

Πρόγραμμα Μεταπτυχιακών Σπουδών Εξειδίκευσης
του Τμήματος Ελληνικής Φιλολογίας του Δημοκριτείου Πανεπιστημίου Θράκης
σε συνεργασία με το
ΕΚΕΦΕ Δημόκριτος – Ινστιτούτο Πληροφορικής και Επικοινωνιών
με τίτλο: «Εξειδίκευση στις Τ.Π.Ε. και Ειδική Αγωγή-Ψυχοπαιδαγωγική της ένταξης»

**Η ΧΡΗΣΗ ΤΩΝ ΡΟΜΠΟΤ ΣΕ ΠΑΙΔΙΑ ΜΕ ΑΥΤΙΣΜΟ ΥΨΗΛΗΣ ΛΕΙΤΟΥΡΓΙΚΟΤΗΤΑΣ ΚΑΙ
ΣΕ ΧΑΡΙΣΜΑΤΙΚΑ ΠΑΙΔΙΑ. ΣΥΓΚΡΙΤΙΚΗ ΜΕΛΕΤΗ.**

**THE USE OF ROBOTS IN CHILDREN DIAGNOSED WITH AUTISM SPECTRUM
DISORDER HIGH FUNCTIONING AND IN GIFTED CHILDREN. A COMPERATIVE STUDY.**

της
Καψή Ευγενίας

Μεταπτυχιακή διατριβή που υποβάλλεται
στην τριμελή επιτροπή για την απόκτηση του μεταπτυχιακού τίτλου του
Προγράμματος Μεταπτυχιακών Σπουδών Εξειδίκευσης
του Τ.Ε.Φ. – Δ.Π.Θ. σε συνεργασία με το Ε.Κ.Ε.Φ.Ε. Δημόκριτος – Ινστιτούτο
Πληροφορικής και Τηλεπικοινωνιών
με τίτλο: «Εξειδίκευση στις Τ.Π.Ε. και Ειδική Αγωγή – Ψυχοπαιδαγωγική της Ένταξης».

Εγκεκριμένο από την τριμελή επιτροπή:

1ος Επιβλέπων: Αθανάσιος Δρίγκας, Διευθυντής Ερευνών και Ερευνητής Α΄ Βαθμίδας, Ι.Π.Τ.
Ε.Κ.Ε.Φ.Ε. «ΔΗΜΟΚΡΙΤΟΣ».

2ος Επιβλέπων: Χριστίνα Συριοπούλου, Αναπληρώτρια Καθηγήτρια Πανεπιστημίου
Μακεδονίας

3ος Επιβλέπων: Αγάθη Σταθοπούλου, Συνεργάτιδα Ερευνήτρια, Ι.Π.Τ. Ε.Κ.Ε.Φ.Ε.
«ΔΗΜΟΚΡΙΤΟΣ».

Αθήνα, 2021

ΠΕΡΙΛΗΨΗ

Τα άτομα με ειδικές εκπαιδευτικές ανάγκες, όπως είναι τα άτομα με αυτισμό υψηλής λειτουργικότητας αλλά και τα χαρισματικά παιδιά έχουν δικαίωμα να απολαμβάνουν την ίδια ποιότητα αγαθών και υπηρεσιών σε όλους τους τομείς και να έχουν ισότιμη πρόσβαση στην εκπαίδευση, στην πληροφορία, στην κοινωνία και τη γνώση όπως οι συνάνθρωποι τους, χωρίς εμπόδια. Η ρομποτική, ως εργαλείο στην εκπαίδευση των ατόμων αυτών μπορεί να συνεισφέρει θετικά στην ανάπτυξη των δεξιοτήτων τους, στην ενίσχυση της κοινωνικότητάς τους, στην οικοδόμηση της απαιτούμενης γνώσης και στην εξασφάλιση ίσων ευκαιριών στην κοινωνική ζωή με αποτέλεσμα την ενίσχυση της ανεξαρτησίας και της αυτοεκτίμησής τους και συνεπώς στην ενσωμάτωσή τους στο κοινωνικό σύνολο, έτσι ώστε να επιτευχθεί η ομαλή και ισότιμη συμβίωση με τα υπόλοιπα μέλη της. Η παρούσα εργασία συνιστά μια βιβλιογραφική ανασκόπηση, η οποία εστιάζει στην πολύτιμη αρωγή και χρησιμότητα των Τεχνολογιών της Εκπαίδευσης και της Πληροφορίας και συγκεκριμένα της Ρομποτικής σε άτομα με αυτισμό υψηλής λειτουργικότητας και χαρισματικά παιδιά. Η επιλογή του συγκεκριμένου θέματος στηρίχθηκε σε μια προσπάθεια ενημέρωσης για την δραστηριοποίηση και ενεργό συμμετοχή των παιδιών με αυτισμό υψηλής λειτουργικότητας και των χαρισματικών παιδιών σε όλους τους τομείς της κοινωνικής ζωής. Τα αποτελέσματα που προέκυψαν ήταν ιδιαιτέρως ενθαρρυντικά καθώς έδειξαν πως η χρήση ρομπών είναι ιδιαιτέρως χρήσιμη στην εκπαίδευση, στην ανάπτυξη των μιμητικών ικανοτήτων τους, στην κοινωνικής τους αλληλεπίδρασης, στη διαχείρισης του χρόνου τους, στη βελτίωση του αυτοελέγχου και στην ανεξαρτησίας τους. Τα ρομπότ, επομένως, είναι πολλά υποσχόμενα για άτομα αυτά και μελλοντικά μπορούν να κατατεθούν προτάσεις και να σχεδιαστούν κι άλλα εξειδικευμένα λογισμικά και προγράμματα που θα βοηθήσουν και θα διευκολύνουν τα άτομα αυτά στην εκπαίδευση, στην προσωπική τους ζωή, στην καθημερινή τους διαβίωση, στην κοινωνική τους αλληλεπίδραση και στην ανεξαρτησίας τους.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ: ειδικές εκπαιδευτικές ανάγκες, χαρισματικά παιδιά, υψηλής λειτουργικότητας αυτισμός, ρομποτική, Τεχνολογίες της Εκπαίδευσης και της Πληροφορίας.

ΒΙΒΛΙΟΓΡΑΦΙΑ :

Ξενόγλωσση:

Aakanksha, A.S. "A Comparative Study of Sentiments Analysis Using Rule Based and Support Vector Machine," *International Journal of Advanced Research in Computer and Communication Engineering*, vol. 3, no. 3, pp. 5898-5890, March 2014.

