

**‘Specialization in ICTs and Special Education: Psychopedagogy
of Integration’ Postgraduate Program
DEMOCRITUS UNIVERSITY OF THRACE Department of Greek
Philology in collaboration with
NCSR DEMOKRITOS Informatics and Telecommunications
Institute**

**SPECIAL EDUCATION-SCHOOLYARDS AND ENVIRONMENTAL
EDUCATION**

TZORTZIS ANTONIS

**POSTGRADUATE
THESIS**

**Komotini/Athens
2020**

ABSTRACT

Within the framework of schoolyards, environmental education includes practical and theoretical approaches in which is needed the use of all senses and with emphasis on the experiences of students is required. These teaching and learning methods are particularly well adapted for children with special disabilities, as special education works with direct learning approaches. The literature shows that children with disabilities are positively affected through the outdoor environmental education, both in terms of learning outcomes and in improving their sensory-motor activities. This research is a bibliographical review that focuses on the teaching of the environmental education in school yards to children with disabilities. In particular, it focuses on special education, environmental education, school yards and the school yard as a field of environmental education in special schools. The conclusions of the survey is the importance of introducing environmental education into special education school curricula, taking advantage of the use of school yards and outdoor education practices.

KEY WORDS: disabilities, environmental education, inclusion, outdoor education school yards, special education.

References

- Alkahtani, M.A. (2016). Review of the Literature on Children with Special Educational Needs. *Journal of Education and Practice*, 7(35), 70-83.
- American Association on Mental Retardation. (1992) *"Mental Retardation"*. (9th ed.) Washington D.C.: AAMR.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA.
- Ardoin, N. M. & Ryan, S. M. (2011). *Environmental and sustainable education in natural world heritage sites*. MIT press.
- Aydeniz, M., Bilican, K. & Kirbulut, Z.D. (2017). Exploring pre-service elementary science teachers' conceptual understanding of particulate nature of matter through three-tier diagnostic test. *International Journal of Education in Mathematics, Science and Technology (IJEMST)*, 5(3), 221-234. DOI:10.18404/ijemst.296036.
- Ballantyne, R. (1999). Teaching environmental concepts, attitudes and behavior through geography education: findings of an international survey. *International Research in Geographical and Environmental Education*, 8 (1), 40 – 55.
- Barnes, C. (1991). *Disabled people in Britain and discrimination*. Lyme Regis: Russell House Publishing. London.
- Barnes, P. & Sharp, B. (2004). *The RHP companion to outdoor education*. Lyme Regis: Russell House Publishing.
- Barrett, P., Zhang, Y., Davies, F. & Barrett, L. (2015). *Clever Classroom*. Summary Report of the HEAD Project,.Salford: Raw Engine House Islington Mill Studios.
- Berger, R. (2008). Going on a Journey: A Case Study of Nature Therapy with Children with a Learning Difficulty. *Emotional & Behavioural Difficulties*, 13(4), 315-326.
- Bhaumik, S. (2009). *"Faculty of Learning Disability"*. Royal College of Psychiatrists, Leicester Frith Hospital, Groby Rd, Leicester.
- Birnbaum, R. (2010). *"Choosing a School for a child with Special Needs"*. (6th ed). London: Jessica Kingsley Publishers.
- Bloom, B. S. (1976). *Tillman characteristics and school learning*. New York: McGraw -hill Book Company.
- Boada, R., Peterson, R., & Mapou, R. (2018). Learning Disabilities. In J. Donders & S. Hunter (Eds.), *Neuropsychological Conditions Across the Lifespan* (pp. 116-138). Cambridge: Cambridge University Press. doi:10.1017/9781316996751.008.
- Bögeholz, S. (2006). Nature experience and its importance for environmental knowledge, values and action: recent German empirical contributions. *Environmental Education Research*, 12(1), 65-84. doi:10.1080/13504620500526529.
- Bolstad, R. (2005). Environmental Education: A Place in the Curriculum? New Zealand *Annual Review of Education*, 14, 215 – 235.
- Boston Schoolyard Funders Collaborative and Education Development Center. (2000). *"Schoolyard Learning: the Impact of School Grounds"*. EDUCATION DEVELOPMENT CENTER. USA.
- Boyle, A., Maguire, S., Martin, A., Milsom, C., Nash, R., Rawlinson, S., et al. (2007). Fieldwork is good: The student perception and the affective domain. *Journal of*

