Europe Conference: Linking Science, Mathematics and Technology Education and their Social Relevance* (pp.21-34). Nicosia: Cyprus Mathematical Society.
482. Gagatsis, A. (2004). The role of representations in Secondary Mathematics Education. In D. De Bock, M. Isoda, J.A. Garcia-Cruz, A. Gagatsis & E. Simmt (Eds.), *Proceedings of 10<sup>th</sup> International Congress on Mathematical Education-Topic Study Group 2: New Developments and Trends in Secondary Mathematics Education* (pp. 141-146). Copenhagen, Denmark: ICME-10.
483. Modestou, M., & Gagatsis, A. (2004). Students' improper proportional reasoning: A multidimensional statistical analysis. In D. De Bock, M. Isoda, J.A. Garcia-Cruz, A. Gagatsis & E. Simmt (Eds.), *Proceedings of 10<sup>th</sup> International Congress on Mathematical Education-Topic Study Group 2: New Developments and Trends in Secondary Mathematics Education* (pp. 87-94). Copenhagen, Denmark: ICME-10.
484. Gagatsis, A., & Elia, I. (2004). The effects of different modes of representations on mathematical problem solving. In M. Johnsen-Hoines & A. Berit-Fuglestad (Eds.), *Proceedings of the 28<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 2* (pp. 447-454). Bergen, Norway: Bergen University College.
485. Evangelidou, A., Spyrou, P., Elia, I., & Gagatsis, A. (2004). University students' conceptions of function. In M. Johnsen Hoines & A. Berit Fuglestad (Eds.), *Proceedings of the 28<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 2* (pp. 351-358). Bergen, Norway: Bergen University College.

486. Modestou, M., Gagatsis, A., & Pitta-Pantazi, D. (2004). Students' improper proportional reasoning: The case of area and volume of rectangular figures. In M. Johnsen-Hoines & A. Berit-Fuglestad (Eds.), *Proceedings of the 28<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 3* (pp. 345-352). Bergen, Norway: Bergen University College.
487. Michaelidou, N., Gagatsis, A., & Pitta-Pantazi, D. (2004). The number line as a representation of decimal numbers: A research with sixth grade students. In M. Johnsen-Hoines & A. Berit-Fuglestad (Eds.), *Proceedings of the 28<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 3* (pp. 305-312). Bergen, Norway: Bergen University College.
488. Mousoulides, N., & Gagatsis, A. (2004). Algebraic and geometric approach in function problem solving. In M. Johnsen-Hoines & A. Berit-Fuglestad (Eds.), *Proceedings of the 28<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 3* (pp. 385-392). Bergen, Norway: Bergen University College.
489. Pantziara, M., Gagatsis, A., & Pitta-Pantazi, D. (2004). The use of diagrams in solving non-routine problems. In M. Johnsen-Hoines & A. Berit-Fuglestad (Eds.), *Proceedings of the 28<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: Vol. 3* (pp. 489-496). Bergen, Norway: Bergen University College.
490. Gagatsis, A. (2003). A multidimensional approach to understanding and learning mathematics. In A. Gagatsis & S. Papastavridis (Eds.), *Proceedings of the Third Mediterranean Conference on Mathematics Education* (pp.53-72). Athens: Greek Mathematical Society.
491. Ioannou I., & Gagatsis, A. (2003). Study on the role of representations in the understanding of vectors. In A. Gagatsis & S. Papastavridis (Eds.), *Proceedings of the Third Mediterranean Conference on Mathematics Education* (pp.187-198). Athens: Greek Mathematical Society.
492. Markou, A., & Gagatsis, A. (2003). Didactical contract and word problems: Influences and breach of contract in primary school pupils. In A. Gagatsis & S. Papastavridis (Eds.), *Proceedings of the Third Mediterranean Conference on Mathematics Education* (pp. 247-256). Athens: Greek Mathematical Society.
493. Xistouri, X., Gagatsis, A., & Pitta-Pantazi, D. (2003). A dyslexic child's strategies and mental representations in elementary arithmetic. In A. Gagatsis & S. Papastavridis (Eds.), *Proceedings of the Third Mediterranean Conference on Mathematics Education* (pp. 215-224). Athens: Greek Mathematical Society.
494. Gagatsis, A. (2003). A multidimensional analysis of obstacles to students' understanding in mathematics. In J. Sagula (Ed.), *Memorias del V Simposio de Educacion Matematica* (pp. 25-35). Buenos Aires: Edumat.
495. Gagatsis, A., & Elia, I. (2003). The use of number line in conducting arithmetic operations: A comparative study between Cypriot, Italian and Greek primary pupils. In J. Novotna (Ed.), *Proceedings of the International Symposium in Elementary Maths Teaching* (pp. 70-73). Prague, the Czech Republic: Charles University.
496. Gagatsis, A., Elia, I., Mouyi, A., & Evangelidou, A. (2003). Primary students' aptitude to express algebraic relations. In J. Novotna (Ed.), *Proceedings of the International Symposium in Elementary Maths Teaching*. (pp.74-78). Prague, the Czech Republic: Charles University.
497. Elia, I., Gagatsis, A., & Kyriakides, L. (2003). Young children's understanding of geometric shapes: The role of geometric models. In N. Pateman, B. Dougherty & J. Ziliox (Eds.), *Proceedings of the 2003 Joint Meeting of PME and PMENA: Vol. 2* (pp. 349-355). Honolulu, Hawaii: USA.

