

# Metaphysical Harmony in Pedagogical Enterprise: Speculation on Teacher-Parent Partnership in Educating Learners with Autism Spectrum Disorder (ASD)

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## ABSTRACT

The impact of the teacher-parent partnership in the education of learners with special educational needs such as those with autism spectrum disorder (ASD) or, rather, learners with autism, has not been accorded adequate attention. A look at the pedagogical enterprise, which is the process of managing teaching-learning environment in relation to the conditions of learners with ASD, teacher-parent partnership requires philosophical interrogation. This study uses speculative philosophic methodology to explore the cosmological unification of learner with ASD, teacher, parent and the implications of *the triad* for effective learning. It is posited that the harmony created by the cosmic intelligence (nous) that emanates and which manages the harmony that ensues may be discussed in relation to the Heraclitean theory of "logos" and the Anaxagorean hypothesis of "all is one." As a consequence, the educational success of a learner with ASD could be viewed as a resultant of metaphysical and pedagogical enterprise centered on the cosmos for whatever behavior that is exhibited, perceived as bizarre or otherwise but capable of use as a stepping stone for further learning.

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It is this apparent relationship that every matter within the cosmos has with one another and the centrality of control that form the basis of the ensuing discussion. This discussion can be compared and contrasted with the suggestion put forward by Anderson and Cushing (2012) that education of learners with ASD needs to incorporate analytic philosophical deliberation in attempt to understand the relationships amongst actions of the major stakeholders in the learning students with ASD.

For clarity, the paper is divided into five parts. The first part explains the relevant terms and provides some brief background to this study. In the second part, Kenya is given as an example of a place where education of learners with ASD is given prominence. Speculation on the metaphysical harmony over learning by students with ASD is attempted in the third part. The fourth part provides a sketch for the harmonious relationship between the learner with ASD, the teacher and the parent - *the triad educative process*. The fifth part concludes the discussion.

## 1. Background to the study

### Autism

The term autism was coined from Greek *autos*, meaning self, by a Swiss psychiatrist, Eugen Bleuler in 1906 to interpret his patients' psychotic image about their being (Goldstein, 1978). In 1938, Hans Asperger of the Vienna University Hospital used the term while investigating autistic spectrum disorder (ASD), known now as Asperger's syndrome, which was recognized as autism until 1981 (WebMD, 2013). Asperger's syndrome differs from autism because in the latter, there is delayed language development (WebMD, 2013). In 1943 Leo Kanner of John Hopkins University used the term autism and elaborated on it in the sense it is applied today (Smith, 2011). Terms such as Kanner's syndrome, infantile autism, and childhood schizophrenia were sometimes considered synonymous to autism (Knoblock, 1983). Schizophrenia, however, is a severe mental illness whereby the sufferer's actions and thoughts are incompatible (Coleman et al., 1980 and Knoblock, 1983). The behavior of an individual with schizophrenia is similar to that of one with autism and the main difference is that the latter strikes when the individual has been normal while the former is manifested from

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birth (Hewett and Foreness, 1984). Autism as a condition has other similar conditions related to it and therefore the term autism spectrum disorder (ASD) is preferred.

Autism spectrum disorder (ASD) is a cluster of five conditions classified as neurological or pervasive disorders by the American Psychiatric Association Guideline of Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (2013) as including autism, Asperger's syndrome (AS), pervasive developmental disorder-not otherwise specified (PDD-NOS), childhood disintegrative disorder (CDD) and Rett's syndrome (RS) (Wikipedia, Rett's syndrome, nd). The last two: CDD and RS are very rare conditions and are sometimes not included in ASD (WebMD, 2013).

As noted by Coon (1998, p. 137) and Cundall (2008), autism is characterized by widespread abnormalities of social interactions and communication, coupled with restricted interests and highly repetitive behavior manifested before the age of three years and it affects boys four times more than girls. Characteristics of AS are similar to those of autism but slightly differ because there is no delayed language development. In AS, the affected individual becomes excessively interested in one subject or topic which they learn all about and discuss nonstop and, unlike autism, it affects girls three times more than boys (WebMD, 2003). Individuals with AS may have normal to above average intelligence and therefore they are described as high functioning autism (WebMD, 2013). As explained by Gorenstein-Holtzman (nd) and WebMD (2013), PDD-NOS is a milder form of autism whereby the affected individuals have difficulties with communication and play, yet too social to be considered autistic and hence the condition is termed atypical autism. In CDD, the characteristics are also similar to those of autism but what is learnt is forgotten at the age of ten years (Wikipedia, nd). In RS, characteristics include small hands and feet, stereotyped hand movements like repeatedly putting the hands in the mouth (WebMD, 2013). They have no verbal skills and about 50% of the individuals affected do not walk, while others have seizure attacks and ataxia (Mosby's Medical Dictionary, 2009 and Wikipedia, 2013). Rett's syndrome (RS) was first described by Austrian pediatrician Andreas Rett in 1966. According to Ministry of Education, British Columbia, Special Programme (2000), ASD can also be classified as low, medium or high functioning autism (LFA, MFA, HFA) and the paper adapts this classification since it fits educational descriptions better.