- Geography in Higher Education*, 31(2), 299–317.
- Brett, A., Moore, R., & Provenzo, E. F. (1993) *The Complete Playground Book*. New York, Syracuse University Press.
- Broadhead, P., & van Der Aalsvoort, D. (2009). "Play and Learning in Educational Settings". *Educational and Child Psychology*. 26(2): 5–8.
- Brodin, J., & Lindstrand, P. (2006). Inclusion of Children in Outdoor Education -Learning in Motion Report I. Retrieved March 20, 2010, from http://www.buv.su.se/polopoly_fs/1.75640.1328875902!/menu/standard/file/TKH_43.Pdf.
- Brookshire, R.H., & McNeil, M.R. (2014). *Introduction to Neurogenic Communication Disorders* (Ed. 8). Elsevier Health Sciences.
- Brown, J.S., Collins, A., & Duguid, P. (1989). Situated Cognition and the Culture of Learning. *Educational Researcher*, 18 (1), 32-42.
- Buddensiek, W. (2008), Lernräume als gesundheits- & kommunikationsfördernde Lebensräume gestalten. Auf dem Weg zu einer neuen Lernkultur [Schoolrooms supporting health and communication. A Way to a new Learning-Culture]. In G. Brägger, N. Posse & G. Israel. (eds), *Bildung und Gesundheit – Argumente für eine gute und gesunde Schule* (pp. 1–28), Bern: h.e.p. Verlag.
- Cameron, D.L., & Cook, B.G. (2007). Attitudes of preservice teachers enrolled in an infusion preparation program regarding planning and accommodations for included students with mental retardation. *Educ. Train. Dev. Disabil.* 42, 353–363.
- Capra, F. (1997). *The web of life. A new understanding the living systems*. New York: Anchor Books, Doubleday.
- Carlsen, M. B. (1988). *Meaning-making: "Inerapeutu processes in adult development*. New York: WA\ Norton & Company.
- Cavet, J. & Mount, H. (1995). Multisensory environments. In J. Hogg and J. Cavet. (eds), *Making Leisure Provision for People with Profound and Multiple Learning Disabilities*, (pp. 67-85). London, Chapman and Hall.
- Cederberg, M. & Ericsson, I. (2015). Physical activity and school performance: a survey among students not qualified for upper secondary school. *Physical Education and Sport Pedagogy*, 20(1), 45–66.
- Chang, C-Y., Lin, C-C., & Lin, H.-H. (Eds.). (2019). *New Trends in Computer Technologies and Applications*. 23rd International Computer Symposium, ICS 2018, Yunlin, Taiwan, December 20–22, 2018, Revised Selected Papers.
- Charlton, J. (1998). *Nothing about us without us: disability, oppression and empowerment*. Berkeley: University of California Press.
- Chatzfofiou, A. (2006). Environmental education, national curriculum and primary school teachers. Findings of a research study in England and possible implications upon education for sustainable development. *The Curriculum Journal*, 17 (4), 367 – 381.
- Chawla, L. & Heft, H. (2002). Children's competence and the ecology of communities: a functional approach to the evaluation of participation. *Journal of environmental psychology*, 22 (1-2), 201-216.
- Chawla, L. & Nasar, J. L. (2015). Benefits of nature contact for children. *CPL Bibliogr.* 30,

433–452. doi: 10.1177/0885412215595441.

- Chi-chung Ko, A. & Chi-kin Lee, J. (2003). Teachers Perceptions of Teaching Environmental Issues within the Science Curriculum: A Hong Kong Perspective. *Journal of Science Education and Technology*, 12(3), 187 – 204.
- Christie, B. (2012). *The impact of outdoor learning experiences on attitudes to sustainability: A review of literature*. Prepared for Field Studies Council. Edinburgh: University of Edinburgh.
- Čiegis, R. & Gineitienė, D. (2006). The Role of Universities in Promoting Sustainability. *ENGINEERING ECONOMICS*, 3 (48), 56-62.
- Corbett, J. (1996). *“Bad-Mouthing: The Language of Special Needs”*. London: Falmer Press.
- Cortese, A. (1999). *Education for Sustainability: The University as a Model of Sustainability*. Retrieved February 10, 2020, from <http://www.secondnature.org/pdf/snwritings/articles/univmodel.pdf>.
- Cortese, A. (2003). The Critical Role of Higher Education in Creating a Sustainable Future. *Planning for Higher Education*, 31 (3), p.15-22.
- Coyle, K. J. D. (2004). Understanding Environmental Literacy in America: And Making it a Real- Making it a Reality. *Journal of Environmental Education*, 47 (1), 1063 – 1068.
- Crawford, B.A. (2000). Embracing the essence of inquiry: New roles for science teachers. *Journal of Research in Science Teaching*, 37(9), 916–937.
- Cutter-Mackenzie, A. & Smith, R. (2001). Gauging Primary School Teachers’ Environmental Literacy: An Issue of “Priority”. *Asia Pacific Education Review*, 2 (2), 45 – 60.
- Danks, S. G. (2010). *Asphalt to Ecosystems: Design Ideas for Schoolyard Transformation*. Oakland, CA: New Village Press.
- Davis, P. & Florian, L. (2004). *Teaching strategies and approaches for pupils with special educational needs: A scoping study*. Norwich, England: The Queen’s Printer.
- Department for Children, Schools and Families- DCSF. (2007). *The Children’s Plan: Building brighter futures DCSF 2007*. Retrieved February 10, 2020, from <http://www.teachernet.gov.uk/educationover-view/briefing/current-strategy/childrensplan>.
- Department for Children, Schools and Families- DCSF. (2020). Retrieved February 25, 2020, from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/276698/Building Bulletin 102 designing for disabled children and children with SEN.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/276698/Building_Bulletin_102_designing_for_disabled_children_and_children_with_SEN.pdf).
- DES. (1978). *“Special Educational Needs (The Warnock Report)”*, London: HMSO.
- Dewey, J. (1938). *Experience and education*. New York: Macmillan.
- DfES. (2001). *“the Special Educational Needs (SEN) Code of Practice”*. London: DfES.
- Dib, C. Z. (1988). *Formal, Non-Formal and Informal Education: Concepts/Applicability. Cooperative Networks in Physics Education* (pp. 300-315). New York: American Institute of Physics.
- Dillon, J. & Teamey, K. (2002). Reconceptualizing environmental education: taking account of reality. *Canadian Journal of Science, Mathematics and Technology*

Education, 2 (4), 467 – 483.