Ackoff, R. L. (1989). From data to wisdom. *Journal of applied systems analysis*, 16(1), 3-9.

Ackoff, R. L. (1989). From data to wisdom. *Journal of applied systems analysis*, 16(1), 3-9.

Afari E. & Khine M. S.(2017). "Robotics as an Educational Tool: Impact of Lego Mindstorms". *International Journal of Information and Education Technology*, Vol. 7, No. 6, June 2017, ζ. 439

Alhaddad, A. Y., Cabibihan, J. J., & Bonarini, A. (2019). Head impact severity measures for small social robots thrown during meltdown in autism. *International Journal of Social Robotics*, 11(2), 255-270.

Alimisis, D. (2013). Educational robotics: Open questions and new challenges. *Themes in Science and Technology Education*, 6(1), 63-71.

Allison, C., Auyeung, B., & Baron-Cohen, S. (2012). Toward brief "red flags" for autism screening: the short autism spectrum quotient and the short quantitative checklist in 1,000 cases and 3,000 controls. *Journal of the American Academy of Child & Adolescent Psychiatry*, 51(2), 202-212.

Alshareef, K. K. (2019). Twice-Exceptional Gifted Students: Needs, Challenges, and Questions to Ponder.

Amanatiadis, A., Kaburlasos, V. G., Dardani, C., & Chatzichristofis, S. A. (2017, September). Interactive social robots in special education. In *2017 IEEE 7th international conference on consumer electronics-Berlin (ICCE-Berlin)* (pp. 126-129). IEEE.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)*. American Psychiatric Pub. ,1-50

Anagnostopoulou, P., Alexandropoulou, V., Lorentzou, G., Lykothanasi, A., Ntaountaki, P., & Drigas, A. (2020). Artificial intelligence in autism assessment. *International Journal of Emerging Technologies in Learning (IJET)*, 15(6), 95-107.

Anderson, L. W., & Bloom, B. S. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman,.

Anderson, A. H., Stephenson, J., Carter, M., & Carlon, S. (2019). A systematic literature review of empirical research on postsecondary students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 49(4), 1531-1558.

Anisimova, T., Sabirova, F., & Shatunova, O. (2020). Formation of design and research competencies in future teachers in the framework of STEAM education. *International Journal of Emerging Technologies in Learning (iJET)*, 15(2), 204-217.

Asperger, H., & Frith, U. T. (1991). 'Autistic psychopathy' in childhood.

Atwood, C., Griffith, M., Harwell, L., Schlienger, E., Ensiz, M., Smugeresky, J., ... & Reckaway, D. (1998, November). Laser engineered net shaping (LENS™): A tool for direct fabrication of metal parts. In *International Congress on Applications of Lasers & Electro-Optics* (Vol. 1998, No. 1, pp. E1-E7). Laser Institute of America.

Avcu, Y. E., & Er, K. O. (2020). Developing an Instructional Design for the Field of ICT and Software for Gifted and Talented Students. *International Journal of Educational Methodology*, 6(1), 161-183.

Ayoub, A. E. A., Alabbasi, A. M. A., Runco, M. A., & Acar, S. (2020). Future Robotics Design Enhances the Open-Mindedness and Problem Finding of Gifted Female Students.

Baddeley, A. (2003). Working memory: looking back and looking forward. *Nature reviews neuroscience*, 4(10), 829-839. Baddeley, A. (2003). Working memory: looking back and looking forward. *Nature reviews neuroscience*, 4(10), 829-839.

Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The autism-spectrum quotient (AQ): Evidence from asperger syndrome/high-functioning autism, males and females, scientists and mathematicians. *Journal of autism and developmental disorders*, 31(1), 5-17.

Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The autism-spectrum quotient (AQ): Evidence from asperger syndrome/high-functioning autism, males and females, scientists and mathematicians. *Journal of autism and developmental disorders*, 31(1), 5-17.

Bartlett, M. E., Costescu, C., Baxter, P., & Thill, S. (2020). Requirements for Robotic Interpretation of Social Signals "in the Wild": Insights from Diagnostic Criteria of Autism Spectrum Disorder. *Information*, 11(2), 81.

Bekele, E., Zheng, Z., Swanson, A., Crittendon, J., Warren, Z., & Sarkar, N. (2013). Understanding how adolescents with autism respond to facial expressions in virtual

reality environments. *IEEE transactions on visualization and computer graphics*, 19(4), 711-720.

Bellinger, G., Castro, D., & Mills, A. (2004). Data, information, knowledge, and wisdom.

Betts, G. T., & Neihart, M. (1988). Profiles of the gifted and talented. *Gifted child quarterly*, 32(2), 248-253.

Bharatharaj, J., Huang, L., Mohan, R. E., Al-Jumaily, A., & Krägeloh, C. (2017). Robot-assisted therapy for learning and social interaction of children with autism spectrum disorder. *Robotics*, 6(1), 4.

Bianco, M., Carothers, D. E., & Smiley, L. R. (2009). Gifted students with Asperger syndrome: Strategies for strength-based programming. *Intervention in school and clinic*, 44(4), 206-215.

Biggs, J. B., & Collis, K. F. (1982). *Evaluation the quality of learning: the SOLO taxonomy (structure of the observed learning outcome)*. Academic Press.

Blanchard, S., Freiman, V., & Lirrete-Pitre, N. (2010). Strategies used by elementary schoolchildren solving robotics-based complex tasks: innovative potential of technology. *Procedia - Social and Behavioral Sciences*, 2(2), 2851-2857.

Bloom, B. S. (1956). Taxonomy of educational objectives. Vol. 1: Cognitive domain. *New York: McKay*, 20, 24.

Bloom, B. S. (1956). Taxonomy of educational objectives. Vol. 1: Cognitive domain. New

York: McKay, 20-24.

Bloom, B. S. (1956). Taxonomy of educational objectives. Vol. 1: Cognitive domain. New

York: McKay, 20-24.

Boccanfuso, L., Barney, E., Foster, C., Ahn, Y. A., Chawarska, K., Scassellati, B., & Shic, F. (2016, March). Emotional robot to examine different play patterns and affective responses of children with and without ASD. In *2016 11th ACM/IEEE International Conference on Human-Robot Interaction (HRI)* (pp. 19-26). IEEE.

Boccanfuso, L., Kim, E. S., Snider, J. C., Wang, Q., Wall, C. A., DiNicola, L., ... & Shic, F. (2015, September). Autonomously detecting interaction with an affective robot to explore connection to developmental ability. In *2015 International Conference on Affective Computing and Intelligent Interaction (ACII)* (pp. 1-7). IEEE.