498. Elia, I., & Gagatsis, A. (2002). Matching Unusual Word Problems with Given Answers. In A. Rogerson (Ed.), *Proceedings of the International Conference: The Humanistic Renaissance in Mathematics Education* (pp.116-121). Palermo: The Mathematics Education into the 21<sup>st</sup> Century Project.
499. Markou, A., & Gagatsis, A. (2002). Representations and learning of fractions. In A. Rogerson (Ed.), *Proceedings of the International Conference: The Humanistic Renaissance in Mathematics Education* (pp. 250-253). Palermo: The Mathematics Education into the 21<sup>st</sup> Century Project.
500. Gagatsis, A., Kyriakides, L., & Panaoura, A. (2001). Construct validity of a developmental assessment on probabilities: A Rasch measurement model analysis. In M. van den Heuvel-Panhuizen (Ed.), *Proceedings of the 25th International Conference for the Psychology of Mathematics Education: Vol. 2* (pp.449-456). Utrecht-The Netherlands.
501. Gagatsis, A., & Kyriakides, L. (2000). Measurement of national standards in primary mathematics: Theoretical and methodological issues. In A. Gagatsis & Gr. Makrides (Eds.), *Proceedings of the Second Mediterranean Conference on Mathematics Education: Vol. 2* (pp. 461-471). Nicosia: Cyprus Mathematical Society.
502. Gagatsis, A. (1998). Problemi de interpretazione connessi con il concetto di funzione. In B. D'Amore (Ed.), *Diversi Aspetti e Diversi ambiti della Didattica della matematica* (pp. 131-132). Bologna: Pitagora Editrice.
503. Gagatsis, A., & Bagni, G.T. (1998). Risoluzione dei problemi geometrici. In B. D'Amore (Ed.), *Diversi Aspetti e diversi ambiti della Didattica della matematica* (pp. 139-140). Bologna: Pitagora Editrice.
504. Gagatsis, A. (1997). Didattica della matematica teoria e pratica, in *Didattica della Matematica e realta scolastica*, Incontri con la Matematica, N. 11, Comune Di Castel S. Pietro Terme, pp. 3-13.
505. Gagatsis, A., & Lambis, S. (1997). Solving methods in Problems of Proportion by Greek and Cypriot students in Secondary Education (Gymnasium-Lyceum, Ages 13-16). In Gr. Makrides (Ed.), *Proceedings of the First Mediterranean Conference Mathematics Education and Applications* (pp. 95-106). Nicosia: Cyprus.
506. Gagatsis, A. (1993). Quelques caractéristiques de l'enseignement de la géométrie en Grèce de 1830 à 1884: l'influence des géomètres français. *Proceedings of the First European Congress on the History and Epistemology of Mathematics in Mathematics Education* (pp. 343-349). Montpellier: IREM de Montpellier.
507. Gagatsis, A., & Thomaidis, I. (1993). L'étude Historique de la valeur absolute et sa transposition didactique. *Proceedings of the First European Congress on the History and Epistemology of Mathematics in Mathematics Education* (pp. 425-429). Montpellier: IREM de Montpellier.