- Disingcr, J. F. & Floyd D. W. (1990, August). Into the 1990s: EL in the LISA. *Australian Journal of Environmental Education*, 6, 1-14.
- Dixon, F. A., Yssel, N., McConnell, J. M., & Hardin, T. (2014). Differentiated Instruction, Professional Development, and Teacher Efficacy. *Journal for the Education of the Gifted*, 37, 111-127.
- Drake, S. (2004). *Meeting Standards through Integrated Curriculum*. Alexandria, VA, USA: Association for Supervision and Curriculum Development.
- Driedger, D. (1989). *The last civil rights movement*. London, Hurst.
- Dyment, J. E. (2005). Green school grounds as sites for outdoor learning: barriers and opportunities. *Int. Res. Geogr. Environ. Educ.* 14, 28–45. doi: 10.1080/09500790508668328.
- Dyson, D. (2005). "Philosophy, politics and economics? The story of inclusive education in England" In D. Mitchell. (Eds), *Contextualising Inclusive Education: Evaluating old and new international perspectives* (pp. 63-88). Routledge.
- Edwards, I. D. (2000). Education by stealth: the subtle art of educating people who didn't come to learn. *Roots*, 20, 37-40.
- Emerson, E. & Heslop, P. (2010). "A Working Definition of Learning Disabilities" (Report No.1), London: Department of Health.
- Ernstens, R. (1996). *The Development of Pedagogical Theory for Environmental Science and Management Studies/ In Implementation of Environmental Education in the Community*. The 5th Conference on Environment Education in Europe, 22-27 October 1996, Mid Sweden University, Sweden.
- Esler, W.E., Midgett, J., & Bird, R.C. (1977). Elementary science materials and the exceptional child. *Sci. Educ.* 61, 181–184.
- Farrell, M. (2004). " *Special educational needs: a resource for practitioners*". (1st ed.) London: Paul Chapman Publishing.
- Faskunger, J., Szczepanski, A., & Åkerblom, P. (2018). *Teaching with the sky as a ceiling A review of research about the significance of outdoor teaching for children's learning in compulsory school*. Linköping University Electronic Press, <https://liu.se/en/research/forum-for-outdoor-education>.
- Ferry, B. (1995). Enhancing environmental experiences through effective partnerships among teacher educators, field study centers, and schools. *J. Exp. Educ*, 18, 133–137.
- Fien, J. (1993). *Education for the Environment: Critical Curriculum Theorising and Environmental Education*. Geelong, Australia: Deakin University Press.
- Flaws, M., & Meredith, K. (2007). A Wind of Shift: Integrating curriculum for education for education for sustainable development. *New Zealand Geographer*, 63, 55 – 61.
- Foreman, P. (2009). " *Education of Students with an Intellectual Disability: Research and Practice*". (4th ed). Charlotte, NC: Information Age Publishing.
- Fraser, D. (2000). *Curriculum Integration: What is and what is not. Learning in partnership*. Set 3, 34 – 37. School of Education, University of Waikato.
- French, J., Contag, D., & Sundharam, P. (2012). "Natural Environment Elevates the Learning Experience." landscapeonline.com. 2012. Retrieved April 10, 2020,

- from <http://www.landscapeonline.com/research/article/14964> (accessed 4 25, 2012).
- Gilbertson, K. (2006). *Outdoor education: methods and strategies*. Champaign, IL : Human Kinetics.
- Gough, A. (1997). *Education and the environment: policy, trends, and the problems of marginalization*. Melbourne: The Australian Council for Educational Research.
- Gough, S.R. (2020). Increasing the value of the environment: a 'real options' metaphor for learning. *Environmental Education Research*, 8(1), 61–72.
- Government of South Australia. (2016). Let nature be your teacher Connecting to nature in your school yard to facilitate student learning. State of South Australia. Retrieved April 10, 2020, www.creativecommons.org/licenses/by/3.0/au.
- Grace, M. & Sharp, J. (2000). Exploring the Actual and Potential Rhetoric-reality Gaps in Environmental Education and their Implications for Pre-service Teacher Training. *Environmental Education Research*, 6 (4), 331 – 345.
- Greenaway, R. (2005). "What is Outdoor Learning." Institute for Outdoor Learning.
- Heather, P. (2016). Outdoor experiences and sustainability. *Journal of Adventure Education and Outdoor Learning*, 17 (2)., 161-171.
- Hands & Voices. (2005) "Description of Degree of Hearing Loss Versus Potential Effects". Retrieved April 7, 2020, from: http://www.handsandvoices.org/resources/coGuide/05_Lossvseffct.htm.
- Hanneman, L. E. (2013): *The Effectiveness of Experiential Environmental Education: O'Neill Sea Odyssey Program Case Study*. Master thesis at San Jose State University.
- Hardman, C.M., Garioch, J.J., Leonard, J.N., et al. (1997). Absence of toxicity of oats in patients with dermatitis herpetiformis. *N Engl J Med*, 337(26), 1884-1887.
- Harris, F. (2017). The nature of learning at forest school: practitioners' perspectives. *Education* 45, 272–291. doi: 10.1080/03004279.2015.1078833.
- Hedge, M.N. & Maul, C.A. (2006). *Language Disorders in Children: An Evidence-Based Approach to Assessment and Treatment*. Pearson/Allyn & Bacon.
- Heimlich, J.E. (1993). *Nonformal Environmental Education: Toward a Working Definition*. *The Environmental Outlook*. ERIC/CSMEE Informational Bulletin.
- Hemmingson, H. & Borell, L. (2001). 'Environmental barriers in mainstream schools'. *Child Care, Health and Development*, 28 (1): 57–63.
- Higgs, A.L. & McMillan, V. M. (2006). Teaching through modelling: four schools' experiences in sustainability education. *The Journal of Environmental Education*, 38(1), 39-53.
- Howe, C. (2009): *The Role of Education as a Tool for Environmental Conservation and Sustainable Development*. PhD thesis at Imperial College London.
- Hume, T. & Barry, J. (2015): *Environmental Education and Education for Sustainable Development*. International Encyclopedia of the Social & Behavioral Sciences, 2nd edition.
- Hussein H. (2010). Using the sensory garden as a tool to enhance the educational development and social interaction of children with special needs. *Support for Learning*, 25(1), 25-31.
- Hussein, H. (2017). "Sensory affordances in outdoor play environment towards well-

