GLOBAL RESEARCH ANALYSIS

ISSN No 2277 - 8160

Listed & Indexed with

ISSN Directory, Paris



Multi-Subject Journal

Volume : 1 | Issue : 2 | July 2012 | ₹ 250/-

GLOBAL RESEARCH ANALYSIS

ISSN No 2277 - 8160

GLOBAL RESEARCH ANALYSIS

Editor In-Chief :

Dr. Khansa Memon
SARA Publishing Academy

Dr. Ashok S. Pawar Associate Professor, Dept. of Economic Dr. Babaasaheb Ambedkar Marathwada.University, Aurngabad.(MS-India)-431004	**Dr.(Prof) Vijay Kumar Soni** Principal, Jai Meenesh College, Phagi, Jaipur, Rajasthan	**Dr. A.R. Saravankumar** Assistant Professor in Education DDE, Alagappa University, Tamilnadu
Dr. R. Ramachandran Commerce DDE Annamalai University Tamilna	**Dr. R Ganpathy** Assistant Professor in Commerce Directorate of Distance Education Alagappa University Karaikudi.	**Dr. Amit Bandyopadhyay** Assistant Professor Department of Physiology University of Calcutta
Dr. V. Kumaravel Professor and Head Vivekanandha Business School for Women Tiruchengode, Namakkal Dist	**Dr. K. Prabhakar** Professor, Department of Management Studies, Velammal Engineering College, Chennai - 600 066.	**Dr. Sunita J. Rathod** Maharashtra Education Service Group-B DIET Dist. Jalna

SUBSCRIPTION DETAILS

Period	Rate	Discount	Amount Payable
One Year (12 issues)	3000/-	Nil	3000/-
Two Years (24 issues)	6000/-	200/-	5800/-
Three Years (36 issues)	9000/-	300/-	8700/-
Five Years (60 issues)	15000/-	600/-	14400/-

You can download the Subscription form from website www.theglobaljournals.com. You will require to print the form. Please fill the form completely and send it to the Editor, GLOBAL RESEARCH ANALYSIS along with the payment in the form of Demand Draft/Cheque at Par drawn in favour of GLOBAL RESEARCH ANALYSIS payable at Ahmedabad.

- Thoughts, language, vision and examples in published research paper are entirely of author of research paper. It is not necessary that both the editor, and editorial board agrees with the author. The responsibility of the matter of research paper/article is entirely of author.
- Editing of the Global Research Analysis is processed without any remittance. The selection and publication is done after recommendations of atleast two subject expert referees.
- In any condition if any National/International University denies accepting the research paper published in GRA, then it is not the responsibility of Editor, Publisher and Management
- Only the first author is entitle to receive the copies of all co-authors
- Before re-use of published paper in any manner, it is compulsory to take written permission from the Editor-GRA unless it will be assumed as disobedience of copyright rules
- All the legal undertaking related to Global Research Analysis is subject to Ahmedabad Jurisdiction.
- The research journal will be send by normal post. If the journal is not received by the author of research paper then it will not be the responsibility of the Editor and publisher. The amount for registered post should be borne by author of the research paper in case of second copy of the journal.

Editor,
GLOBAL RESEARCH ANALYSIS
3, SUHANA, Near. Ruby Apartment, B/h NID, Rajnagar Road, Paldi Ahmedabad – 380007. Gujarat (INDIA)
Cell : +91 98247 02127, 8866 00 3636