○ **Conference Presentations**

Selected participations in international, Greek and Cyprus conferences on Mathematics Education

- Presentation of a number of studies at the 6<sup>th</sup> Mediteranean Conference on Mathematics Education, 22-26 April 2009, Plovdiv, Bulgaria. Chair of the scientific committee and editor of the proceedings in collaboration.

- Participation at CERME 6 (The 6<sup>th</sup> Conference of the European Society for Research in Mathematics Education) and presentation of six studies in collaboration with postgraduate students, 28/1/2009-1/2/2009, Lyon, France.
- Participation and presentation of a number of studies in collaboration with postgraduate students at the 11<sup>th</sup> Cyprus Conference of Mathematics Education and Symposium of Astronautics and Space, Cyprus Mathematical Society. President of the scientific committee and editor of the proceedings in collaboration, 6-8 February, 2009, Cyprus.
- President of the scientific and organizational committee, editor of the proceedings and presentation of studies in collaboration with postgraduate students at the “1<sup>st</sup> Conference of Five Cities: Nicosia, Rhodes, Bologna, Palermo, Locarno-Research in Mathematics Education”, 13-14 September, 2008, Nicosia.
- Participation and presentation of a number of studies in collaboration with postgraduate students at the 11<sup>th</sup> International Congress of Mathematics Education. Member of the organizational team of the Topic Study Group 20: Visualization in the teaching and learning of mathematics, 6-13 July, 2008, Monterrey, Mexico.
- Participation and presentation of a number of studies in collaboration with postgraduate students at the 10<sup>th</sup> Cyprus Conference of Mathematics Education and Symposium of Astronautics and Space, Cyprus Mathematical Society. President of the scientific committee and editor of the proceedings in collaboration, February, 2008, Cyprus.
- Participation and presentation of two studies at the conference for the Statistical Implicative Analysis, 5<sup>th</sup> International Conference A.S.I. - Implicative Statistical Analysis, 18-21 October 2007, at Castelló, Spain.
- Participation and presentation of two studies at the symposia about “Assessment that feeds the development of potentials for learning”, and “The development of children’s reasoning on linear and non-linear situations” respectively, at the 12<sup>th</sup> Biennial Conference for Research on Learning and Instruction (EARLI), Budapest, Hungary, August 28-September 1, 2007.
- Invited speaker at the 5<sup>th</sup> Mediterranean Conference on Mathematics Education, Rhodes, April 2007.
- Participation and presentation of four studies at the 5<sup>th</sup> European Congress in Mathematics Education (CERME, European Society for Research in Mathematics Education), in two working groups, WG1: The role of metaphors and images in the learning and understanding of mathematics and WG7: Geometrical Thinking, Larnaca, Cyprus, 22-26 February 2007.
- Participation and presentation of a study at the PREMA international workshop “Gender-Sensitivity and Pluralism in Mathematics Education” in Barcelona, Spain, 25-26 January 2007.
- Presentation of a number of studies at the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> Cyprus Conferences of Mathematics Education and Symposiums of Astronautics and Space, Cyprus Mathematical Society, 2001, 2002, 2004, 2005, 2006 and 2007.
- Presentation of a number of studies at the 2<sup>nd</sup>-5<sup>th</sup> Mediterranean Conference on Mathematics Education, 2000, 2003, 2005, 2007.
- Invited speaker at the international conference “La Matematica e la Sua Didattica, vent’anni di impegno”, Castel S. Pietro Terme, Italy, 23 September 2006.
- Participation and presentation of six studies in collaboration with postgraduate students at the 30<sup>th</sup> International Conference for “Psychology of Mathematics Education”, Prague, Czech Republic, 16-21 July 2006.
- Participation and presentation of a number of studies in collaboration with postgraduate students at MASSE International Congress on Mathematics MICOM 2006, Pafos, Cyprus, 31 May-4 June, 2006.