Boucenna, S., Narzisi, A., Tilmont, E., Muratori, F., Pioggia, G., Cohen, D., & Chetouani, M. (2014). Interactive technologies for autistic children: A review. *Cognitive Computation*, 6(4), 722-740.

Boschi, A., Planche, P., Hemimou, C., Demily, C., & Vaivre-Douret, L. (2016). From high intellectual potential to Asperger syndrome: evidence for differences and a fundamental overlap—a systematic review. *Frontiers in psychology*, 7, 1605.

Bravou, V., & Drigas, A. (2019). A Contemporary View on Online and Web Tools for Students with Sensory & Learning Disabilities.

Buyukozturk, S. (2014). Experimental designs pretest and post-test control group pattern and data analysis]. Pegem Akademi

Cabibihan, J. J., Javed, H., Ang, M., & Aljunied, S. M. (2013). Why robots? A survey on the roles and benefits of social robots in the therapy of children with autism. *International journal of social robotics*, 5(4), 593-618.

Cain, M. K., Kaboski, J. R., & Gilger, J. W. (2019). Profiles and academic trajectories of cognitively gifted children with autism spectrum disorder. *Autism*, 23(7), 1663-1674.

Campanelli, J., & Ericson, C. (2014). Twice exceptional guide: Preparing Ohio schools to close the achievement gap for gifted students with disabilities. *Ohio Department of Education. Columbus: Ohio Department of Education.*

Campolo, D., Taffoni, F., Schiavone, G., Laschi, C., Keller, F., & Guglielmelli, E. (2008, August). A novel technological approach towards the early diagnosis of neurodevelopmental disorders. In *2008 30th Annual International Conference of the IEEE Engineering in Medicine and Biology Society* (pp. 4875-4878). IEEE.

Capano, L., Dupuis, A., Brian, J., Mankad, D., Genore, L., Adams, R. H., ... & Anagnostou, E. (2018). A pilot dose finding study of pioglitazone in autistic children. *Molecular autism*, 9(1), 1-14.

Chella, A., Dindo, H., Sorbello, R., Nishio, S., & Ishiguro, H. (2012). Sing with the Telenoid. *teleoperated android as a tool for cognitive studies, communication and art. Sapporo, Giappone.*

Chen, Q., Deister, C. A., Gao, X., Guo, B., Lynn-Jones, T., Chen, N., ... & Feng, G. (2020). Dysfunction of cortical GABAergic neurons leads to sensory hyper-reactivity in a Shank3 mouse model of ASD. *Nature neuroscience*, 23(4), 520-532.

Chevalier, P., Martin, J. C., Isableu, B., Bazile, C., & Tapus, A. (2017). Impact of sensory preferences of individuals with autism on the recognition of emotions expressed by two robots, an avatar, and a human. *Autonomous Robots*, 41(3), 613-635.

Chrysovalantis, K., & Drigas, A. (2020), S.T.E.M.: Inquiry-Based Learning and Gifted Education, November 2020, *Neurology and Neurobiology* 3(4):2-5

Çitil, M., & Özkubat, U. (2020). The Comparison of the Social Skills, Problem Behaviours and Academic Competence of Gifted Students and Their Non-gifted Peers. *International Journal of Progressive Education*, 16(6)

Cohen, J. D., Javed, A. A., Thoburn, C., Wong, F., Tie, J., Gibbs, P., ... & Lennon, A. M. (2017). Combined circulating tumor DNA and protein biomarker-based liquid biopsy for the earlier detection of pancreatic cancers. *Proceedings of the National Academy of Sciences*, 114(38), 10202-10207.

Conti, D., Di Nuovo, S., Buono, S., Trubia, G., & Di Nuovo, A. (2015, August). Use of robotics to stimulate imitation in children with autism spectrum disorder: a pilot study in a clinical setting. In *2015 24th IEEE international symposium on robot and human interactive communication (RO-MAN)* (pp. 1-6). IEEE.

Costa, S., Santos, C., Soares, F., Ferreira, M., & Moreira, F. (2010, January). Promoting interaction amongst autistic adolescents using robots. In *2010 Annual International Conference of the IEEE Engineering in Medicine and Biology* (pp. 3856-3859). IEEE.

Costescu, C. A., Vanderborght, B., & David, D. O. (2017). ROBOT-ENHANCED CBT FOR DYSFUNCTIONAL EMOTIONS IN SOCIAL SITUATIONS FOR CHILDREN WITH ASD. *Journal of Evidence-Based Psychotherapies*, 17(2).

Coxon, S. V. (2012). *Journal for the Education of the Gifted*, 35(3), 291-316.
Anisimova, T. I., Latipova, L. N., Sergeeva, A. B., Sharafeeva, L. R., & Shatunova, O. V. (2017). Formation of teachers' readiness to work with technically gifted children. *Modern Journal of Language Teaching Methods*, 7(9), 143-150.

Dapretto, M., Davies, M. S., Pfeifer, J. H., Scott, A. A., Sigman, M., Bookheimer, S. Y., & Iacoboni, M. (2006). Understanding emotions in others: mirror neuron dysfunction in children with autism spectrum disorders. *Nature neuroscience*, 9(1), 28-30.

Dawood, A., Turner, S., & Perepa, P. (2018). Affective computational model to extract natural affective states of students with Asperger syndrome (AS) in computer-based learning environment. *IEEE Access*, 6, 67026-67034.

De Landazuri, M. C. O. (2015). The Development of Self-Knowledge in Plato's Philosophy/El desarrollo del autoconocimiento en la filosofía de Platón. *Logos: Anales des Seminario de Metafísica*, 48, 123.

Delgoshaei, Y., & Delavari, N. (2012). Applying multiple-intelligence approach to education and analyzing its impact on cognitive development of pre-school children. *Procedia-Social and Behavioral Sciences*, 32, 361-366.

Delisle, J., & Lewis, B. A. (2002). *The Survival Guide for Teachers of Gifted Kids: How To Plan, Manage, and Evaluate Programs for Gifted Youth K-12*. Free Spirit Publishing Inc., 217 Fifth Ave. North, Ste. 200, Minneapolis, MN, 35.

Dickstein-Fischer, L. A., Crone-Todd, D. E., Chapman, I. M., Fathima, A. T., & Fischer, G. S. (2018). Socially assistive robots: current status and future prospects for autism interventions. *Innovation and Entrepreneurship in Health*, 5, 15-25.

Drigas, A., & Mitsea, E. (2020). The 8 Pillars of Metacognition, *International Journal of Recent Contributions from Engineering, Science & IT (iJES)*, 15(21) 162-177.