INDEX

Sr. No.	Title	Author	Subject	Page No.
1	Application of One Way ANOVA and Tukey's HSD Post Hoc test to Ecological Data	T B Mruthunjay, Dr. Shankar P Hosmani	Biotechnology	1-3
2	"New Area and Management Through Value Based"	Dr. Pankaj. K. Trivedi	Commerce	4-5
3	E-Supply Chain Strategies	Dr. Vipul Chalotra	Commerce	6-7
4	Socio-economic and Cultural factors in health, health services and prevention: An over view	Jaibarath Mageshkar	Economics	8-9
5	A Discriminant Analysis on Demographic Factors and Satisfaction Level of Credit Card Users in Coimbatore City	Dr.Malarvizhi.V	Economics	10-12
6	Effects of Socio-Cultural Determinants on Fertility	Prof. Dr. K.J. Thankachan	Economics	13-15
7	"Need of Effective Communication Model in Teaching Learning Process"	Dr. Mujibul Hasan	Education	16-18
8	Awarness on Special Education for B.Ed Students	Dr. S. K. Panneer Selvam	Education	19-20
9	Quality Improvement in Elementary Teacher Education	Ramesh B. Sakhiya	Education	21-22
10	Mobile operating system: A Case study on Symbian and Android	Vidyasagar S.D.	Engineering	23-25
11	IIR Filter Design to remove noise from ECG signal	Aarti J Patel	Engineering	26-28
12	Assessment of Godavari River Water For Sustainable Utilization.	I. B. Ghorade, S. S. Patil, M.D. Wagh	Environment Science	29-32
13	Shiksha, Saksharta aur Media	Dr Subodh Kumar	Journalism	33-34
14	Television Viewing Behaviour of Rural Women	Dr. H.Ramakrishna	Journalism	35-36
15	Female Foeticide and PNDT Act: Issues and Challenges	Dr. Anu, Dr. Pawan Kumar	Law	37-38
16	Product Invasion from foreign Competitors Whether Indian Product will win this Competition?	Dr. Ashish Singh	Management	39-40
17	"Role of State Wise Employment Exchanges on Condition That Employment In India."	Mr. Vimal P. Jagad	Management	41-43
18	A Study for The Growth of Micro, Small, Medium Service Enterprises Thorugh Tourism Development	Prof. Nikita Gupta, Prof. Parag Gadve, Prof. Farha Hussain	Management	44-45
19	To Study The Need of Capacity Building for Rural Tourism	Prof. Parag Gadve, Prof. Nikita Gupta, Prof. Farha Hussain	Management	46-47
20	CRM and Information Technology	Prof KVSN Jawahar Babu	Management	48-49
21	Strategies for Seizing Rural Markets- A Checklist for Fmcg Firms	Prof KVSN Jawahar Babu, N Meena Rani	Management	50-52
22	Implementation of Adaptive Controller based on FPGA for Flow System	Ankit V Bhaiya, Prof. Vandana V. Patel	Management	53-55
23	"A Study of Evaluation of Operating Performance of Selected Mutual Fund in Global Era"	Mital R Menapara, Bhavesh P Chadamiya	Management	56-57
24	"Remarks on the Measurement, Valuation and Reporting of Intangible Assets"	Dinesh C. Dhoniya	Management	58-59

Sr. No.	Title	Author	Subject	Page No.
25	Corporate Social Responsibility: Micro and Macro level	Parul Jain	Management	60-61
26	Role of Management Schools in Transformation of Rural India	Dr. H.Ramakrishna	Management	62-64
27	A Study on Customer Experience in Modern Retail Stores with Reference to Big Bazaar, Hyderabad	N Meena Rani	Management	65-67
28	Impact of Satellite Television on Adolescent Girls of Silchar Town in Southern Assam	Dr Partha Sarkar	Mass Communication	68-70
29	Quality Assurance Procedure for Computerised Tomography Scanners(Test Followed In India)	Suresh Sukumar, Sushil Yadav	Medical Science	71-74
30	Magnetic Resonance Imaging of Routine shoulder protocols	Suresh Sukumar, Sushil Yadav	Medical Science	75-76
31	A Simple Teaching Module for Brain Sections: Integration of Traditional Teaching Methods and Modern Computer Technology.	Dr. Archana U. Shekokar, Vandana A. Tendolkar	Medical Science	77-78
32	Effects of Mand Training on Negative Behaviours and Verbal Behaviour Development: A Case Study	Prasanna V, Sunila John, B Rajashekhar	Medical science	79-81
33	Effectiveness of Videotaped/Photographs in Teaching Handling Techniques for Caregivers of Children with Spastic Cerebral Palsy	V.Guruprasad, KR.Banumathe, T. BalaKrishnan	Medical Science	82-84
34	Comparision of Thresholds of Single Frequeny and Muti Frequency Auditory Steady State Responses in Normal Hearing Adults	Sadanand Gore, Hari Prakash P	Medical Science	85-87
35	Clinical applications of Speech Evoked Cortical Auditory Potentials (SECAPs) in Pediatric Hearing assessment & Aural habilitation- A case report	Ayas Muhammed, Archana, Kishan, Hariprakash, Prajakta Prabhu	Medical science	88-89
36	Rudimentary horn pregnancy: A Case Report	Dr Ashwini Avinash Yelikar , Dr Vidya Vijender Ambatkar, Dr Kishore Hol, Dr G S Shekhawat	Medicine Science	90-91
37	A rare case: Typhoid fever with ARDS	Dr. Ramakrishna Ghubde, Dr. Archana Shekokar	Medicine Science	92-93
38	Motivation, Well-Being & Adjustment of Economic Downturn Survivors: An Empirical Study in a Manufacturing Industry	Vijaya.R, Dr.M.Y.Manjulat	Psychology	94-96
39	Diversity of cladocerans, copepods and ostracods of Kapsi Lake Kapsi, Akola (MS) India	P. P. Ade	Zoology	97-100
40	Study of macromolecular contents of different tissues of Channa punctatus under stress condition	Pooja S. Thakur	Zoology	101-102
41	Spider diversity of Katepurna Sanctuary District Akola (MS) India	Shegokar M.M.	Zoology	103-106