- Participation and presentation of 11 studies at the 4<sup>th</sup> Mediterranean Conference on Mathematics Education, 27-30 January 2005, Palermo, Italy.
- Presentation of a number of studies at the 9<sup>th</sup> Cyprus Conference of the Cyprus Pedagogical Society: Contemporary educational research in Cyprus, Nicosia, Cyprus, June 2006.
- Participation and presentation of a study at the 4<sup>th</sup> European Congress in Mathematics Education (CERME, European Society for Research in Mathematics Education) in Sant Feliu de Guixols, Spain, Cyprus, 17-21 February 2005.
- Invited speaker at the Greek Conference of Pantio University “Psychology and Society”, May, 2005.
- Presentation of two studies at the Mathematics Education symposium on “Routine versus adaptive use of representations and models in mathematical problem solving”, at the 11<sup>th</sup> Biennial Conference for Research on Learning and Instruction (EARLI), University of Cyprus, Nicosia, Cyprus, 22-27 August 2005.
- Invited speaker (presentation of two studies) at the International Conference on Mathematics Education, Svishtov, Bulgaria, 3-5 June 2005.
- Participation and presentation of three studies at the Third International Conference A.S.I. - Implicative Statistical Analysis, 6-8 October 2005, Palermo, Italy.
- Presentation of two studies in collaboration with postgraduate students at the 21<sup>st</sup> Greek Conference of Mathematics Education: The curriculum and the teaching approaches of mathematics in primary and secondary education, Greek Mathematical Society, Trikala, 19-21 November 2004.
- Participation and presentation of six studies in collaboration with postgraduate students at the 28<sup>th</sup> International Conference for “Psychology of Mathematics Education”, Bergen, Norway, 14-19 July 2004.
- Presentation of two studies at the working group on “New Developments and Trends in Secondary Mathematics Education” at the 10th International Congress on Mathematical Education (ICME-10), in collaboration with D. De Bock, M. Isoda, J. A. Garcia Cruz και E. Simmt, Copenhagen, 3-11 July 2004.
- Invited speaker at the conference for the 20 years of the Pedagogical Department of Elementary Education, University of Athens, May 2004.
- Invited speaker at the International and CASTME Europe Conference: Linking Science, Mathematics and Technology Education and their Social Relevance, Nicosia, 15-18 April 2004.
- Presentation of three studies at the 8<sup>th</sup> Cyprus Conference of the Cyprus Pedagogical Society: Contemporary trends in educational research and practice, Nicosia, Cyprus, May 2004.
- Invited speaker at the 17<sup>th</sup> Conference of Mathematics Education: “La didattica della matematica in aula”, Bologna, Italy, November 2003.
- Participation and presentation of two studies in collaboration with postgraduate students at the 6<sup>th</sup> Greek Conference of the Didactics of Mathematics and Informatics in Education, University of Thessaly, Volos, October 2003.
- Participation and presentation of two studies at the 27<sup>th</sup> International Conference for “Psychology of Mathematics Education”, Honolulu, Hawai'i, 13-18 July 2003.
- Invited speaker at the 2<sup>nd</sup> Conference on Mathematics of Secondary Education, University of Athens-Department of Education, Athens, Greece, April 2003.
- Invited speaker at the international conference “V Simposio de Educacion Matematica”, Buenos Aires, Argentina, 10-17 May 2003.

- Invited speaker at the 3<sup>rd</sup> Mediterranean Conference on Mathematics Education, Athens, 3-5 January 2003. Co-editor of the conference proceedings in English.
- Participation and presentation of two studies at the 7<sup>th</sup> Cyprus Conference of the Cyprus Pedagogical Society: Educational research in the period of globalization. Nicosia, Cyprus, 2002.
- Invited speaker at the Congresso Nazionale Mathesis: La matematica fra tradizione e innovazione –Un confronto Europeo”, Bergamo, Italy, 2002.
- Presentation of two studies at the International conference: The Humanistic Renaissance in Mathematics Education “The Mathematics Education into the 21<sup>st</sup> Century Project”, Palermo, Italy, 2002.
- Presentation of a study at Argomentum, 2002, Strasbourg, France.
- Invited speaker at the 3<sup>rd</sup> Conference of the Greek Pedagogical Society, Athens, Greece, 2002.
- Invited speaker at the First Congress on the Perspectives of the Departments of Education, Aegean University, Rhodes, Greece, 2001.
- Presentation of three Research Papers at the Fifth Panhellenic Conference on Didactics of Mathematics and Informatics in Education, Aristotle University of Thessaloniki, Thessaloniki, 2001.
- Invited speaker at the 11<sup>th</sup> Conference “Didattica della Matematica e realtà scolastica, Incontri con la Matematica”, Castel San Pietro, 1997.