The individual with ASD is described by observers as one who is "out of touch with reality" and the behavior is bizarre whereby they are occupied with their own thoughts and fantasies (Reber, 1985). In addition to such behavior, they also bang their heads on objects, engage in rocking (moving head forward and backward), parrot back everything said (echolalia), flapping their arms or waving their fingers in front of their eyes (Coon, 1998). They may get fascinated with shiny objects but fail completely to respond to sensory blocking noise (Coon, 1998). Resistance to change, attachment to objects and eating strange objects (pica) are also displayed.

The causes of ASD are mostly unknown but hypothesized as related to age of either parent especially the father because of sperm mutation, or the belief that men with autism marry late, bleeding during pregnancy, genetics, pollution and drugs (Bryson, Landry, Czapinski, McConnell, Rombough and Wainwright, 2004 and Reber, 1985). According to National Centre for Biotechnology (2012), characteristics of ASD individuals include aggression, anxiety, attention problems, extreme compulsion, hyperactivity, impulsiveness, irritability, mood swings, outbursts, sleep difficulty and tantrums.

### **Metaphysics**

Metaphysics means the study of issues beyond science or issues that science cannot prove (Popkin and Stroll, 1973, p. 91) as a result of lack of methodological capacity. The term was coined by an editor to Aristotle's works, Andronicus of Rhodes, from Greek, *meta ta physika*, meaning beyond or after physics (Njoroge, 1977). It is regarded as the first philosophy, philosophia prima; the science of supersensory principles and the principles of life and it is a synonym of philosophy (Kielbasa, 2013). As explained further by Kielbasa (2013), metaphysics deals with issues of ultimate reality that result to consensus where things are evident. As argued by Usha Wellbeing (nd) and Farlex (nd), metaphysics is believed to maintain our harmony with universal intelligence or cosmic order (nous or logos) and when there is no harmony, we experience conflict or difficulties (Audi, 1999). This harmony is believed to embrace activities in the universe such as pedagogy.

## **Pedagogy**

Pedagogy is the science that deals with principles and methods of teaching (Olela and Bennaars, 1993, p. 4 and Macmillan, 2002, p. 1045). It is derived from the Greek words *paid* (child) and *agogus* (leader of) (Kelly and Perkett, nd). Pedagogos was a servant or a leader of a master's child (Olela and Bennaars, 1993). Later, between 7<sup>th</sup> and 12<sup>th</sup> centuries, it was used by European monks as a trainer of young boys (Kelly & Perkett, nd and Olela & Bennaars, 1993). In the current scene, Pedagogia or pedagogy refers to the whole business of teaching and the term pedagogue means teacher or educator. In fact the term is used in a generic way to cover all approaches to teaching. In a restricted form, it only refers to the teaching of young children while andragogy is used as a philosophy of teaching adults. Andragogy was first used in 1833 by a German teacher, Alexander Kapp, who coined it to refer to theories of teachings of Plato that were encompassing and permitting lifelong education to everyone (Kelly & Perkett, and Lichtenstein, 2013). In 1921, the word was used by a German scientist, Eugen Rosenstock, who maintained that a teacher of adults was to be an andragogue as opposed to a pedagogue (a teacher of young people) (Kelly & Perkett, nd). In 1970s, Malcolm Knowles used the term widely as a philosophy of instructing a non-dependent personality and consequently became the father of andragogy (Kelly and Perkett, nd). When both pedagogical and andragogical principles are used in teaching, the term synergogy may be applied.

Another competing term in the philosophy of teaching is heutagogy. It is the study of self-determined learning with the sole objective of producing learners who are prepared for the complexities of today's workplace (Blaschke, 2011). The term was coined by Steward Hase of Southern Cross University and Chris Kenyon in Australia as a philosophy of learning how to learn and learning a given subject itself as embraced in emerging technologies in distance education (Blaschke, 2011). In the context of this paper, pedagogy is taken as a generic term where upon all principles and techniques of teaching are considered.