Drigas A., Pappas M., (2017) The Consciousness-Intelligence-Knowledge Pyramid: An 8x8 Layer Model, *International Journal of Recent Contributions from Engineering Science & IT (iJES)* .5 (NO 3):14-25

Drigas A., Karyotaki M., (2017), Success: A 9 Layered-based Model of Giftedness *International Journal of Recent Contributions from Engineering Science & IT (iJES)* .5 (4):4

Drigas A., Ioannidou E., (2013). "ICTs in Special Education: A Review", *Commun. Comput. Inf. Sci.*, vol. 278, pp. 357–364.

Du, G., Chen, M., Liu, C., Zhang, B., & Zhang, P. (2018). Online robot teaching with natural human–robot interaction. *IEEE Transactions on Industrial Electronics*, 65(12), 9571-9581.

Dunn, W., Myles, B. S., & Orr, S. (2002). Sensory processing issues associated with Asperger syndrome: A preliminary investigation. *American Journal of Occupational Therapy*, 56(1), 97-102.

Eguchi, A. (2016). RoboCupJunior for promoting STEM education, 21st century skills, and technological advancement through robotics competition. *Robotics and Autonomous Systems*, 75, 692-699.

Eisenmajer, R., Prior, M., Leekam, S., Wing, L., Gould, J., Welham, M., & Ong, B. (1996). Comparison of clinical symptoms in autism and Asperger's disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35(11), 1523-1531.

Epstein, R. M., Siegel, D. J., & Silberman, J. (2008). Self-monitoring in clinical practice: a challenge for medical educators. *Journal of Continuing Education in the Health Professions*, 28(1), 5-13.

Fagin, B. (2000, July). Using Ada-based robotics to teach computer science. In *Proceedings of the 5th annual SIGCSE/SIGCUE ITiCSEconference on Innovation and technology in computer science education* (pp. 148-151).

Febtriko, A., Rahayuningsih, T., Septiani, D., Trisnawati, L., & Arisandi, D. (2018, September). Effectiveness Of Android-Based Mobile Robots For Children Asperger Syndrome. In *2018 International Conference on Applied Information Technology and Innovation (ICAITI)* (pp. 208-212). IEEE.

Felicia, A., & Sharif, S. (2014). A review on educational robotics as assistive tools for learning mathematics and science. *Int. J. Comput. Sci. Trends Technol*, 2(2), 62-84.

Feng, H., Gutierrez, A., Zhang, J., & Mahoor, M. H. (2013, September). Can NAO robot improve eye-gaze attention of children with high functioning autism?. In *2013 IEEE International Conference on Healthcare Informatics* (pp. 484-484). IEEE.

Foley Nicpon, M., Allmon, A., Sieck, B., & Stinson, R. D. (2011). Empirical investigation of twice-exceptionality: Where have we been and where are we going?. *Gifted Child Quarterly*, 55(1), 3-17.

Funahashi, S. (2017). Working memory in the prefrontal cortex. *Brain sciences*, 7(5), 49.

Gagné, F. (2004). Transforming gifts into talents: The DMGT as a developmental theory. *High ability studies*, 15(2), 119-147.

Gagné, R. M. (1970). The conditions of learning.

Gallese, V. (2006). Intentional attunement: A neurophysiological perspective on social cognition and its disruption in autism. *Brain research*, 1079(1), 15-24.

Gardner, H. (1992). *Multiple intelligences* (Vol. 5, p. 56). Minnesota Center for Arts Education.

Giullian, N., Ricks, D., Atherton, A., Colton, M., Goodrich, M., & Brinton, B. (2010, October). Detailed requirements for robots in autism therapy. In *2010 IEEE International Conference on Systems, Man and Cybernetics* (pp. 2595-2602). IEEE.

Gottfredson, L. S. (2003). Dissecting practical intelligence theory: Its claims and evidence. *Intelligence*, 31(4), 343-397.

Goulart, C., Valadão, C., Caldeira, E., & Bastos, T. (2019). Brain signal evaluation of children with Autism Spectrum Disorder in the interaction with a social robot. *Biotechnology Research and Innovation*, 3(1), 60-68.

Guimarães, A. J., Araujo, V. J. S., Araujo, V. S., Batista, L. O., & de Campos Souza, P. V. (2019, May). A hybrid model based on fuzzy rules to act on the diagnosed of autism in adults. In *IFIP International Conference on Artificial Intelligence Applications and Innovations* (pp. 401-412). Springer, Cham.

.

Hay, D. F., Payne, A., & Chadwick, A. (2004). Peer relations in childhood. *Journal of child psychology and psychiatry*, 45(1), 84-108.

Heinsfeld, A. S., Franco, A. R., Craddock, R. C., Buchweitz, A., & Meneguzzi, F. (2018). Identification of autism spectrum disorder using deep learning and the ABIDE dataset. *NeuroImage: Clinical*, 17, 16-23.

Heller, K. A., Perleth, C., & Lim, T. K. (2005). The Munich model of giftedness designed to identify and promote gifted students. *Conceptions of giftedness*, 2, 147-170.

Hippler, K., Viding, E., Klicpera, C., & Happé, F. (2010). Brief report: No increase in criminal convictions in Hans Asperger's original cohort. *Journal of autism and developmental disorders*, 40(6), 774-780.

Hodges, H., Fealko, C., & Soares, N. (2020). Autism spectrum disorder: definition, epidemiology, causes, and clinical evaluation. *Translational pediatrics*, 9(Suppl 1), S55.

Holahan, C. K. (2021). Achievement across the life span: Perspectives from the Terman study of the gifted. *Gifted Child Quarterly*, 65(2), 185-195.

Huijnen, C. A., Lexis, M. A., Jansens, R., & de Witte, L. P. (2017). How to implement robots in interventions for children with autism? A co-creation study involving people with autism, parents and professionals. *Journal of autism and developmental disorders*, 47(10), 3079-3096.

Humphrey, N., & Lewis, S. (2008). Make me normal! The views and experiences of pupils on the autistic spectrum in mainstream secondary schools. *Autism*, 12(1), 23-46.

Hussain, S., Care, P., & Practice, G. (2006). The effect of LEGO Training on Pupils' School Performance in Mathematics, Problem Solving Ability and Attitude : Swedish Data. *Educational Technology & Society*, 9, 182-194.

Ireland, C., Bowles, T. V., Brindle, K. A., & Nikakis, S. (2020). Curriculum Differentiation's Capacity to Extend Gifted Students in Secondary Mixed-ability Science Classes. *Talent*, 10(1), 40-61.