○ **Editorial and Review Boards**

- Annales de Didactique de Mathématiques (Member of the Editorial Board), France, IREM de Strasbourg
- Cahiers de Didactique de Mathématiques (Editor), Greece, Institut Français de Thessalonique
- Educational Studies in Mathematics (Member of the Editorial Board), Netherlands, Springer Publishers
- Euclides  $\gamma$  (Member of the Scientific Committee), Greece, Greek Mathematical Society
- La matematica e la sua didattica (Member of the Scientific Committee), Italy, Pitagora Editrice Bologna
- Mediterranean Journal for Research in Mathematics Education (Chief Editor), Cyprus, Cyprus Mathematical Society
- Quaderni di Ricerca in Didattica (Member of the Scientific Committee), Italy, G.R.I.M. University of Palermo
- Tecne, Episteme y Didaxis (Member of the Scientific Committee), Colombia, Facultad Ciencia y Tecnologia-Universidad Pedagogica Nacional
- Scientia Paedagogica Experimentalis (Guest Editor), Belgium, University of Cent
- Acta Didactica Universitatis Comenianae (Member of the Editorial Board)
- Journal of Research of Mathematics Teaching (Reviewer)
- Educational Psychology (Reviewer)
- Co-editor of the proceedings at the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> Cyprus Conferences of Mathematics Education and Symposiums of Astronautics and Space, Cyprus Mathematical Society, 2001, 2002, 2004, 2005, 2006 and 2007.



- Co-editor of the proceedings of the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> Mediterranean Conference on Mathematics Education, 2000, 2003, 2005 and 2007.
- Co-editor of the proceedings of the 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> Conference of the Cyprus Pedagogical Society, 2002, 2004 and 2006.
- Co-editor of the proceedings of the working group on “New Developments and Trends in Secondary Mathematics Education” at the 10th International Congress on Mathematical Education, in collaboration with D. De Bock, M. Isoda, J. A. Garcia Cruz και E. Simmt, Copenhagen, 3-11 July 2004.
- Co-editor of the proceedings of the CASTME International and CASTME Europe Conference: Linking Science, Mathematics and Technology Education and their social relevance, Nicosia 2004.

- **Professional Memberships**

Cyprus Mathematical Society, Cyprus (Vice-chairman, 2001-today); Greek Mathematical Society, Greece; Cyprus Pedagogical Society Cyprus (Chairman, 2000-2004); ARDM Association de Recherche en Didactique de Mathématiques, France; MATHESIS, Italy (Honorary Member); International Group for the Psychology of Mathematics Education (PME); European Association for Research on Learning and Instruction (EARLI)

- **Supervision of student research**

- **Undergraduate**

Supervision of the undergraduate research study by Constantinos Constantinou and Georgia Tanou of the Department of Education, University of Cyprus, which has received an award by the Cyprus Research Promotion Foundation (2005).

- **Graduate**

- Supervisor of Doctoral Dissertations on Mathematics Education at the Department of Education, University of Cyprus. A number of the dissertations were completed over the last academic years (Eleni Michaelidou and Myria Shiakalli in 2003-2004, Iliada Elia in 2005-2006, Modestina Modestou in 2006-2007, Georgia Panaoura 2006-2007, Eleni Deliyianni 2008-2009) while others are in progress or expected to be completed in the current academic year (Ioannis Salonikides, Annita Monoyiou, Panayiota Kalogirou).
- Supervisor of the Doctoral Dissertation on Mathematics Education of Ioannis Thomaides, Department of Mathematics, Aristotle University of Thessaloniki, 1994.
- Coordinator or member of scientific committees of numerous doctoral dissertations and master theses at Universities in Greece (Athens, Thessaloniki, Crete, Patra).
- Member of the scientific committee of the Doctoral Dissertation of Sylvia Sbaragli on Mathematics Education at the Comenius University, Bratislava, Slovakia.
- Member of the scientific committee of the Doctoral Dissertation of Andri Marcou, SouthBank University of London.
- Supervisor of Master Dissertation on Mathematics Education of students from the Department of Mathematics of the University of Athens.