- being of special schooled children”, *Intelligent Buildings International*, 9(3), 148-163.
- Ileimlich, J. E. & Norland, E. (1993, in press). *Developing your teaching style*. San Francisco: Jossey Bass.
- International Standard Classification of Education (ISCED)*. 1997. UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION.
- Jackson, P. (1992). Conceptions of Curriculum and Curriculum Specialists. In P. Jackson, (Ed.). *Handbook of Research on Curriculum: A project of the American Research Association* (pp. 3 – 40). New York: Macmillan.
- Jencks, C. & Phillips, M. (1998). *The Black-White Test Score Gap*. Washington, DC: Brookings Institution.
- Jensen, B. & Schnack, K. (1997). The action competence approach in environmental education. *Environmental Education Research*, 3 (2), 163 – 178.
- Johnsen, B.H., & Skjørten, M.D. (2001). *Education – Special Needs Education – An Introduction*. Oslo: Unipub Forlag.
- Jones D. M. (2000). *Making connections with the earth: In Reaching out to the garden visitor*. American Association of Botanical Gardens and Arboreta.
- Jucker, R. A. (2003). *Vision of a Sustainable University*. Retrieved April 10, 2020, <http://www.swan.ac.uk/environment/visionforasustainableuniversity.doc>.
- Ketlhoilwe, M.J. & Jeremiah, K. (2010). Mainstreaming environment and sustainability issues in institutions of higher education: the case of the University of Botswana. *International Journal of Scientific Research in Education*, 3(1), 1-9.
- Khan, M. (2012). *Outdoor as Learning Environment for Children at a Primary School of Bangladesh*. Master Thesis. Department of Architecture BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY. Dhaka, Bangladesh.
- Kimaryo, L. A. (2011). *Integrating environmental education in primary school education in Tanzania: teachers' perceptions and teaching practices*. Pargas, Åbo Akademi University Press.
- Krause, I.S. & Kjorsvig, J.M. (1992). Mortality after spinal cord injury: a four-year prospective study. *Arch Phys Med Rehabil.*, 73, 558-563.
- Kytta, M. (2002). “Affordances of Children’s Environments in the Context of Cities, Small Towns, Suburbs and Rural Villages in Finland and Belarus”. *Journal of Environmental Psychology*, 22(1), 109-123.
- La Trobe, H. & Acott, G. T. 2000. A Modified NEP/ DSP Environmental Attitudes Scale. *Journal of Environmental Education*. 32 (1): 323 – 331.
- Lappa, C., Kyparissos, N., & Paraskevopoulos, S. (2017). Environmental Education at the Special School: Opinions of Special Education Teachers. *Natural Sciences Education*, 46 (1), 1-10.
- Lappa, C., Kyparissos, N., & Paraskevopoulos, S. (2017). Environmental Education at the special school: opinions of special education teachers. *Natural sciences education*, 46 (1), 170004. DOI: 10.4195/nse2017.02.0004.
- Lee, J. C. K. & Williams, M. (2001). Researching environmental education in the school curriculum: An introduction for students and teacher researchers. *International Research in Geographical and Environmental Education* 10, 218 – 244.
- Lee, J. C-K. (2000). Teacher receptivity to curriculum change in the implementation

- stage: the case of environmental education in Hong Kong. *Journal of Curriculum Studies*, 32 (1), 95 - 115.
- Leonardi, M., Bickenbach, J., Ustun, T.B., Kostanjsek, N., & Chatterji, S. (2006). MHADIE Consortium. The definition of disability: what is in a name? *Lancet*, 36 (8), 1219-1221.
- Liddicoat, A.J. (2015). Multilingualism research in Anglophone contexts as a discursive construction of multilingual practice. *Journal of Multicultural Discourses*, 11(1), 1-16.
- Lighthouse International. (2008). "Eye Disorders". Retrieved April 17, 2020, from: <http://www.lighthouse.org/medical/eye-disorders>.
- Lindhe, V. (1999). *Greening Education, Prospects and Conditions in Tanzania*. Doctoral Thesis, Uppsala University.
- Lineberger S. E. & Zajicek J. M. (2000). School gardens: can a hands-on teaching tool affect students' attitudes and behaviors regarding fruit and vegetables'. *Hort Technology*, 10(3), 593-597.
- Lucas, A. M. (1979). *Environment and environmental education: conceptual issues and curriculum implications*. Melbourne, Victoria: Australian International Press and Publications.
- Lucaa, B. (1996). "A feast for the senses", Landscape design. *Journal of Landscape Institute*, 249, 26-28.
- Luckasson, R., Coulter, D. L., Polloway, E. A., Reese, S., Schalock, R. L., Snell, M. E., et al., (1992). "Mental Retardation: Definition, classification, and Systems of Supports". (9th ed.). Washington, DC: American Association on Mental Retardation.
- MacWhinney, B. & O'Grady, W. (2015). *The Handbook of Language Emergence*. John Wiley & Sons, Inc.
- Maller, C. & Townsend, M. 2005/2006. Children's mental health and wellbeing and hands-on contact with nature. *International Journal of Learning*, 12(4).
- Massey, P. & Rose, S. (1992). Adventurous outdoor activities: a review and a description of a new service delivery package for clients with learning difficulties who have behaviours which challenge services or society. *Journal of Advanced Nursing*, 17(12), 1415-1421.
- Mastrili, T. (2005). *Environmental Education in Pennsylvania's Elementary Teacher Preparation Program: The Fight to Legitimize Environmental Education*. Journal of Environmental Education. New England.
- McClaren, M. & Hammond, B. (2005). Integrating education and action in environmental education. In E. Johnson and M. Mappin (Eds.). *Environmental Education and Advocacy. Changing Perspectives of Ecology and Education* (pp. 267 - 291). Cambridge: Cambridge University Press.
- McCombs, B., Berliner, D., Lutchins, C., Jones, B. F., O'Neil, H., Mills, R., et al (1991). *Learner-centered Psychological principles: Guidelines for school re design and reform*. Washington, DC: APA Task Force on Psychology in Education.
- McConachie, H., Colver, A.F., Forsyth, R., & Jarvis, S.N. (2006). Participation of disabled children: how should it be characterised and measured? *Disability and Rehabilitation*, 28, 1157-1164.
- Meire, J. (2007). *Qualitative Research on Children's Play: A Review of Recent Literature*.