Volume : 1 | Issue : 2 | July 2012 • ISSN No 2277 - 8160

Research Paper | Medical science

Effects of Mand Training on Negative Behaviours and Verbal Behaviour Development: A Case Study

Prasanna V Department of Speech & Hearing, Manipal University.

Sunila John Assistant Professor-Senior, Manipal University.

B Rajashekhar Professor, Ph. D, , Department of Speech & Hearing, Manipal University.

ABSTRACT

Socially, communication happens through Verbal behaviour which is a class of behaviour that is reinforced through the mediation of others. Verbal operants as Skinner described, are the units of analysis of verbal behaviour which can be classified as elementary and secondary. Children with communication disorders who are nonverbal in nature often exhibit socially unacceptable negative behaviours such as crying, injuring, and snatching instead of manding. In the field of communication disorders, though there is rich number of descriptive studies, only very few efficacy studies of therapy approaches have been reported. The present study is an effort towards improving evidence for the efficacy of Mand training on the negative behaviours exhibited by a child aged 2 years 3 months diagnosed with delayed speech and language skills with poor communicative intent and to highlight the importance of functional unit analysis in similar cases

KEYWORDS: Verbal behaviour, Verbal operants, Mand, Negative behaviour

INTRODUCTION

Professionals in the field of Speech Language Pathology (SLP) invariably believe in multiple theories of language acquisition, which can be grouped into two categories of innate and acquired. The most comprehensive of these are linguistic theory (Chomsky, 1955) and Behavioural theory (Skinner, 1957). While planning intervention, the SLP focuses on linguistic principles for deciding goals even though the treatment strategies followed is more often falling into behavioural perspectives of Skinner. If it is true that "learning occurs best when embedded within functional activities" (Rowland & Schweigert, 1993), then assessment that includes a functional account is essential (Esch, LaLonde & Esch, 2010).

Language when viewed as verbal behaviour can be understood as a class of behaviour which can be either vocal or non vocal and is shaped and reinforced by the mediation of others in the environment (Skinner, 1957). Skinner (1957) identified four controlling antecedent variables of verbal behavior: some state of deprivation or aversive stimulation, some aspect of the environment, other verbal behavior, and one's own verbal behavior. In Verbal behaviour, functional units are the units of analysis. These functional units can be grouped into two categories: elementary (Mand, Tact, Intraverbal, Echoic, Textual) and secondary (Autoclitic). Current study focuses only on elementary verbal operants, especially mands.

A Mand is an elementary verbal operant which is exhibited by a speaker where there is a state of deprivation and when he/she wants to overcome the state of deprivation (Skinner, 1957). Michael (1988) termed the state of deprivation as Establishing Operants (EOs) which can induce the need to demand, command or countermand and overcome the deprivation. A child seeing candies at a shop asks his mother, "Candy!" is a simple example for Manding. In this case, the urge to enjoy the candy becomes EO and asking for it becomes Mand. Mand can manifest both in vocal and non vocal Mand forms. Another elementary verbal operant is Tact which is a verbal operant that is evoked by a particular event/object property in the immediate environment (Skinner, 1957). For instance, a child seeing a dog in the street says "bow-bow!" which is in relation to the object property, that is, dog in the street. Intraverbal and Echoic are elementary verbal operants which is preceded by verbal behaviour of self/others and similar vocalisation by others respectively (Skinner, 1957).