## **2. Education of learners with ASD in Kenya**

The education of learners with ASD in Kenya usually goes together with those of learners with mental handicap. This happens in spite of the fact that individuals with ASD may not be having mental handicap. Since most units catering for learners with mental handicap are found in regular primary schools such as City primary school in Nairobi County, Homa Bay primary school in Homa Bay County, learners with ASD also learn in those units. There are also special schools that solely admit learners with mental handicap like Ogande special school in Homa Bay County, Jacaranda Special School in Nairobi County and Lutheran Special School in Kisumu County. In these special schools for learners with mental handicap, learners with ASD are usually integrated or provided with a special classroom for their use.

Kenya embraces the concept of inclusion in which learners with disabilities learn together with those without disabilities, however, on rare occasions and for the purposes of focusing services, a school which is specifically for learners with ASD can be found. For example, Koizora Special School in Karen in Nairobi (Riccio, 2011). The school was founded by Pooja Panesar who is one of the few people in Sub-Saharan Africa with certification in applied behavior analysis (ABA) (Riccio, 2011). ABA is a behavior modification approach focused on correcting unacceptable behavior and encouraging the accepted ones (Kaechele, 2011 and Riccio, 2011).

In Kenya, like other parts of the world, partnership with parents is minimal and depends on what teachers arrange. Generally, parents trust teachers to come up with what is good for their children, however, rarely do teachers attempt to develop partnership with the parents (Gottlieb, 2011). A look at Kenyan curriculum for teacher education, teacher-parent partnership is not emphasized since there are no pedagogical strategies for achieving common goals. The Kenyan law allows for the formation of Teachers Parents Association (PTA) which is rather administrative and does not focus on academic strategies to improve the academic performance that requires individual attention.

Provision of education for all learners with special needs education is supported by some working documents. The Constitution of Kenya (2010) endorses education for all persons with disabilities without any discrimination. Special Needs Education Policy (2010) is in place and aims to achieve education for all in line with the constitution since education of learners with disabilities requires more time and research in order to manage it well. Teachers are, often, trained at certificate and diploma levels at Kenya Institute of Special Education (KISE) in Nairobi and for one to be admitted, they must have been trained to teach in

primary schools. Courses at undergraduate and post-graduate levels in special needs education are conducted by public and private universities in Kenya.

### **3. Metaphysical harmony in the teaching of learners with ASD**

Harmonious relationship between teacher and parent is important for the success of a learner with ASD because the activities for the success of both the school and the home greatly overlap. Mittler (1986) states that what a child learns at school can either be supported or undermined at home. Examples of activities that take place both in school and at home include toileting, listening to instructions, giving own opinions and helping a situation. Toileting, for instance, is an important activity that can pose a great challenge to learners with ASD, the parents and teachers. How can both the teacher and the parent in the educative process assist the learner with ASD to learn toileting, for instance?

A learner of school going age whose age mates do not have problems with toileting ought to be assisted to be at par with the rest. The thinking of the procedures to be used is to revolve around what the learner does when it is pressing for them to visit the toilet. The observation of the teacher and the parent must reveal the behavior clue in the learner that indicates toilet urge. This behavior clue is the starting point for the three actors in the educative process, the learner, teacher and parent, to forge an effective partnership. Suppose the learner habitually touches a section of a wall and this is confirmed to be an indication of the urge to visit the toilet, the touching of the wall becomes the centre of pedagogical enterprise. As explained by Wainer and Ingersoll (2013), education of learners with ASD must be evidence based. In this case, "touching the wall" is the evidence. The wall and the learner with ASD establish a harmony that could be exploited for an educative progress. The mind of the learner and the cosmic intelligence converge on the wall and hence there is no conflict between the learner and the surrounding environment. The thinking of both the teacher and the parent is to reach the ultimate reality focused on by the learner-wall-harmony-toileting, for instance.

Reaching the ultimate reality is achieved through philosophic dialogue in which the minds of both the teacher and the parent come to terms in the same way akin to the Platonic reaching the universal forms (Field, 1969, p. 17). Plato explains that the universal forms or ideas are the ultimate reality and they are not perceived by the senses but through reasoning (Bridgwater and Kurtz, 1963, p. 1680). The forms, as argued by Plato, assume order and intelligence in a world that is in a state of constant flux (Bridgwater and Kurtz, 1963). As the teacher and the parent reason, they reach a consensus that comes about because the minds of the teacher and the parent are in dialogue with the cosmic intelligence that initially patterned the mind of the learner with ASD in relation to the wall, reachable through a touch. The process of reasoning to reach the ultimate is a rigorous philosophic enterprise that demands from the mind the ability to visualize reality that emanates from the interactions amongst the parent-teacher-learner understanding brought about by reasoning.