Jagust, T., Cvetkovic-Lay, J., Krzic, A. S., & Sersic, D. (2017, April). Using robotics to foster creativity in early gifted education. In *International Conference on Robotics and Education RiE 2017* (pp. 126-131). Springer, Cham.

Jamali, U. A. Y. (2019). Fostering creativity using robotics among gifted primary school students. *Gifted and Talented International*, 34(1-2), 71-78.

Javed, H., Jeon, M., Howard, A., & Park, C. H. (2018, March). Robot-assisted socio-emotional intervention framework for children with Autism Spectrum disorder. In *Companion of the 2018 ACM/IEEE International Conference on Human-Robot Interaction* (pp. 131-132).

Jessurun, J. H., Shearer, C. B., & Weggeman, M. C. D. P. (2016). A universal model of giftedness—an adaptation of the Munich Model. *High ability studies*, 27(2), 113-128.

Kandlhofer, M., Steinbauer, G., Menzinger, M., Halatschek, R., Kemény, F., & Landerl, K. (2019, October). MINT-Robo: Empowering Gifted High School Students with Robotics. In *2019 IEEE Frontiers in Education Conference (FIE)* (pp. 1-5). IEEE

Kao A. , Poteet S.R.(2007), Eds., Natural Language Processing and Text mining. London:

Springer Publishing Company.

Karakiozis, K., Papakitsos, E. C., & Papoutsidakis, M. Robotics and Diagnosis of Autism Spectrum Disorder.

Karyotaki, M., Drigas, A., & Skianis, C. (2017). Attentional control and other executive functions. *International Journal of Emerging Technologies in Learning*, 12(3).

Kaur, G., & Kakkar, D. (2019, March). Fuzzy Based Integrated Diagnostic System for Neurodevelopmental Disorders. In *2019 6th International Conference on Signal Processing and Integrated Networks (SPIN)* (pp. 132-136). IEEE.

Kim, I., Wang, Y., Dababnah, S., & Betz, G. (2020). East Asian American Parents of Children with Autism: a Scoping Review. *Review Journal of Autism and Developmental Disorders*, 1-9.

Kee, D. (2013). *Classroom activities for the busy teacher: EV3*. CreateSpace Independent Publishing Platform.

Kelly, A. B., Garnett, M. S., Attwood, T., & Peterson, C. (2008). Autism spectrum symptomatology in children: The impact of family and peer relationships. *Journal of abnormal child psychology*, 36(7), 1069-1081.

Klin, A., Lin, D. J., Gorrindo, P., Ramsay, G., & Jones, W. (2009). Two-year-olds with autism orient to non-social contingencies rather than biological motion. *Nature*, 459(7244), 257-261

Klin, A., Lang, J., Cicchetti, D. V., & Volkmar, F. R. (2000). Brief report: Interrater reliability of clinical diagnosis and DSM-IV criteria for autistic disorder: Results of the DSM-IV autism field trial. *Journal of autism and Developmental disorders*, 30(2), 163.

Kogan, M. D., Blumberg, S. J., Schieve, L. A., Boyle, C. A., Perrin, J. M., Ghandour, R. M., ... & van Dyck, P. C. (2009). Prevalence of parent-reported diagnosis of autism spectrum disorder among children in the US, 2007. *Pediatrics*, 124(5), 1395-1403.

Koegel, R. L., Koegel, L. K., & McNerney, E. K. (2001). Pivotal areas in intervention for autism. *Journal of Clinical Child & Adolescent Psychology*, 30(1), 19-32.

Kontostavlou Eirini Zoi, Drigas Athanasios (2019) The Use of Information and Communications Technology (I.C.T.) in Gifted Students, June 2019, *International Journal of Recent Contributions from Engineering Science & IT (iJES)* ,7(2):60-67

Kosmicki, J. A., Sochat, V., Duda, M., & Wall, D. P. (2015). Searching for a minimal set of behaviors for autism detection through feature selection-based machine learning. *Translational psychiatry*, 5(2), e514-e514.

Kovacic, Z., Petric, F., Miklic, D., Babic, A., & Hrvatinic, K. (2014). NAO Plays a Tic-Tac-Toe Game: Intelligent Grasping and Interaction. *University of Zagreb, Feb.*

Kozima, H., Nakagawa, C., & Yasuda, Y. (2007). Children–robot interaction: a pilot study in autism therapy. *Progress in brain research*, 164, 385-400.

Kozima, H., Nakagawa, C., & Yasuda, Y. (2005, August). Interactive robots for communication-care: A case-study in autism therapy. In *ROMAN 2005. IEEE International Workshop on Robot and Human Interactive Communication, 2005.* (pp. 341-346). IEEE.

Krasny, L., Williams, B. J., Provencal, S., & Ozonoff, S. (2003). Social skills interventions for the autism spectrum: Essential ingredients and a model curriculum. *Child and adolescent psychiatric clinics*, 12(1), 107-122.

Kumazaki, H., Yoshikawa, Y., Yoshimura, Y., Ikeda, T., Hasegawa, C., Saito, D. N., ... & Kikuchi, M. (2018). The impact of robotic intervention on joint attention in children with autism spectrum disorders. *Molecular autism*, 9(1), 1-10

Lindh, J., & Holgersson, T. (2007). Does lego training stimulate pupils' ability to solve logical problems?. *Computers & education*, 49(4), 1097-1111.

Lee, Y., & Seo, Y. (2013). The Effects of Programming Learning Using Robot Based on Schoolwide Enrichment Model on Elementary School Students' Creative Potential. *The Journal of Korean Association of Computer Education*, 16(4), 47-54

Leo, M., Del Coco, M., Carcagni, P., Distanto, C., Bernava, M., Pioggia, G., & Palestra, G. (2015). Automatic emotion recognition in robot-children interaction for ASD treatment. In *Proceedings of the IEEE International Conference on Computer Vision Workshops* (pp. 145-153).

Loffio K.(2016).“K’NEX® Adds 6 Inspiring Items To Its Mighty Makers® Building Set Line STEAM Based Sets Are Designed To Encourage and Empower Girls 7+.

Lund, H. H., & Nielsen, J. (2002). An Edutainment Robotics Survey. In *Proceedings of the Third International Symposium on Human and Artificial Intelligence Systems: The Dynamic Systems Approach for Embodiment and Sociality*, Fukui

MacDorman, K. F. (2006, July). Subjective ratings of robot video clips for human likeness, familiarity, and eeriness: An exploration of the uncanny valley. In *ICCS/CogSci-2006 long symposium: Toward social mechanisms of android science* (pp. 26-29).