- **Committees**

- **Public**

Committee of Reform of the Ministry of Education and Culture, Cyprus. Proposal for educational reform in Cyprus.

- **International**

Committee of the Ministry of Education of Greece for the establishment of the new curricula of Mathematics in Greece, 1987-1989.

- **Scientific**

Committee for the establishment of national standards in mathematics education, Cyprus, Vice-chairman of the Group of Secondary Mathematics Education for establishing the national standards in mathematics. Pedagogical Institute and University of Cyprus.

Chair of the scientific Committees of Conferences of the Mathematical Society, the Pedagogical Society in Cyprus and of the Mediterranean Conferences on Mathematics Education.

- **University**

International relations committee.

- **Departmental**

Committee for the organization of seminars, Department of Education.

Chair of the committee for the teaching practice program (practicum).

Chair of the committee for Postgraduate Studies, 2000-2002.

- **Other Professional Activities**

- Temporary president of the Department of Law (2007-today).
- Dean of the Faculty of Social Sciences and Education, University of Cyprus (2006-today)
- Member of the organizing committee of CERME 5, 2007 in Cyprus.
- Co-organisation of the Working Group 7: Geometrical thinking at the 5<sup>th</sup> European Congress in Mathematics Education (CERME5, European Society for Research in Mathematics Education, 2007)
- Organization of the symposium “The role of representations and modelling in the learning of mathematics and problem solving” in the MASSEE International Congress on Mathematics (MICOM 2006)
- Participation in the International Mathematics Competition at Bali, Indonesia, 2006, in Philippines, 2005 (PEMIC: Philippine Elementary Mathematics International Contest 2005) and Hong-Kong, 2001, as a leader of the Cypriot Olympic Team of 12-13 year-old pupils.
- Co-organization of the Mediterranean Conference on Mathematics Education in Palermo, 2005, Athens, 2003 and Cyprus 2001.
- Co-organization of the symposium “Routine versus adaptive use of representations and models in mathematical problem solving” in the International Conference for Research on Learning and Instruction (EARLI), 2005.
- Chairman of the Department of Education, University of Cyprus (2000-2004)

- Co-organization of the Topic Study Group 2: “New Developments and Trends in Secondary Mathematics Education” in the International Congress on Mathematical Education (ICME 10), 2004.
- Organization of seminars on the Didactics of Mathematics at the Mathematics Department of the Kristiansand University, Norway, November 2004.
- Collaboration with the Mathematics Department, University of Athens in the framework of the postgraduate programme of Didactics and Methodology of Mathematics (2003-2005, 2006-2007).
- Vice-chairman of the Department of Education, University of Cyprus, 1996-2000.
- Collaboration with the Mathematics Department, University of Patra in the framework of the postgraduate programme of Didactics of Mathematics.
- Collaboration with the Mathematics Department, University of Palermo, Italy in the framework of the International Group of Language and Mathematics.
- Collaboration with the Mathematics Department, University of Palermo, Italy and participation in the International Committee of the PhD Programme on the Didactics and History of Mathematics an Sciences.
- Coordinator of the educational programmes ERASMUS ICP-91-G-0027/11 GREECE, ERASMUS ICP-92-G-2011/11 GREECE, ERASMUS ICP-93-G-2011/11 GREECE, ERASMUS ICP-94-G-2011/11 GREECE, ERASMUS ICP-95-G-2011/11 GREECE, ERASMUS ICP-96-G-2011/11 GREECE, ERASMUS ICP-97-G-2011/11 GREECE, ERASMUS IP-98 CYPRUS, ERASMUS IP - 99 CYPRUS, ERASMUS IP - 00 CYPRUS.
- Co-organization of the Working Group 7: “Language and communication in the mathematics classroom” in the International Congress on Mathematical Education (ICME 7, 1992)