Reason, as explained by Chukwu (2002, p. 73), is allied with intellect but is not intellect; it is rationality which is the significant part of the mind that breathes life into philosophy. Reason is always in motion for it is never satisfied with its quest for the truth and is whetted by thoughts (Chukwu, p. 75). Reason enables one to be in harmony with the cosmic intelligence or logos (Chukwu, p. 76). Ochieng'-Odhiambo (1997, p. 2), quoting Hegel, states that reason is a substance as well as an infinite power and it is the basis of natural and spiritual life since it is what sets materials into motion.

Reasoning is a continuous process and once the teacher and the parent have come into the agreement on how to pedagogically handle the learner with ASD, they are to observe and reflect on the outcome of their activities. Whenever they reflect on their activities, they forge partnership that involves sharing ideas as 'equals'. The teacher considers the parent as an equal contributor and the parent vice versa. Equal contribution to the process of educating a learner with ASD, therefore, becomes an integral part of cosmic intelligence since there is harmonious co-existence that results from touching the wall, for instance.

Some of the activities that can be performed by the learner as a result of touching the wall when the urge to visit the toilet beckons include drawing and modeling of the toilet bowl, and even spelling of the word "toilet". The activities to be incorporated in the pedagogical enterprise are to be adjusted in line with the

ability of the learner with ASD. For example, LFA can be given something easy to accomplish and MFA can be guided to do something a bit difficult. Learners with HFA can be given the most difficult task.

Physical activities can also be incorporated like guiding the learner to the toilet and helping them to pronounce the word "toilet". In this manner, the pedagogical enterprise becomes an integrated venture whereby different learning activities involving language, mathematics, art and craft are incorporated.

The use of blissymbolics or blissymbols, which is a semantic graphical language used by individuals with ASD or those with communication difficulties, invented by Charles Kasiel Bliss (1897-1985), could be encouraged (Omniglot, nd). A Learner with ASD, while learning blissymbolics, holds dialogue with the teacher in their minds. This dialogue is connected to cosmic intelligence that controls and orders all activities. The harmonious relationship occurs when the learner with ASD undertakes toilet activities at home in a manner congruent with what they undertake at school. The harmony is a confirmation that the home and the school are in agreement as far as the education of the learner with ASD is concerned thus authenticating the assertion that success in education is highly possible when partnership is focused on what both the school and parents wish to achieve (K'Odhiambo, 1988).

The harmony created by the aforementioned process establishes a connection between the learner and other human beings around and far away, including any other matter that fits into the learning harmony. As explained by Hick (2003), people may be far apart but are metaphysically connected. The universe and individual human beings are connected (Nakano, 1994). What human beings think and do are connected by the universal intelligence, which is known as nous or logos (Usha Wellbeing, nd and Farlex, nd). Activities that arise from the human mind are dependent on the dictates of the universe. The labeling of a learner with ASD as "out of touch with reality" or "absorbed in their own thoughts and fantasies" is an admission of temporary absence an understanding of the harmony that the universe provides inherently. The universal intelligence brought about by the organizing principle logos posits that the universe harbors' only that which makes it logically complete and any lack of understanding is simply a product of the limitation of human reason. It is the universal intelligence that patterns behavior the way it works out and therefore teachers are expected to philosophize and adjust the pedagogical enterprise to be in harmony with the mind of the learner with ASD and engage in a continuous understanding of what the mind is capable of achieving (Shaffer, 2003).

Another common behavior noticed in learners with ASD is attachment to objects (Hewett and Forness, 1984). The individual may have strong attachment to a toy or a plant leaf, for instance. If this behavior is understood by the teacher and the parent as a new opportunity guiding the learning process then an area of convergence is realized. Such area has a connection with the universal order from which learning springs and as a consequence the logos, which is the initiating and the governing principle of the cosmos that harmonizes with the minds of the triad in the educative process. If the educative enterprise is harmoniously carried out, the three people involved will be at peace. If there is no peace in any one of them, say the parent, a lot of issues arise. Some research done in the US indicates that lack of peace of mind of parents of a child with ASD accounts for 27% or more loss of income (MacReady, 2011). Teachers also get stressed when they teach but do not realize the success of their efforts (MacReady, 2011). So, in the case of attachment to objects, for instance, which may be bizarre to some people, the pedagogical enterprise is to revolve around the object of attachment. The term bizarre used in reference to autistic condition may be described as negative stereotyping and raises a number of questions whose answers require some restraint if the learner with ASD is to be assisted: How do you consider yourself normal? How sure are you of your normalcy?