While studying functional units of verbal behaviour, it becomes quite necessary to understand applied behaviour analysis through Antecedent-Behaviour-Consequence (A-B-C) analysis. It is the way of looking into the units of verbal behaviour in which antecedent refers to what triggers that particular behaviour exhibited by the individual wherein, behaviour refers to what kind of behaviour was exhibited by the individual, and consequence refers to how the environment reacts to the individual's behaviour. This kind of probing would give information on 'why/why not' the behaviour occurred.

In the natural context and during therapy, verbal operants are usually under multiple controlling variables and do not occur in pure forms. For instance, if a child sees a candy and asks for it by saying, "Candy!" it can be considered manding and as well as tacting. It is inevitable in the natural context and most often impure verbal operants are what used for therapy. Mand can take any form including Mand + Tact, Mand + Tact + Intraverbal, Mand + Tact + Intraverbal + Echoic or Mand + Intraverbal.

Very often we come across children with communicative disorders exhibiting behaviours like crying, showing other temper tantrums like banging, injuring self and injuring others, snatching objects from others without manding for it, yelling out, property destruction, looking away, non compliant etc (Sundberg & 2007). Children who cannot Mand often resort to such undesirable and aggressive non vocal acts because they cannot request what they want. These behaviours are termed negative behaviours which are socially unacceptable. Negative behaviours if exhibited strongly are indicative of history of strong, inadvertent positive reinforcement of those behaviours. They are usually exhibited to gain attention, reprimands, reaction from others and mostly with the intention to get access to reinforcers by avoiding undesirable activity.

In order to overcome EOs and negative behaviours, Mand training procedure can be employed at an early stage of life as mands typically develop very early in life (Martinez, 2007). This can be applied in children with developmental language disorders of autism, mental retardation, Attention Deficit Hyperactivity Disorder for increasing the Mand repertoire. Subsequent to Mand training, the occurrence of Mand-Tact transfer further improves the verbal behaviour in the pre-school age (Petursdottir, Carr & Michael, 2005). Mand training leading to reliable acquisition of Tact in the above mentioned study proves the functional dependence between the two verbal operants in the form of Mand-Tact transfer but not otherwise and supports the decision of providing Mand training for children with poor verbal behaviour to acquire it.

NEED AND AIMS OF THE STUDY

The conceptual view of language gets distorted when discrepancy comes between the patterns of language assessment and intervention procedures. Invariably, assessment protocol of language in most of the clinics is structural units based while therapy strategies are operant conditioning based. Practice like this may hinder the evolving of a strong outlook about language, its nature and its development. The solution for this problem comes in the form of the need for understanding both linguistic and behavioural perspectives deeper and applying both whenever and wherever required in the practice. During assessment of a child with communication disorder doing both structural and functional analysis will provide adequate information on what behaviours were observed and why those behaviours were observed as this kind of understanding of the child's communication will aid greatly in designing the therapy objectives.

While to highlight the advantages of functional analysis in the assessment protocol of developmental language disorders is one dimension of the current study, other dimension of the study tries to focus on the incompleteness in the existing literature in the field of communication disorders. The incompleteness is mainly because of the availability of rich number of descriptive linguistic based studies which continues to augment whereas there is scanty literature aiding the clinicians in constructing therapy strategies. Current case study is an effort towards improving the literature on the efficacy of Mand training on negative behaviours and verbal behaviour development in a 2 year 3 months old child who showed strong negative behaviours and to highlight the inadequacy of structural analysis and importance of functional analysis in cases similar to the presenting one.

METHODOLOGY

Master R, 2 years 3 months old child, who was reported be not talking according to his age initially was subjected to structural units analysis of language. Formal assessment was carried out using Receptive – Expressive Emergent Language Test- Second edition (Bzoch & League, 1991) to find out the child's language age. Later, as the child showed strong negative behaviours, Applied behaviour analysis was carried out through A-B-C analysis as part of the functional behaviour analysis.