- In Several Perspectives on Children's Play*. Tom Jambor and Jan van Gils (eds). London: Garant Publishers.
- Meyer, K. (2010). "Green Schoolyards as an Element of Reform." *Education Week*, 30(2), 18-19.
- Milhrai, L. W., Ilausbeck, K. M., & Enright, S. M. (1990). *An inquiry into environmental education: Levels of knowledge, awareness and concern among New York State high school students*. Buffalo: The Research Program in Environment and Society, State University of New York.
- Mintz, S. & Rode, S. 1999. More than a walk in the park: Demonstration carts personalize interpretation'. *Roots*, 18, 24–26.
- Montag Stiftung Urbane Räume, Montag Stiftung Jugend und Gesellschaft (2011) (eds) *Vergleich ausgewählter Richtlinien zum Schulbau – Kurzfassung [Comparison of selected guidelines for School Buildings]*, Heft 1, Reihe: Rahmen und Richtlinien für einen leistungsfähigen Schulbau in Deutschland.
- Moore, R. & Cosco, N. (2014). Children, Youth and Environments. *Greening Early Childhood Education*, 24(2), 168-191.
- Moore, R.C. (1999). Healing gardens for children, In M. Cooper & M. Barnes, M. (eds.) *Healing gardens: Therapeutic benefits and design recommendations (pp. 318-324)*. New York: John Wiley and Sons, Inc.
- Moyles, J. (2010). *The Excellence of Play*. Berkshire: Open University Press.
- Murphy, N.A. & Carbone, P.S. (2008). Promoting the Participation of Children with Disabilities in Sports, Recreation and Physical Activities. *Pediatrics*, 121, 1057.
- Musgrave, C. R. (1975). *Individual instruction: Teaching strategies focusing on the learner*. Boston: Allyn mid Bacon, Inc.
- NCU. (2004). Nationellt Centrum för Utomhuspedagogik, Institutionen för Kultur och Kommunikation, Linköpings universitet. Forum for Outdoor Education, Department of Culture and Communication, Linköping University. Linköping.
- North American Association for Environmental Education - NAAEE. (2001). Using Environment Based Education to Advance Learning Skill and Character Development. *Journal of Environmental Education*, 35 (6): 603 – 608.
- O'Malley, S. (2014). *Re-connecting children with nature? A sociological study of environmental education in Ireland*. PhD thesis at National University of Ireland.
- Oliver, M. (1990). *The politics of disablement*. Basingstoke, Macmillan and St Martin's Press.
- Palmer, J. (1998). *Environmental Education in the 21st Century: Theory, practice, Progress and Promise*. London: Routledge.
- Palmer, J. & Neal, P. (1994). *The Handbook of Environmental Education*. London: Routledge.
- Passarelli, A., Hall, E., & Anderson, M. (2010). A Strengths-Based Approach to Outdoor and Adventure Education: Possibilities for Personal Growth. *Journal of Experiential Education*, 33(2), 120-135.
- Peterson, A., Soberón, J., Pearson, R., Anderson, R., Martínez-Meyer, E., Nakamura, M., & Araújo, M. (2011). *Ecological Niches and Geographic Distributions (MPB-49)*. Princeton; Oxford: Princeton University Press. doi:10.2307/j.ctt7stnh.
- Pindzola, R.H., Plexico, L.W., & Haynes, W.O. (2015). *Diagnosis and evaluation in speech*

pathology. Pearson.