A challenge in philosophical circles emerge when an individual consider themselves to be sure of many things yet fail to be sure of what they are (Mattei, 1995). This is well captured when Socrates asserts that the greatest virtue is to know yourself (Encyclopedia Britannica, 1979). Descartes' dictum, *Cogito ergo sum*, meaning I am thinking, therefore I exist or I think therefore I am, is an extension of Socrates' assertion on virtue and it shows that an individual can only be certain of themselves (Freer, 2012). We describe learners with ASD according to our perception without recourse into the perception of their minds and even the cosmic order that works positively for everyone who lives in the universe.

Harmony that results to efficient and effective learning is metaphysical. This relationship has been debated by philosophers from ancient times. It is this harmony which is cosmic whereupon all activities in the universe are synchronized in a way that, in this case, makes the teaching-learning of learners with ASD effective.

The psychological attributes of partners who collaborate in such settings are fundamental to the harmony. Swick (1991) highlights attributes that support partnership and stresses that for parents to make their relationship with teachers meaningful and effective, they should have positive self-image, ability to listen, effective interpersonal skills, nurturance, mental happiness and family harmony. The same attributes, as explained further by Swick (1992), are applicable to teachers who should, in addition to the above attributes, have effective teaching skills, positive discipline and ability to involve parents in educational activities. Parental roles are performed within the family and within family-school relationships and these require an action-oriented philosophy of family-school support (Swick, 1992). This philosophy requires an understanding of teacher-parent context, appreciation of the partnership itself, needs assessment, goals statements, implementation plan and evaluation tools (Swick, 1992).

Strategies to achieve the philosophy of the family-school support as further noted by Swick (1992) include home visits, conferences, home-learning activities and education net-working. One of the most important areas to apply the strategies is behavior modification, which refers to approaches used to correct unacceptable behavior and to strengthen acceptable ones. Teachers and parents are challenged with strange behavior of learners with ASD. A collaborative effort can focus on behavior modification. There are three important individuals in the partnership: the autistic learner, the parent and the teacher. In the partnership, the learner should have the opportunity of choosing both the content and the method of learning (Kaechele, 2011) a kin to constructivist approach (Maluenda, nd). The philosophy of constructivism views each learner as an individual with unique potentials that education has to develop. For example, a learner with autism who is attached to a specific object has demonstrated their uniqueness and has chosen what to study. Learning activities can be planned around the object that the learner is attached to and this can happen in all levels of education up to the university, especially for those with HFA.