Subsequently, the child was subjected to 25 sessions (1 hour/session) of Mand training using Speaker Immersion Procedure (SIP). SIP has been proved effective for the production of verbal operants (Pistoljevic, Cahill & Casarini, 2010) and for improving spontaneous speaker behaviour (Greer & Ross, 2004; Ross, Nuzzolo, Stolfi & Natarelli 2006) in which opportunities to Mand were provided by modifying the environment deliberately to create EOs and contrived EOs of child's interest. The EOs were created and maintained until the child emitted a Mand, be it Non vocal or vocal initially and later the emphasis was laid on increasing the approximation of the child's behaviour on the target verbal behaviour of spontaneous Mand + Tact through a systematic hierarchy of training stages. The hierarchy of training stages went as follows: Non vocal Mand (gestural request), generalised Manding (saying "give"), Mand + Echoic + Tact (Imitation) or Mand + Intraverbal + Echoic + Tact (replying for what do you want? with imitation) and finally exhibiting Mand + Tact (seeing and asking for items himself).

20 items (EOs/Contrived EOs) of child's interest were carefully selected and used for Pre and post Mand training testing and also were taken up for training. Testing was carried out prior and subsequent to 25 sessions of Mand training and rating was carried out based on the observation of the child's behaviour for 2 hours each for Pre and Post Mand training testing. The child's behaviour was rated by 2 clinicians in the Instructional setting as whether negative or verbal behaviour pre and post Mand training with the trained items. Inter clinician rating agreement was calculated. Post Mand training, the child's behaviour was also rated in the Non Instructional Setting by the mother with 20 trained. 5 non trained items were used for post Mand training testing in both Instructional and Non Instructional Setting. 80% occurrence was taken as the criteria in a given period of time to rate a particular behaviour.

RESULTS & DISCUSSION

On evaluation, it was found that the child had no significant birth history. The child had negative family history of speech and language disorders and didn't have any medical condition that could have affected the speech and language development. Sensory- motor skills were adequate to age and Oral Structural Mechanism Examination (OSME) showed no structural/ functional deviancies. The child's Pre linguistic skills of eye contact was poor and sitting behaviour was fairly good.

Structural analysis of the child's language showed delay in linguistic skills development. REELS-2 (Bzoch & League, 1991) revealed the receptive language age of the child to be 10 to 11 months and the expressive language age to be 9 to 10 months. Functional analysis of the child's behaviour showed poor communicative intent and strong negative behaviours. A-B-C analysis on negative behaviours revealed EOs as Antecedent, Negative behaviours as child's behaviours to overcome EOs and direct reinforcement by the family members was the consequence of the child's negative behaviours. Impression given was Delayed Speech and Language skills. Rating of the child's behaviour in the Instructional setting by 2 clinicians had 100% inter clinician rating agreement throughout the study.

Graph 1 Behaviour of the child rated in Instructional setting

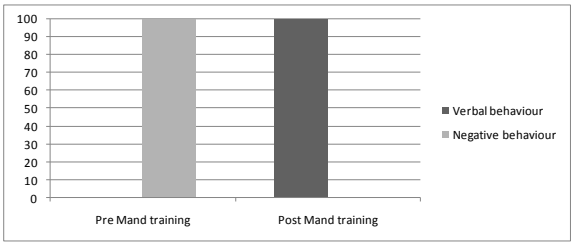

Table 1 Behaviour of the child rated in Instructional setting

Behaviour	Pre Mand training	Post Mand training
Negative behaviour	100%	0%
Verbal behaviour (Mand)	0%	100%

Graph 2 Manding behaviour post Mand training on 20 trained items

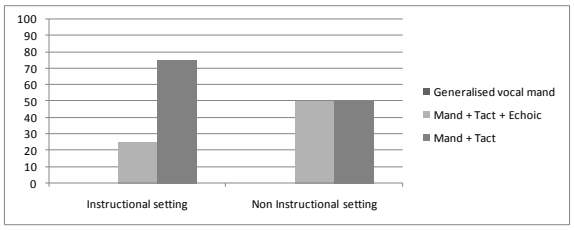

Table 2 Manding behaviour post Mand training on 20 trained items and 5 non trained items