- Plaka, V. & Skanavis, C. (2016). *The feasibility of school gardens as an educational approach in Greece: a survey of Greek schools*. International Journal of Innovation and Sustainable Development.
- Postman, N. & Weimirtner, C. (1969). *Teaching as a subversive activity*. New York: A Delta Book.
- Powers, A. (2004). Teacher preparation for environmental education: faculty perspectives on the infusion of environmental education into pre-service methods courses. *The Journal of Environmental Education*, 35 (3), 3 – 11.
- Price, A. (2015). Improving school attendance: can participation in outdoor learning influence attendance for young people with social, emotional and behavioural difficulties? *Journal of Adventure Education and Outdoor Learning*, 15(2), 110-122.
- Pulkkinen, K. (2006). Teacher Thinking and practice in Environmental Education: Finnish North Carelian Primary School Teachers as Environmental Educators. In S. Tani, (Ed.). *Sustainable Development through Education, Proceedings of the International Conference on Environmental Education* (pp. 143 – 154). Helsinki, 14 June.
- Purke, V. & Novak, J. M. (1984). *Inviting school success: A self-concept approach to teaching and learning*. Belmont, CA: Wadsworth Publishing Company.
- Reed, B. & Loughran, E. L. (Eds.). (1984) *Beyond schools: Education for economic, social, and personal development*. Amherst: Community.
- Reif, F. (2015). Understanding and Teaching Important Scientific Thought Processes. *American Journal of Physics*, 3 (1), 17 – 32.
- Richards, M. C. (1980). *Toward wholeness: Rudolf Steiner education in America*. New Hampshire: University Pressor New England.
- Rickinson, M., Dillon, J., Teamey, K., Morris, M., Choi, M. Y., Sanders, D., & Benefield, P. (2004). "A review of Research on Outdoor Learning." Research Publication.
- Robinette, G.A. (1975). Barrier Free Site Design. *American Society of Landscape Architects Foundation*, 10-45.
- Robinson, C.W. & Zajicek, J.M. (2005). Growing minds: the effects of a one-year school garden program on six constructs of life skills of elementary school children. *Hort Technology*, 453–457.
- Robinson, J., & Owens, E. (2013). Diminished acquired equivalence yet good discrimination performance in older participants. *Front. Psychol.* 4, 726.
- Rognhaug, G. (2008). "*Spesial pedagogikk*" (*Special Needs Pedagogy*). Oslo: Gyldendal.
- Roos, E.M. & Weismer, S.E. (2008). Language Outcomes of Late Talking Toddlers at Preschool and Beyond. *Rerspect Lang Learn Educ.* 15(3), 119–126. doi: 10.1044/lle15.3.119.
- Roy, S.C. (2002). Learning in Sustainable Environments: the Greening of Higher Education (J. Benayas, J.G. Perez). In D. Tilbury, R.B Stevenson, J. Fien, & Schreuder D. (eds.). *Education and Sustainability: Responding to the Global Challenge*. Commission on Education and Communication, IUCN, Gland, Switzerland and Cambridge, UK.
- Royal National Institute for the Blind. (2008). "*Eye Conditions*". Retrieved April 17, 2020,

from http://www.sortit.org.uk/eyecond_astigmatism.htm.

- Ruiz-Gallardo, J-R., Verde, A., & Valdés, A. (2013) Garden-Based Learning: An Experience With “At Risk” Secondary Education Students, *The Journal of Environmental Education*, 44(4), 252-270, DOI: [10.1080/00958964.2013.786669](https://doi.org/10.1080/00958964.2013.786669).
- Rusinko, C. A. (2010). Integrating sustainability in higher education: a generic matrix. *International Journal of Sustainability in Higher Education*, 11 (3), 250 – 259.
- Sahrakhiz, S., Haring, M., & Witte, M. D. (2018). Learning opportunities in the outdoor school—empirical findings on outdoor school in Germany from the children’s perspective. *J. Advent. Educ. Outdoor Learn.* 18, 214–226. doi: [10.1080/14729679.2017.1413404](https://doi.org/10.1080/14729679.2017.1413404).
- Schafer, R. J. (1981). Education and resource inanaqis: A partnership with a future. In M. L. Bowman. (Ed), *Teaching natural resource management through environmental education activities*. (pp. 3-12). ERIC Document Reproduction Service, Number Id 214 752).
- Scottish Government. (2012). *Learning for sustainability. The report of the One Planet Schools Working Group*. Retrieved April 17, 2020, from <http://www.scotland.gov.uk/Topics/Education/Schools/curriculum/ACE/OnePlanetSchools/LearningforSustainabilityreport>.
- Scruggs, T.E. & Mastropieri, M.A. (1995). Science and students with mental retardation: An analysis of curriculum features and learners characteristics. *Sci. Educ*, 79, 251–271.
- Shakespeare, T. (2006). *Disability rights and wrongs*. London, Routledge.
- Sheiner E, & Bashiri, A. (2004). Search articles ... *The Journal of Reproductive Medicine*, 49(3), 182-186.
- ShIPLEY, K. G. & McAfee, J. G. (1992). *Assessment in speech-language pathology: A resource manual*. San Diego, Calif.: Singular Pub. Group.
- Shulman, L. S. (2005). Signature pedagogies in the professions. *Daedalus*, 134(3), 52–59.
- Simmons, D. (1998). Using natural settings for environmental education: Perceived benefits and barriers. *J. Environ. Educ.* 29, 23–31.
- Simpson, S. (2011). *Rediscovering Dewey: A reflection on independent thinking*. Bethany, OK: WoodNBarnes.
- Social Emotional and Behavioural Difficulties Association. (2006). “Definitions - SEBD and Its Overlap with Disruptive and Anti-Social Behaviour, Mental Health Difficulties and ADHD”. Retrieved April 17, 2020, from <http://www.sebda.org/resources/articles/DefiningSEBD.pdf>.
- Solity, J. E. (1991). “Special needs: A discriminatory concept?” *Educational Psychology in Practice*, 7, 112-119.
- Soltani, S.H.K., Abbas, M.J., & Amang, B. (2012). “Disabled Children in Public Playground: A Pilot Study”. *Asian Journal of Environment- Behavioral Atudies*, 3(8), 670-676.
- Stadler-Altman, U. & Hilger, P. (2018). Transferring Pedagogical Spaces: Schoolyards as Learning Environments in the Perspective of Students and Teachers. In J. Charteris, D. Smardon, & A. Page. *Transforming Education Design & Governance in Global Contexts, Chapter: Spatialised practices in ILEs: Pedagogical transformations and learner agency* (p. 227-224). Publisher: Springer, Editors: Leon Benade, Mark Jackson.