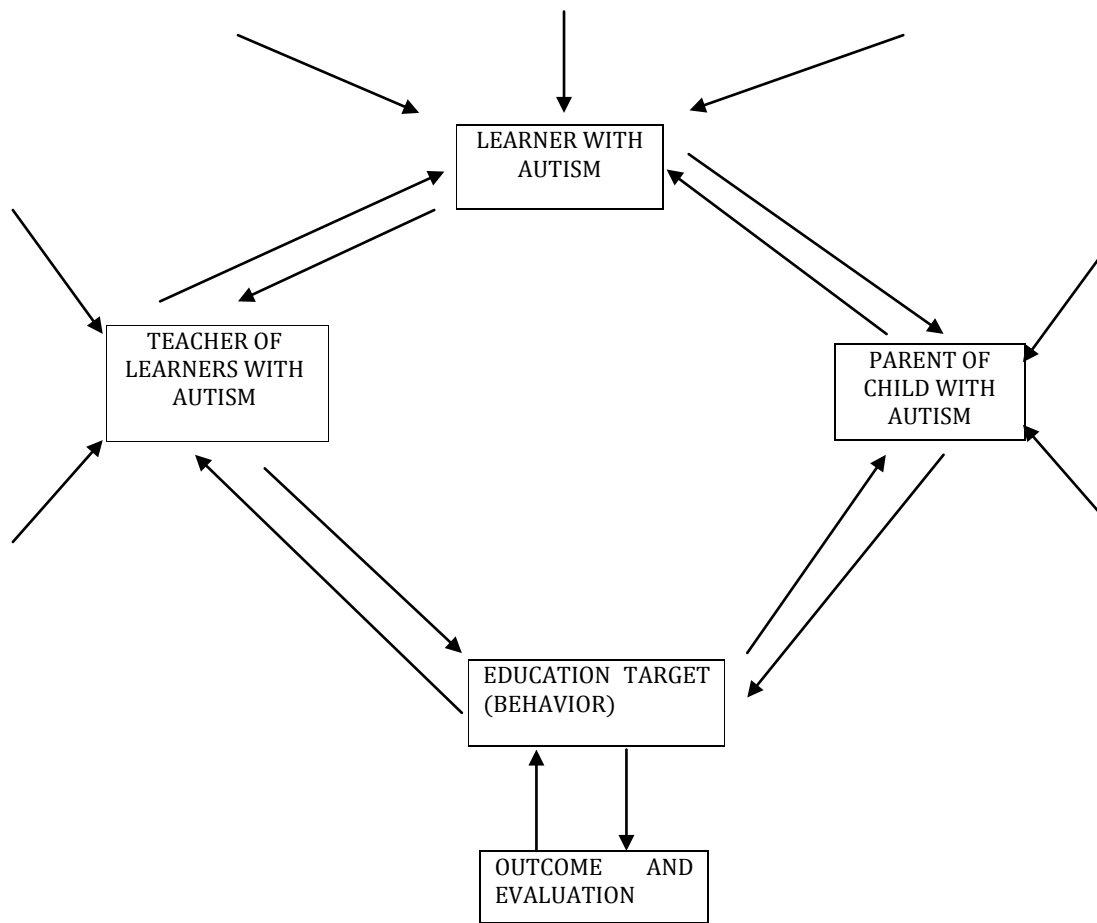
Learners with ASD are joining universities in the UK as noted by Taylor (2005) and can be trained in specific fields where the unity of their mind and cosmic intelligence are exhibited. As reported by Bryson et al. (2004), some learners with ASD show exceptional ability in recognizing patterns, matching and detecting embedded objects. Such knowledge can be used in training technicians for assembly plants, for instance. In the same way, Douglas (2013) and Everard (1976) recommend the teaching of music to learners with ASD who have music predisposition because music is a universal language that can be used as the basis of learning educational tasks. It is also relaxing and has aesthetic value.

According to Pythagoreanism, the philosophy of Pythagoras (c.570-495 BC) and his followers, it is proposed that when the celestial bodies move, they make music; also known as the harmony of the doctrine of spheres (Mautner, 2005, pp. 508 & 509). The mind of a learner with ASD who listens to music, we posit, has been patterned to be in harmony with that of the celestial bodies, which is definitely connected to cosmic order that is musically defined. It is suggested that pedagogical enterprise could incorporate this musical harmony in the education of learners with ASD who have exhibited music ability. The design for harmonious relationship that may result to learning without conflict is presented in the fourth part below.

#### **4. Speculation on teacher-parent partnership design for education of learners with ASD**

It is suggested that the most important area of concern for education of learners with ASD is modification of behavior to enable the learners live harmoniously with both the members of the home and the school. Modification of behavior is a pre-requisite to academic learning and academic leaning can be built on it. The design takes cognizance of the universe and the harmonious understanding of the interactions of the triad.

Figure 1: Metaphysical design for teacher-parent partnership for education of learners with ASD



In the design above, every member of the partnership draws inspirations for the education of learners with ASD from the universe as indicated by hypothetical arrows towards them. From the inspirations, they come to the centre of harmony which stipulates educational target to be achieved. Once a reasonable strive has been made to achieve the target, the outcome is evaluated and the whole procedure is repeated for a continuous educative process.

## 5. Conclusion

The education of learners with ASD is posited to be fundamentally philosophic. By basing the education on the philosophy of the cosmos whereby harmonious relationship is established in the triad (learner, teacher and parent), it is likely that education outcomes will achieve intended targets. The triad emphasizes planning, implementation and evaluation of educational activities, which takes cognizance of cosmic harmony as propounded by Heraclitus and Anaxagoras who are metaphysicians.

Every human being has a chance to engage in education as long as those who are in charge of its provision understand the diversity of the conditions of individuals or groups of individuals.

This paper identifies learners with ASD as one such group of persons who could maximize the benefits their status offer for education as long as each participant understands their role. The paper suggests a sustained philosophic study on the understanding of the mind of the learner with ASD in relation to their educational and vocational training to identify the universal harmony for their education in collaboration with the teacher and the parent.