Macnamara, J. (2016). Multiple intelligences and minds as attributes to reconfigure PR—A critical analysis. *Public relations review*, 42(2), 249-257.

Marra, R. M., Moore, J. L., & Klimczak, A. K. (2004). Content analysis of online discussion forums: A comparative analysis of protocols. *Educational Technology Research and Development*, 52(2), 23-40

Marino, F., Chilà, P., Sfrazzetto, S. T., Carrozza, C., Crimi, I., Failla, C., ... & Pioggia, G. (2020). Outcomes of a robot-assisted social-emotional understanding intervention for young children with autism spectrum disorders. *Journal of autism and developmental disorders*, 50(6), 1973-1987.

Maslow, A. H. (1962). Some basic propositions of a growth and self-actualization psychology. *Perceiving, behaving, becoming: A new focus for education*, 34-49

Matthews, M. S., & Jolly, J. L. (2020). PARENTING GIFTED CHILDREN. *Critical Issues and Practices in Gifted Education: A Survey of Current Research on Giftedness and Talent Development*.

Mauch E.(2001).“Using Technological Innovation to Improve the Problem-Solving Skills of Middle School Students Educators' Experiences with the LEGO Mindstorms Robotic Invention System”, Using Technological Innovation Vol. 74, Nlo, 4March/April 2001, 7. 211

Melogno, S., Pinto, M. A., & Levi, G. (2015). Profile of the linguistic and metalinguistic abilities of a gifted child with autism spectrum disorder: A case study. *Child Language Teaching and Therapy*, 31(1), 113-126.

Mesibov, G. B., Shea, V., & Schopler, E. (2005). *The TEACCH approach to autism spectrum disorders*. Springer Science & Business Media.

Miller, D. I., & Halpern, D. F. (2013). Can spatial training improve long-term outcomes for gifted STEM undergraduates?. *Learning and individual differences*, 26, 141-152.

Mitsea, E., Lytra, N., Akrivopoulou, A., & Drigas, A. (2020). Metacognition, Mindfulness and Robots for Autism Inclusion. *International Journal of Advanced Corporate Learning (iJAC)*, 8(2), 4-20.

Moldin, S. O., & Rubenstein, J. L. (Eds.). (2006). *Understanding autism: from basic neuroscience to treatment*. CRC press.

Mubin, O., Stevens, C. J., Shahid, S., Al Mahmud, A., & Dong, J. J. (2013). A review of the applicability of robots in education. *Journal of Technology in Education and Learning*, 1(209-0015), 13.

Naghavi, H. R., & Nyberg, L. (2005). Common fronto-parietal activity in attention, memory, and consciousness: shared demands on integration?. *Consciousness and cognition*, 14(2), 390-425.

Naif, K. A. R. A. (2019). Impact of digital media on gifted students' career choices. *Journal for the Education of Gifted Young Scientists*, 7(2), 99-112.

- Nazneen, N., Rozga, A., Smith, C. J., Oberleitner, R., Abowd, G. D., & Arriaga, R. I. (2015). A novel system for supporting autism diagnosis using home videos: iterative development and evaluation of system design. *JMIR mHealth and uHealth*, 3(2), 68.
- Nasser, I. M., Al-Shawwa, M., & Abu-Naser, S. S. (2019). Artificial Neural Network for Diagnose Autism Spectrum Disorder.
- Neihart, N. M., & Harrison, R. R. (2004, September). A low-power FM transmitter for use in neural recording applications. In *The 26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society* (Vol. 1, pp. 2117-2120). IEEE.
- Neihart, M., Reis, S. M., Robinson, N., & Moon, S. (2002). *The social and emotional development of gifted children: What do we know?*. Sourcebooks, Inc..
- Neihart, M. (2002). Gifted children and depression. *The social and emotional development of gifted children: What do we know*, 93-102.
- Nielsen, M. (2006). Copying actions and copying outcomes: social learning through the second year. *Developmental psychology*, 42(3), 555
- Nourbakhsh, I. R., Sycara, K., Koes, M., Yong, M., Lewis, M., & Burion, S. (2005). Human-robot teaming for search and rescue. *IEEE Pervasive Computing*, 4(1), 72-79.
- Ntaountaki, P., Lorentzou, G., Lykothanasi, A., Anagnostopoulou, P., Alexandropoulou, V., & Drigas, A. (2019). Robotics in Autism Intervention. *Int. J. Recent Contributions Eng. Sci. IT*, 7(4), 4-17.
- Ornoy, A., Weinstein-Fudim, L., & Ergaz, Z. (2015). Prenatal factors associated with autism spectrum disorder (ASD). *Reproductive toxicology*, 56, 155-169.
- Ozonoff, S. (1995). Executive functions in autism. In *Learning and cognition in autism* (pp. 199-219).
- Pioggia, G., Igliozi, R., Ferro, M., Ahluwalia, A., Muratori, F., & De Rossi, D. (2005). An android for enhancing social skills and emotion recognition in people with autism. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 13(4), 507-515.
- Palestra, G., De Carolis, B., & Esposito, F. (2017). Artificial Intelligence for Robot-Assisted Treatment of Autism. In *WIAIAH@ AI* IA*, 17-24
- Paul, K. A. (2009). Robotics. In B. Kerr (Ed.), *Encyclopedia of giftedness, creativity, and talent* (pp. 742-742). Thousand Oaks, CA: SAGE. Paul, K. A. (2009). Robotics. In B. Kerr (Ed.), *Encyclopedia of giftedness, creativity, and talent* (pp. 742-742). Thousand Oaks, CA: SAGE.
- Pennisi, P., Tonacci, A., Tartarisco, G., Billeci, L., Ruta, L., Gangemi, S., & Pioggia, G. (2016). Autism and social robotics: A systematic review. *Autism Research*, 9(2), 165-183.
- Petre, M., & Price, B. (2004). Using robotics to motivate 'back door' learning. *Education and information technologies*, 9(2), 147-158.

Petric, F., & Kovacic, Z. (2020). Design and validation of MOMDP models for child–robot interaction within tasks of robot-assisted ASD diagnostic protocol. *International Journal of Social Robotics*, 12(2), 371-388

Piaget, J. (1936). *Origins of intelligence in the child*. London: Routledge & Kegan Paul

Pierno, A. C., Mari, M., Lusher, D., & Castiello, U. (2008). Robotic movement elicits visuomotor priming in children with autism. *Neuropsychologia*, 46(2), 448-454.

Paper—The Consciousness-Intelligence-Knowledge Pyramid: An 8x8 Layer Model
7 References

[1] Piaget, J. (1936). *Origins of intelligence in the child*. London: Routledge & Kegan Paul.