Manding behaviour	On 20 trained items (% occurrence)		On 5 non trained items (% occurrence)	
	IS*	NIS**	IS	NIS
Generalised vocal Mand	--	--	100%	100%
Mand + Tact + Echoic	25%	50%	--	--
Mand + Tact	75%	50%	--	--

IS*- Instructional Setting; NIS**- Non Instructional Setting

Most speech-language assessments in widespread use today evaluate response topographies (forms of responses) alone, without regard for a functional analysis of the causal variables that lead to the specific topographic features of responses (Esch et al., 2010). Functional unit analysis have more advantages to SLPs as they are more prescriptive and provide complete information for defining therapy objectives than structural analysis (Lerman, Parten, Addison, Vomdran, Volkert, & Kodak, 2005; Baker, LeBlanc & Raetz, 2005) and incomplete behavioural analysis of language task may lead to failure of therapy (Sundberg & Michael, 2001). Thus, carrying out both structural and functional analysis becomes essential. In the present case, structural analysis would have revealed only delay in speech and language development whereas functional analysis revealed why the child exhibited why negative behaviours occurred in place of verbal behaviour. This greatly aided in treating the socio-environmental cause of child's communication disorder which was reinforcing the negative behaviours and designing therapy program with structural analysis alone becomes more like treating the symptoms.

The Mand function is widely regarded as the earliest verbal operant established (Sundberg, Loeb, Hale & Eigenheer, 2002) and of greatest benefit to speakers (Skinner, 1957). Negative behaviours when present in a child may hinder child's verbal behaviour development especially Mand development. This is because the child exhibiting negative behaviours to overcome EOs, may fail to understand the fact that there

is an easier way to overcome EOs than showing negative behaviours (Pistoljevic et al., 2010). Presence of negative behaviour might pose a great difficulty for the clinicians to teach verbal behaviour and it becomes quite necessary to eliminate those behaviours which will lay foundation for the development of verbal behaviour. Thus, working on the extinction of negative behaviours should precede verbal behaviour development. For this purpose, in the current case, Mand training was provided using SIP was used to increase the Mand repertoire as SIP is very effective with children with limited/no Mand repertoire (Green & Ross, 2004). SIP gives opportunities to the child to Mand by making environmental modifications to create EOs/contrived EOs and nothing other than targeted mands will be reinforced. Mand training in the current case as shown in Table 1 resulted in the extinction of negative behaviours which paralleled development of elementary verbal operants (predominantly mands).

With the intention of overcoming EOs, the child exhibited mands in its impure forms of Mand + Tact + Echoic and Mand + Tact by the end of 25 sessions of mand training for trained items as indicated in Table 2. Spontaneous manding (Mand + Tact) of the trained items was found to occur 50% of times while the child exhibited duplic manding (Mand + Tact + Echoic) 50% of times with trained items in the non instructional setting. There was a transfer from Mand to Tact for the trained items with Mand training which can be considered as an indirect effect of mand training. However, to call it impure tacting completely will be erroneous as the child exhibited it to overcome EOs. With non trained items, the child consistently exhibited generalized vocal manding and it was duplic verbal behaviour of Mand + Tact + Echoic was observed when emphasis was given. In Mand training, the clinicians prolong EOs till target behaviour is exhibited by the child in the instructional setting and it is highly essential to maintain same environmental consequence by parents in non instructional setting as well.

CONCLUSION

Including functional analysis along with structural analysis in the protocol of speech and language assessment of children with communication disorders will provide complete information of the child's language behaviour and will aid greatly in designing therapy program for them.

When working with children showing strong negative behaviours, it is necessary to eliminate them before working on improving verbal behaviour. In the current case, Mand training using SIP proved effective for the elimination of negative behaviours which paralleled the development of elementary verbal operants (predominantly Mand). Tact, Echoic also occurred in impure manding which can be considered indirect effect of Mand training.

ACKNOWLEDGMENT

The author would also like to thank Dr. M.N.Hegde (Professor, California State University, Fresno) for suggestions and providing with references in constructing the paper.