## References

- American Psychiatric Association Guideline for Diagnostic and Statistical Manual of Mental Disorders (2013).
- Anderson, J.L. and Cushing, L. (Eds). (2012). The philosophy of autism. Rowman and Littlefield Publishers. Retrieved from <http://www.autismemories.net/the-philosophy-of-autism>
- Audi, R. (Ed). (1999). The Cambridge dictionary of philosophy. Cambridge: Cambridge University Press.
- Blaschke, Lisa Marie. (2011). Sustaining lifelong learning: A review of heutagogical practice and self-determined learning. Retrieved from <http://www.lisamarieblaschke.pbworks.com/Blaschke> on July 12, 2013.
- Bridgwater, W. and Kurtz, S. (Eds). (1963). The Columbia encyclopedia, Vol. IV. New York: Columbia University Press.
- Bryson, S.E., Landry, R., Czapinski, P., McConnell, B., Rombough, V. and Wainwright, A. (2004). Autistic spectrum disorder: Causal mechanisms and recent findings on attention and emotion. *International Journal of Special Education*, Vol. 19, No.1.
- Chukwu, C.N. (2002).
- Heesook Kim.** Eldoret: Zapf Chancery Research Consultants and Publishers.
- Coleman, J.C. et al. (1980). *Abnormal psychology and modern life*. Glenview: Scott, Foreman and Company.
- The Constitution of Kenya. (2010). Nairobi: Government Printer.
- Coon, D. (1998).
- Heesook Kim:** London: Books/Cole Publishing Company.
- Cundall, Michael (2008). Internet encyclopedia of philosophy: Philosophy of autism. Retrieved from <http://www.iep.utm.edu/autism> on October 3, 2013.
- Douglas, Amy. (2013). How to teach social skills to high school students with autism. Retrieved from [http://www.ehow.com/how\\_4443649\\_teach-social-skills-high](http://www.ehow.com/how_4443649_teach-social-skills-high) on July 12, 2013.
- Encyclopedia Britannica, Vol. 16, (15
- Heesook Kim ed.). (1979). Chicago: William Benton.
- Everard, M.P. (Ed.). (1976). *An approach to teaching autistic children*. London: National Society for Autistic Children.
- Falex free dictionary (nd). Retrieved from <http://www.thefreedictionary.com> on September 30, 2013.
- Field, C.C. (1969). *The philosophy of Plato*. Oxford: Oxford University Press.
- Freer, Scott. (2012). Sage bites: Reflections on quotations for life: "The unexamined life is not worth living". Retrieved from <http://www.sagebites.squarespace.com> on October 10, 2013.
- Goldstein, H. (Ed.). (1978). *Exceptional children: A reference book*. Guilford: Special Learning Corporation.



- Gorenstein-Holtzman, Michelle. (nd). What are the characteristics of pervasive developmental disorder-not otherwise specified (PDD-NOS). Retrieved from <http://www.share.com/health/autism-spectrum-disorders/v> on 12th October, 2013.
- Gottlieb, H. (2011). Teacher-parent partnership. Retrieved from <http://www.articlesbd.com> on June 1, 2013.
- Graham, D. (2005). Heraclitus. Internet encyclopaedia of philosophy.
- Hewett, F.M. and Forness, S.R. (1984). Education of exceptional learners. Boston: Allyn and Bacon
- Hick, J.H. (2003). Philosophy of religion. New Delhi: Prentice-Hall of India.
- Kaechele, M. (2011). Philosophy of learning. Retrieved from <http://www.teachpaperless.blogspot.com> on June 2, 2013.
- Kelly, C.H. and Perket, D.J. (nd). Adult education in the West: Part I-Definition. Retrieved from <http://www.osaka-gu.ac.jp/papers/adult-ed.html> on October 30, 2013.
- Kielbasa, Jan. (2013). What is first? Metaphysics as prima philosophia and ultima scientia in the works of Thomas Aquinas. *Philosophia* 41:635-648. Retrieved from Springerlink.com on December 11, 2013.
- Knoblock, P. (1983). Teaching emotionally disturbed children: Boston: Houghton Mifflin Company.
- K'Odhiambo, A.K. (1988). Parental influence on behavior modification of autistic children at Jacaranda school for the mentally handicapped in Nairobi (Unpublished Diploma Project, Kenya Institute of Special Education).
- Lichtenstein, Nancy. (2013). The history of andragogy. Retrieved from [http://www.ehow.com/info8332095\\_history-andragogy.htm](http://www.ehow.com/info8332095_history-andragogy.htm) on October 23, 2013.
- Macmillan dictionary for advanced learners. (2002). Oxford: Bloomsbury Publishing Plc.
- MacReady, N. (2011). Autism associated with loss of family income. A paper presented at the International Meeting for Autism Research (IMFAR), 10TH Anniversary Meeting, San Diego, California, May 17, 2011. Medscape Medical News. Retrieved from <http://www.medscape.com> on June 23, 2013.
- Maluenda, J. (nd). Philosophy of education. Retrieved from <http://www.autismepiphanies.com> on May 27, 2013.
- Mattei, L. (1995). Introduction to philosophy. Nairobi: Consolata Institute of Philosophy.
- Mautner, T. (2005). Dictionary of philosophy. London: Penguin Books.
- Ministry of education, British Columbia, special programme. (2000).
- Mittler, H. (1986). Working with parents as partners. Rio de Janeiro: International League of Societies for Persons with Mental Handicap (ILSPMH).
- Mosby's medical dictionary. (2009). Rett's syndrome. Elsevier. Retrieved from [http://www.medical-dictionary.thefreedictionary.com/Rett's\\_syndrome](http://www.medical-dictionary.thefreedictionary.com/Rett's_syndrome) on 16th October, 2013.
- Nakano, Y.Y. (1994). Miraculous life chain: Essence of evolution from the universe to mankind. Tokyo: Helix Editions Limited.
- National Centre for Biotechnology Information, US National Library of Medicine. (2002). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH002494>