Paper—The Consciousness-Intelligence-Knowledge Pyramid: An 8x8 Layer Model
7 References

[1] Piaget, J. (1936). *Origins of intelligence in the child*. London: Routledge & Kegan Paul.

Paper—The Consciousness-Intelligence-Knowledge Pyramid: An 8x8 Layer Model
7 References

[1] Piaget, J. (1936). *Origins of intelligence in the child*. London: Routledge & Kegan Paul.

Pinto, M. A., Melogno, S., & Uliceto, P. (2006). *TCM: test di comprensione delle metafore; scuola elementare e scuola media*. Carocci Faber.

Pinto, M. A., Candilera, G., & Iliceto, P. (2003). TAM-2: Test di abilità metalinguistiche n. 2 [TAM-2: Test of metalinguistic ability, number 2]. *Roma, Italy: Scione*.

Pop, C. A., Simut, R., Pintea, S., Saldien, J., Rusu, A., David, D., ... & Vanderborght, B. (2013). Can the social robot Probo help children with autism to identify situation-based emotions? A series of single case experiments. *International Journal of Humanoid Robotics*, 10(03), 1350025.

Pressley, M., & Ghatala, E. S. (1990). Self-regulated learning: Monitoring learning from text. *Educational psychologist*, 25(1), 19-33.

Pylväs, L., Nokelainen, P., & Roisko, H. (2015). The role of natural abilities, intrinsic characteristics, and extrinsic conditions in air traffic controllers' vocational development. *Journal of Workplace Learning*. vol. 27, n. 3, 241-263,

Ramirez-Duque, A. A., Frizera-Neto, A., & Bastos, T. F. (2019). Robot-assisted autism spectrum disorder diagnostic based on artificial reasoning. *Journal of Intelligent & Robotic Systems*, 96(2), 267-281.

Ramli, R., Yunus, M. M., & Ishak, N. M. (2011). Robotic teaching for Malaysian gifted enrichment program. *Procedia-Social and Behavioral Sciences*, 15, 2528-2532.

Robinson, A., Dailey, D., Hughes, G., & Cotabish, A. (2014). The effects of a science-focused STEM intervention on gifted elementary students' science knowledge and skills. *Journal of Advanced Academics*, 25(3), 189-213.

Rogers, S. J., Hepburn, S. L., Stackhouse, T., & Wehner, E. (2003). Imitation performance in toddlers with autism and those with other developmental disorders. *Journal of child psychology and psychiatry*, 44(5), 763-781

Renzulli, J. S. (2016). *The three-ring conception of giftedness: A developmental model for promoting creative productivity*. Prufrock Press.

Renzulli, J. S. (2012). Reexamining the role of gifted education and talent development for the 21st century: A four-part theoretical approach. *Gifted Child Quarterly*, 56(3), 150-159.

Ricks, D. J., & Colton, M. B. (2010, May). Trends and considerations in robot-assisted autism therapy. In *2010 IEEE international conference on robotics and automation* (pp. 4354-4359). IEEE.

Robinson, A., Shore, B. M., & Enersen, D. L. (2006). *Best practices in gifted education: An evidence-based guide*. Sourcebooks, Inc.. Robins, B., Otero, N., Ferrari, E., & Dautenhahn, K. (2007, August). Eliciting requirements for a robotic toy for children with autism-results from user panels. In *RO-MAN 2007-The 16th IEEE International Symposium on Robot and Human Interactive Communication* (pp. 101-106). IEEE.

Robins, B., Dautenhahn, K., & Dubowski, J. (2006). Does appearance matter in the interaction of children with autism with a humanoid robot?. *Interaction studies*, 7(3), 479-512.

Robins, B., Dickerson, P., Stribling, P., & Dautenhahn, K. (2004). Robot-mediated joint attention in children with autism: A case study in robot-human interaction. *Interaction studies*, 5(2), 161-198.

Rogers, S. J., Hepburn, S. L., Stackhouse, T., & Wehner, E. (2003). Imitation performance in toddlers with autism and those with other developmental disorders. *Journal of child psychology and psychiatry*, 44(5), 763-781

Rogers, C. R. (1959). *A theory of therapy, personality, and interpersonal relationships: As developed in the client-centered framework* (Vol. 3, pp. 184-256). New York: McGraw-Hill.

Salter, T., Werry, I., & Michaud, F. (2008). Going into the wild in child-robot interaction studies: issues in social robotic development. *Intelligent Service Robotics*, 1(2), 93-108.

Salvador, M. J., Silver, S., & Mahoor, M. H. (2015, May). An emotion recognition comparative study of autistic and typically-developing children using the zeno robot. In *2015 IEEE International Conference on Robotics and Automation (ICRA)* (pp. 6128-6133). IEEE.

Scassellati, B. (2007). How social robots will help us to diagnose, treat, and understand autism. In *Robotics research* (pp. 552-563). Springer, Berlin, Heidelberg.

Sharma, A. (2018). *Layout design and trajectory planning of robotic workcell using point cloud approach* (Doctoral dissertation).

Sharma A., (2018) Machine Learning: A Review of Techniques of Machine Learning," *JASC: Journal of Applied Science and Computations*, vol. 5, no. 7, pp 538-541, December 2018.

Sharples, M., Arnedillo-Sánchez, I., Milrad, M., & Vavoula, G. (2009). Mobile learning. In *Technology-enhanced learning* (pp. 233-249). Springer, Dordrecht.

Shercfill A.(2005).“101 K’NEX challenges...for school and home” Version 2.3

Sigman, M., Dissanayake, C., Corona, R., & Espinosa, M. (2003). Social and cardiac responses of young children with autism. *Autism*, 7, 205–216.

Sisman, B., Kucuk, S., & Yaman, Y. (2020). The effects of robotics training on children’s spatial ability and attitude toward STEM. *International Journal of Social Robotics*, 1-11.

So, W. C., Cheng, C. H., Lam, W. Y., Wong, T., Law, W. W., Huang, Y., ... & Wong, W. (2019). Robot-based play-drama intervention may improve the narrative abilities of Chinese-speaking preschoolers with autism spectrum disorder. *Research in developmental disabilities*, 95, 103515.

Sofronoff, K., Attwood, T., Hinton, S., & Levin, I. (2007). A randomized controlled trial of a cognitive behavioural intervention for anger management in children diagnosed with Asperger syndrome. *Journal of autism and developmental disorders*, 37(7), 1203-1214.

Stahmer, A. C., Schreibman, L., & Cunningham, A. B. (2011). Toward a technology of treatment individualization for young children with autism spectrum disorders. *Brain research*, 1380, 229-239.