- Steele, F. I. (1973). *Physical Settings and Organisation Development*. Reading MA: Addison-Wesley.
- Stevenson, R. B. (2007). Schooling and environmental/sustainability education: from discourses of policy and practice to discourses of professional learning. *Environmental Education Research*, 13 (2), 265 – 283.
- Stevenson, R. B. (2008), A critical pedagogy of place and the critical place(s) of pedagogy. *Environmental Education Research*, 14 (3), 353 – 360.
- Szczepanski, A. (2008). *Handlingsburen kunskap – Lärares uppfattningar om landskapet som lärandemiljö. [Knowledge through action – teachers' perceptions of the landscape as a learning environment.]* Licentiatavhandling. [Licentiate thesis]. Linköpings universitet, Institutionen för Kultur och Kommunikation Nationellt Centrum för Utomhuspedagogik [Department of Culture and Communication, Forum for Outdoor Education], Linköping.
- Szczepanski, A., Dahlgren, L-O., Sjölander, S. & Strid, J-P. (2007). *Utomhus pedagogik som kunskapskälla – Närmiljö blir lärmiljö. [Outdoor education as a source of knowledge – the local environment becomes a learning environment.]* Studentlitteratur, Lund.
- Tanner, C. K. & Langford, A. (2002). *The Impact of Interior Design Elements as They Relate to Students Outcomes*. School Design and Planning Laboratory, University of Georgia (U.S.A.).
- The Norwegian Association for the Developmentally Disabled. (2005). *“Strategy for NFU’s Work for International Solidarity - 2006 and Beyond.”* Oslo: Norsk Forbund for Utviklingshemmede.
- Thomas, C. (1999). *Female forms: experiencing and understanding disability*. Buckingham, Open University Press.
- Thomas, G. & Loxley, A. (2001). *Deconstructing special education and constructing inclusion*. Open University Press.
- Tilbury, D. (1995). Environmental Education for Sustainability: defining the new focus of environmental education in the 1990s. *Environmental Education Research*, 1 (2), 195 – 212.
- Titman, W. (1994). *Special Places, Special People, The Hidden Curriculum of School grounds*. Learning Through Landscapes. WWF UK.
- Todaro, M. (1995). *University of Oldenburg*. Retrieved March 22, 2020, from <http://www.c3l.uni-oldenburg.de/cde/OMDE625/Todaro/Todaro%20Chapter%2011.pdf>.
- Tooke, K.A. (2011). *Schoolyard Renovations in the Context of Urban Greening: Insight from the Boston Schoolyard Initiative, Boston, Massachusetts*. Masters Theses 1911 - February 2014. 648. University of Massachusetts Amherst Scholar Works.
- ULSF. (1990). *The Talloires Declaration / University Leaders for a Sustainable Future*. Retrieved March 22, 2020, from http://www.ulsf.org/programs_talloires.html.
- UN Commission on Human Rights. (1990). *Convention on the Rights of the Child.*, Retrieved April 7, 2020, from <https://www.refworld.org/docid/3b00f03d30.html>.
- UN General Assembly. (2007). *Convention on the Rights of Persons with Disabilities : resolution /adopted by the General Assembly, 24 January 2007, A/RES/61/106*.

- Retrieved April 7, 2020, from <https://www.refworld.org/docid/45f973632.html>.
- UNECE. (2005). *UNECE Strategy for Education for Sustainable Development*. UNECE, Geneva.
- UNESCO. (1976). *Final Report of the International Workshop on Environmental Education*. Belgrade (Yugoslavia), 13-22 October 1975. Document ED -76/WS/97, Paris. UNESCO.
- UNESCO. (1978). *The Tbilisi Declaration*. *Connect*, 111 (1), 1 – 8. UNESCO-UNEP Environmental Education Newsletter.
- UNESCO. (2015). *Teaching Children with Disabilities in Inclusive Settings. Embracing Diversity: Toolkit for Creating Inclusive, Learning-Friendly Environments Specialized Booklet 3*. UNESCO Bangkok Office.
- UNESCO. (2018). *Issues and trends in Education for Sustainable Development*. A. Leicht, J. Heiss and W. J. Byun (eds). Paris: UNESCO.
- UNESCO. (2014). *UNESCO Roadmap for Implementing the Global Action Programme on Education for Sustainable Development*. Paris: UNESCO.
- UNESCO. (2017). *UNESCO Global Action Programme on Education for Sustainable development*. Information Folder. Paris, UNESCO.
- UNESCO-UNEP. (1990). *Environmentally Educated teachers the priority of priorities?* *Connect*, XV (1), 1 – 3. UNESCO-UNEP Environmental Education Newsletter.
- United Nations. (2006). *Convention on the Rights of Persons with Disabilities*. Retrieved May 1, 2020, from: <http://www.un.org/disabilities/convention/conventionfull.shtml>.
- Van Dijk-Wesselijs, J. E., Maas, J., Hovinga, D., Van Vugt, M., & Van den Berg, A. E. (2018). The impact of greening schoolyards on the appreciation, and physical, cognitive and social-emotional well-being of schoolchildren: a prospective intervention study. *Landsc. Urban Plan.* 180, 15–26. doi: 10.1016/j.landurbplan.2018.08.003.
- Van Weenen, H. (2000). Towards a Vision of a Sustainable University. *International Journal of Sustainability in Higher Education*, 1(1), 20-34.
- Wagner, C. & Gordon, D. (2010). *Planning School Grounds for Outdoor Learning. National Clearinghouse for Educational Facilities*. Washington, DC.
- Waliczek T.M., Logan P., & Zajicek J.M. (2003). Exploring the impact of outdoor environmental activities on children using a qualitative text data analysis system. *Hort Technology*, 13(4), 684–688.
- Walker, K. E. (1997). Challenging critical theory in environmental education. *Environmental Education Research*, 3 (2), 155 – 162.
- Wells, N. M. & Evans, G. W. (2003). Nearby nature: A buffer of life stress among rural children. *Environment and Behavior*, 35(3), 311–330.
- Willison, J. (1997). *Botanic gardens as agents for social change. In Kings Park and botanic garden conservation into the 21st century*. Proceedings of the fourth international botanical gardens conservation congress, 25–29 September 1995. Perth, pp. 339–344.
- Wilson, R. (1994). Integrating outdoor/environmental education into the special education curriculum. *Intervention in School & Clinic*, 29(3), 156.
- Wolff, L. A. (2006). Education for Sustainable Development Needs a Critical Approach. In