REFERENCES

Baker, C.J., LeBlanc, A.L., & Raetz, B.P. (2008). A behavioural Conceptualization of Aphasia. The Analysis of verbal behavior, 24, 147-158. | | Bondy, A., Esch, B., Esch J., & Sundberg, M.L. (2010). Questions on verbal behaviour and its application to individuals with autism: An interview with experts. Behavioral Analyst today, 3, 186-206. | | Bzoch, K., & League, R. (1991). Receptive-Expressive Emergent Language Test: A Method for Assessing the Language Skills of Infants, Second Edition. Austin: Pro-Ed. | | Bourret, J., Vollmer, R.T., & Rapp, T.J. (2004). Evaluation of a vocal mand assessment and vocal mand training procedures. Journal of Applied behavioral analysis, 37, 129-144. | | Carr, E.J., & Firth, M.A. (2005). The verbal behaviour approach to early and intensive behavioral intervention for autism: A call for additional empirical support. Journal of early Intensive Behavioral intervention, 2(1), 18-27. | | Chomsky, N. (1967). A review of B.F.Skinner's verbal behavior. Readings in the Psychology of Language, 35, 26-58. | | Esch, E.B., LaLonde, B.K., & Esch, E.J. (2010). Speech and Language assessment: A verbal behavior analysis. Journal of Speech Language Pathology and Applied Behavior Analysis, 5(2), 166-191. | | Frost, L., & Bondy, A. (2006). A common language: using B.F.Skinner's verbal behavior for assessment and treatment of communication disabilities in Speech language Pathology and Applied behavior analysis. Journal of Speech Language Pathology and Applied Behavior Analysis, 1(2), 103-110. | | Greer, R.D., & Ross, D.E. (2004). Research in the induction and expansion of complex verbal behavior., Journal of Early Intensive Behavioral Intervention 1(2),141-165. | | Lerman, D.C., Parten, M., Addison, L.R., Vomdran, C.M., Volkert, V.M., & Kodak, T. (2005). A methodology for assessing the functions of emerging speech in children with developmental disabilities. Journal of Applied behavior analysis, 38(3), 303-16. | | Martinez, C.R. (2007). Establishing reinforcers to increase mand repertoire. Online presentation,www.rcmautismnotebook.com_ESATABLISHING_REINFORCERSandMAND_TRAINING-SLP__RCMAutismNote.ppt | | Michael, J. (1988). Establishing Operations and the mand. The analysis of verbal behavior, 6, 3-9. | | Petursdottir, A.I., Carr, E.J., & Michael, J. (2005). Emergence of Mands and Tacts of objects among preschool children. The analysis of verbal behavior, 21, 59-74. | | Pistoljevic, N., Cahill, C., & Casarini, F. (2010). Effects of a speaker immersion procedure on the production of verbal operants. Journal of Speech language Pathology and Applied behavioral Analysis, 5(2), 191-206. | | Ross, D.E., Nuzzolo, R., Stolfi, L., & Natarelli, S. (2006). Effects of speaker immersion on independent speaker behavior of preschool children with verbal delays. Journal of early and intensive behavioral intervention, 3(1), 135-150. | | Rowland, C & Schweigert, P. (1993). Analysing the communication environment to increase functional communication. Journal of the association for the persons with severe handicap, 18(3), 161-176. | | Skinner, B.F. (1957) Verbal behavior. Copley Publishing Group and the B.F.Skinner foundation, USA. | | Sundberg, M.L., Loeb, M., Hale, L., & Eigenheer, P. (2002) Contriving Establisng Operants to teach Mands for information. The Analysis of verbal behavior, 18, 15-29. | | Sundberg, M.L., & Michael, J. (2001). The benefits of Skinner's analysis of verbal behavior for children with autism. Behavior modification, 25(2), 698-724. | | Sundberg, M.L., & Sundberg, C. (2007). What causes negative behaviors and what to do about them. Online presentation, | www.marksundberg.com/files/Sweden_Conference_8-16-07..ppt



Sara Publishing Academy

GLOBAL RESEARCH ANALYSIS

Multi-Subject Journal

Editor,

GLOBAL RESEARCH ANALYSIS

3, SUHANA, Nr. Ruby Apartment,
B/h NID, Rajnagar Circle, Paldi, Ahmedabad - 380007

Printed at Unique Offset, Novatsing Rupam Estate, Opp. Abhay Estate, Tavdipura, Shahibaug, Ahmedabad

Designed By : AdVoice Inc. +91 9824484447