Sternberg, R. J., & Davidson, J. E. (Eds.). (2005). *Conceptions of giftedness*. Cambridge University Press.

Stribling, P., Rae, J., & Dickerson, P. (2009). Using conversation analysis to explore the recurrence of a topic in the talk of a boy with an autism spectrum disorder. *Clinical linguistics & phonetics*, 23(8), 555-582.

Szatmari, P., Liu, X. Q., Goldberg, J., Zwaigenbaum, L., Paterson, A. D., Woodbury-Smith, M., ... & Thompson, A. (2012). Sex differences in repetitive stereotyped behaviors in autism: implications for genetic liability. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*, 159(1), 5-12.

Taheri, B., Hosany, S., & Altinay, L. (2019). Consumer engagement in the tourism industry: new trends and implications for research.

Taheri, A., Meghdari, A., Alemi, M., & Pouretamad, H. (2018). Human–robot interaction in autism treatment: a case study on three pairs of autistic children as twins, siblings, and classmates. *International Journal of Social Robotics*, 10(1), 93-113.

Tatarinceva, A. M., Sergeeva, M. G., Dmitrichenkova, S. V., Chazova, V. A., Andryushchenko, I. S., & Shaleeva, E. F. (2018). Lifelong learning of gifted and talented students. *Espacios*, 39(2), 29.

Tchaconas, A., & Adesman, A. (2013). Autism spectrum disorders: a pediatric overview and update. *Current opinion in pediatrics*, 25(1), 130-143.

Thomas, and A. Chandran, 2018, "Artificial Neural Network for Diagnosing Autism Spectrum Disorder," In Proc. 2nd International Conference on Trends in Electronics and Informatics Proceedings.

Townsend, J., & Westerfield, M. (2010). Autism and Asperger's syndrome: A cognitive neuroscience perspective. In *Handbook of medical neuropsychology* (pp. 165-191). Springer, New York, NY.

Traxler, J. (2007). Defining, Discussing and Evaluating Mobile Learning: The moving finger writes and having writ... In: The International Review of Research in Open and Distance Learning, Vol. 8, Issue 2., 1-12

Trna, J., & Trnová, E. (2014). The System of Teacher Education for Motivational Teaching of Gifted Students.

Tschöpe, N., Reiser, J. E., & Oehl, M. (2017, March). Exploring the uncanny valley effect in social robotics. In *Proceedings of the Companion of the 2017 ACM/IEEE International Conference on Human-Robot Interaction* (pp. 307-308).

Tung, F. W. (2016). Child perception of humanoid robot appearance and behavior. *International Journal of Human-Computer Interaction*, 32(6), 493-502.

Turner, D. D., Mlawer, E. J., Bianchini, G., Cadeddu, M. P., Crewell, S., Delamere, J. S., & Tobin, D. C. (2012). Ground-based high spectral resolution observations of the entire terrestrial spectrum under extremely dry conditions. *Geophysical research letters*, 39(10).

Uzgiris, I. C. (1981). Two functions of imitation during infancy. *International Journal of Behavioral Development*, 4(1), 1-12.

Verner, I. M. (2004). Robot manipulations: A synergy of visualization, computation and action for spatial instruction. *International Journal of Computers for Mathematical Learning*, 9(2), 213-234.

Volkmar, F. R., & Klin, A. (2005). Issues in the classification of autism and related conditions. *Handbook of autism and pervasive developmental disorders*, 1, 5-41.

Wainer, A. L., Arnold, Z. E., Leonczyk, C., & Soorya, L. V. (2021). Examining a stepped-care telehealth program for parents of young children with autism: a proof-of-concept trial. *Molecular Autism*, 12(1), 1-14.

Wainer, J., Robins, B., Amirabdollahian, F., & Dautenhahn, K. (2014). Using the humanoid robot KASPAR to autonomously play triadic games and facilitate

collaborative play among children with autism. *IEEE Transactions on Autonomous Mental Development*, 6(3), 183-199.

Wainer, J., Ferrari, E., Dautenhahn, K., & Robins, B. (2010). The effectiveness of using a robotics class to foster collaboration among groups of children with autism in an exploratory study. *Personal and Ubiquitous Computing*, 14(5), 445-455.

Wang S.C. (2019), "Artificial Neural Network. In: Interdisciplinary Computing in Java Program-

ming," *The Springer International Series in Engineering and Computer Science*, vol. 746,

pp.81-100.

Werry, I., Dautenhahn, K., Ogden, B., & Harwin, W. (2001, August). Can social interaction skills be taught by a social agent? The role of a robotic mediator in autism therapy. In *International conference on cognitive technology* (pp. 57-74). Springer, Berlin, Heidelberg

Williams, D., Ma, Y. & Prejean, L. (2010). A Preliminary Study Exploring the Use of Fictional Narrative in Robotics Activities. *Journal of Computers in Mathematics and Science Teaching*, 29(1), 51-71. Chesapeake, VA: AACE.

Wood, L. J., Robins, B., Lakatos, G., Syrdal, D. S., Zaraki, A., & Dautenhahn, K. (2019). Developing a protocol and experimental setup for using a humanoid robot to assist children with autism to develop visual perspective taking skills. *Paladyn, Journal of Behavioral Robotics*, 10(1), 167-179.

Wood, L. J., Zaraki, A., Walters, M. L., Novanda, O., Robins, B., & Dautenhahn, K. (2017, November). The iterative development of the humanoid robot kaspar: An assistive robot for children with autism. In *International Conference on Social Robotics* (pp. 53-63). Springer, Cham.

Wolbring, G., & Yumakulov, S. (2014). Social robots: views of staff of a disability service organization. *International journal of social robotics*, 6(3), 457-468.

Wright, T. (2016). Gifted with Asperger's Syndrome (Twice-Exceptional): The Difference Post-Graduate Certifications Held Make on Early Childhood Teachers' Knowledge.

Zhang, Y., Song, W., Tan, Z., Zhu, H., Wang, Y., Lam, C. M., ... & Yi, L. (2019). Could social robots facilitate children with autism spectrum disorders in learning distrust and deception?. *Computers in Human Behavior*, 98, 140-149.

Ελληνική Βιβλιογραφία:

Αλιμήσης, Δ. (2008). Το προγραμματιστικό περιβάλλον Lego Mindstorms ως εργαλείο υποστήριξης εκπαιδευτικών δραστηριοτήτων ρομποτικής. *Πρακτικά 4ου Πανελληνίου Συνεδρίου «Διδακτική της Πληροφορικής*, 273-282.