- S. Tani, (Ed.). *Sustainable Development through Education. Proceedings of the International Conference on Environmental Education* (pp. 29 – 46). Helsinki.
- World Health Organisation. (2001). *International Classification of Functioning Disability and Health*. Geneva, CH: WHO.
- World Health Organization. (1996). *"ICD-10 Guide for Mental Retardation"*. Geneva: World Health Organization.
- World Health Organization. (2008). *"Priority Eye Diseases"*. Retrieved April 17, 2020, from <http://www.who.int/blindness/causes/priority/en/index.html>.
- Yvonne, M.D. & Batshaw, M. L. (1992). *"Children with disabilities: a medical primer"*. (3rd ed.), P.H. Brookes Pub. Co.
- Zwelibanzi, M.C. (2016). *AN INVESTIGATION INTO ISSUES AND CHALLENGES IN IMPLEMENTING ENVIRONMENTAL EDUCATION IN SPECIAL SCHOOLS IN SOUTH AFRICA*. Doctor thesis in CURRICULUM STUDIES. UNIVERSITY OF SOUTH AFRICA.

Ελληνική βιβλιογραφία

- Γεωργόπουλος, Α. (2004). Περιβαλλοντική Εκπαίδευση: Μερικά κομβικά ζητήματα/ προκλήσεις μπροστά στον 21ο αιώνα. *Σύγχρονη Εκπαίδευση*, 134, 128-143.
- Δημακοπούλου, Μ. (2010). *Περιβαλλοντική Εκπαίδευση (Π.Ε.) και Ειδική Αγωγή (Ε.Α) στο σημερινό σχολείο: κοινοί ορίζοντες. «Περιβαλλοντική Εκπαίδευση: Το σταυροδρόμι της Εκπαίδευσης για την Αειφόρο Ανάπτυξη»*. 5ο Συνέδριο της Π.Ε.ΕΚ.Π.Ε. Ιωάννινα, 26-28 Νοεμβρίου.
- Ευγενιάδου, Ε. & Αλευριάδου, Α. (2016). Στάσεις και πρακτικές εκπαιδευτικών που υπηρετούν σε ειδικά δημοτικά σχολεία για την εφαρμογή της Περιβαλλοντικής Εκπαίδευσης. Στο Κ.Δ. Μαλαφάντης, Β. Παπαδοπούλου, Σ. Αυγητίδου, Γ. Ιορδανίδης, & Ι. Μπέτσας (Επιμ.), *Πρακτικά 9ου πανελληνίου συνεδρίου, ελληνική εκπαιδευτική και παιδαγωγική έρευνα* (σσ.1126-1138) (Τόμος Β'). Αθήνα: Εκδόσεις Διάδραση.
- Λάππα, Χ.Σ., Μαντζίκος, Κ.Ν., & Παρασκευόπουλος, Σ. (2019). Η Συμβολή της Περιβαλλοντικής Εκπαίδευσης στην Εκπαίδευση των Παιδιών με Αναπηρίες ή/και Ειδικές Εκπαιδευτικές Ανάγκες: Οι Απόψεις των Εκπαιδευτικών. *Έρευνα στην Εκπαίδευση*, 8(1), 1-16.
- Λιαράκου, Γ. (2002). Περιβαλλοντική Εκπαίδευση: Ένα εργαλείο για την ένταξη των παιδιών με ειδικές ανάγκες στη γενική εκπαίδευση. *Σύγχρονη Εκπαίδευση*, 124, 104-110.
- Λουκέρης, Δ. (2000). *Το μάθημα της Μελέτης του Περιβάλλοντος υπό το πρίσμα της Περιβαλλοντικής Εκπαίδευσης*. Διδακτορική διατριβή, ΕΚΠΑ, Φιλοσοφική Σχολή, Τμήμα ΦΠΨ. Αθήνα.
- Λουκέρης, Δ. (2005). *Περιβαλλοντική Εκπαίδευση: Θεωρία και Πράξη*. Αθήνα: Αυτοέκδοση.
- Μπούτσκου, Χ. (2006). *Περιβαλλοντική και ειδική αγωγή: Αναδυόμενοι προβληματισμοί*. 2ο Συνέδριο Σχολικών Προγραμμάτων Περιβαλλοντικής Εκπαίδευσης. Αθήνα. 15-17 Δεκεμβρίου.
- Τσελεκτίδου Α. & Ψαλλιδάς, Β. (2002). *Οικολογικά Σχολεία -Εκπαιδευτικό Υλικό για το Διεθνές Πρόγραμμα Περιβαλλοντικής Εκπαίδευσης "Eco-Schools"*. Ελληνική

Εταιρία για την Προστασία της Φύσης. Αθήνα.