- Njoroge, R.J. (1977). *Metaphysics according to the analytic tradition* (Unpublished PhD Thesis). Nairobi: University of Nairobi.
- Ochieng'-Odhiambo, F. (1997). *African philosophy: An introduction*. Nairobi: Consolata Institute of Philosophy.
- Olela, H. and Bennaars, G.A. (1993). *Philosophy of teaching*. Nairobi: University of Nairobi.
- Omniglot (nd). *The online encyclopedia of writing systems and languages*.
- Patzia, M. (2007). *Anaxagoras*. Internet encyclopaedia of philosophy. Retrieved from <http://www.iep.utm.edu/anaxagor/> on October 20, 2013.
- Popkin, R.H. and Stroll, A. (1973). *Philosophy made simple*: London: Heinemann Publishers (W.H. Allen and Kegan).
- Reber, S.A. (1985). *Dictionary of psychology*. Harmondsworth: Penguin Books Ltd.
- Riccio, Ariana. (2011). *Autism in Kenya: A social, educational and political perspective*. Independent Study Project (ISP) Collection. Paper 1203. Retrieved from [http://digitalcollections.edu/isp\\_collection/1203](http://digitalcollections.edu/isp_collection/1203) on October 23, 2013.
- Shaffer, J.A. (2003). *Philosophy of mind*. New Delhi: Prentice-Hall of India.
- Special needs education policy. (2010). Retrieved from <http://www.kenya.cbm.org> on September 12, 2013.
- Smith, Barbara. (2011). *Leo Kanner and autism*. Retrieved from <http://www.healthguideinfo.com/diagnosing-autism/p10538> on October 20, 2013.
- Swick, K.J. (1991). *A rural teacher-parent partnership for the enhancement of school success*. Retrieved from <http://www.researchgate.net>
- Swick, K.J. (1992). *Teacher-parent relationships*. Retrieved from <http://www.ericdigests.com>
- Taylor, M.J. (2005). *Teaching students with autistic spectrum disorder in higher education*. *Education + Training*, Vol. 47 Iss: 7, pp. 484-495. Retrieved from DOI 10.1108/00400910510626330 on September 2, 2013.
- Usha Wellbeing. (nd). *Metaphysics*. Retrieved from <https://sites.google.com/site/ushawellbeing/home/metaphysics> on August 23, 2013.
- Wainer, A.L. and Igersoll, B.R. (2013). *Disseminating autism spectrum disorder interventions: A pilot study of a distance learning programme for parents and professionals*. *Journal of Autism and Developmental Disorders*, January 2013, Vol.43, Issue 1, pp. 11-24.
- WebMD. (2003). *Autism spectrum disorders*. Retrieved from <http://www.webmd.com/brain/autism-spectrum-disord> on 20th October, 2013.
- Wikipedia. (nd). *Rett's syndrome*. Retrieved from [http://www.en.wikipedia.org/wiki/Rett\\_syndrome](http://www.en.wikipedia.org/wiki/Rett_syndrome) on 23rd October, 2013.
- Wikipedia. (nd). *Pervasive developmental disorder-not otherwise specified (PDD-NOS)*. Retrieved from <http://www.en.wikipedia.org/wiki/PDD-NOS> on 25th October, 2013.