

**EFFECTIVENESS OF TOKEN ECONOMY ON BEHAVIOURAL
PROBLEM AMONG MENTALLY CHALLENGED CHILDREN
IN A SELECTED SPECIAL SCHOOL, SALEM.**

By

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**A DISSERTATION SUBMITTED TO
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CERTIFICATE

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'Gratitude makes of our past, brings peace for today,

And creates a vision for tomorrow'

-Thompson.

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ABSTRACT

This study was conducted to evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children in a Selected Special School, Salem. In this study Pre Experimental (one group pre test- post test) design was adopted. Setting of the study was CSI Balar Gnana Illam special school, Salem. The sample size was 37 and they were selected through Non Probability Purposive Sampling Technique. Behaviour problem was assessed through Conner's Abbreviated Rating Scale (CARS). After Token Economy Intervention the collected data were analysed by using both descriptive and inferential statistical methods.

The study revealed that during pre test, majority of the samples i.e.18 (48.65%) had severe behavioral problem, 12(32.43%) had moderate behavioral problem and remaining 7(18.92%) had mild behavioral problem. During post-test, most of the samples i.e. 15(40.54%) had moderate behavioral problem, 13(35.14%) had severe behavioral problem and remaining 9(24.32%) had mild behavioral problem. The mean pre test score was 18.54 ± 5.99 and the mean post test score was 15.49 ± 5.88 , the paired 't' test value was 2.93 at $p \leq 0.05$ level. This indicates that the token economy was effective in reducing the behavioral problem among mentally challenged children. Hence the hypothesis H_1 was retained. There was no significant association found between the pre test scores on behavioral problem among samples and their selected baseline variables at $p \leq 0.05$ level. Hence hypothesis H_2 was rejected. This study concluded that the Token Economy was effective, attractive, easy to carry, dispense and cost effective therapeutic intervention in reducing the Behavioral Problems among Mentally Challenged Children.

CHAPTER I

INTRODUCTION

People's behavior makes sense

If you think about it in terms of their goals, needs and motives.

- Thomas Mann

India has approximately 450 million child population in that prevalence rate of Mental Retardation is about 0.5 to 1%. The population of disabled in India is estimated to be 90 million in that 30 million children falls below the age of 14 years. In every 10 children, 1 child is born with a physical, mental or sensory disability (**WHO, 2011**).

Persons with retardation or slowness in their mental growth and capacities are called “Mentally Handicapped” or “Mentally Retarded” or “Mentally Challenged”. They are also referred to as “Slow Developers” “Slow Learners” or “Less Intelligent”. Psychological tests are available to measure the Intelligence.

Intelligent Quotient (I.Q.) = Mental Age divided by the Chronological Age and multiplied by Hundred (**Dr. George Boeree, American Psychiatrist**).

- ❖ I.Q. above 140 is the sign of a genius.
- ❖ An average intelligent child would score between 100 – 120 of IQ.
- ❖ A dull child would score between 85 – 99 of IQ.

Tab- 1.1: Classification of Mentally Subnormal

CLASS	IQ LEVELS
Mild Mental Retardation (Educable)	50-70
Moderate Mental Retardation (Trainable)	35-50
Severe Mental Retardation (Dependent Retarded)	20-35
Profound Mental Retardation (Life Support)	Below 20

Mentally challenged people have been viewed variously as “less than human” “Burden upon society” “sick / medically ill”, “objects of pity”, and external children / holy innocents. Some of these perceptions have led to direct persecution of mentally challenged individuals: others have led to what might be charitably called “benign neglect”, even though some of these enforced social roles have resulted in better treatment for mentally challenged individuals than others, none of them has allowed for the possibility that mentally challenged individuals in their own ways, capable of learning achieving and becoming productive member of society (**Wong, Wilson, et.al, 2006**).

Mental retardation is a disorder of intellectual and adaptive functioning, meaning that people who are affected are challenged by the skills they use in everyday life. Mental retardation is not a disease or a mental illness, it is a developmental disability that varies in severity and is usually associated with physical problems.

Mental retardation may have slight difficulty in thinking and communicating and they may face major challenges with basic self-care and physical mobility. Many people with mental retardation also have other disabilities such as cerebral palsy, seizure or psychiatric disorders, attention deficit/hyperactivity disorder, or problems with vision, communication and eating. Though language and communication problems are common in anyone with mental retardation, motor skills are typically more affected when a person has coexisting conditions (**Kurlip. M.G, 2000**).

People with mental retardation learn slowly and often with difficulty. Ordinary activities of daily living, such as brushing teeth and getting dressed, and understanding the behavior of others as well as their own, can all present challenges to a person with mental retardation.

Mental retardation is a complex classification that has a number of different manifestations and a number of different causes. Throughout the life the individuals with mental retardation were faced with many challenges posed from living with a significant disability on a daily basis. Their challenges were magnified by rather antiquated stigma and negative social perspectives on individuals who are mentally handicapped. Prejudice against individuals with mental retardation is apparent across different civilizations throughout history.

All behaviors in children with mentally challenged can be divided into two categories; skill behaviors and problem behaviors. All mentally challenged children show deficits in some skill behaviors. This means that they perform poorly on certain tasks which normal children of their own age can do easily. Motor behavior, activities of daily living, toileting, brushing, bathing, dressing, grooming, languages, reading and writing, domestic and social skill behaviors, prevocational and money (**Lazarus, 2005**).

The mentally challenged children show behaviors that are considered as problematic because of the harm or inconvenience they cause others, or to the child himself. These problem behaviors could be due to a number of reasons (i.e.) lack of communication skills, may also be due to a wrong handling by people in the environment of the child. The behavior could be Violent and destructive, mischievous with others, self-injurious, repetitive, odd, hyperactivity, rebellious and antisocial in nature.

Mentally challenged is not a disease to be cured. It is a condition or handicap that has to be helped by training or rehabilitation. There can be no operations or surgeries to increase memory or intelligence. Mentally challenged children require

teaching and training using scientific methods to become self- dependent and useful citizens.

Behavior modifications for children's are a method of therapy geared towards turning undesirable behavior into desirable behavior. There are different methods that can be used for behavior modifications such as positive reinforcements, direct instructions, punishments, verbal reprimand and token economy for adaptive behavior and time-outs for maladaptive behavior. Based on this concept researcher have adopted the token economy program.

The token economy is a behavioral therapy technique in which the desired change is achieved by means of tokens administered for the performance of predefined behaviors according to the programme. The token economy is a treatment intervention based on principles of operant conditioning and social learning (**Hales Yudofsky.et.al., 2009**).

"Anything that is visible and countable can be used as a token. Tokens should preferably be attractive, easy to carry, dispense, and difficult to counterfeit. Commonly used items include poker chips, stickers, toys, drawing notes, chocolates, or play money etc. When a child displays desirable behavior, he or she is immediately given a designated number of tokens. Tokens have no value of their own. They are collected and later exchanged for meaningful objects, privileges or activities. Children's can also lose tokens (response cost) for displaying undesirable behavior. Children participating in a token economy need to know exactly what they must do in order to receive tokens. Desirable and undesirable behavior is explained ahead of time in a simple and specific term (**Rosen.et.al., 2009**).

In the token economy, the full range of self-care, social and work behaviors could be modified by systematic and pre-planned use of antecedents (e.g., prompts)

and consequences (e.g., reinforces) of these behaviors. The 'psychopathological' behavior of the mentally challenged was conceptualized as being subject to the same 'laws of learning' that influenced normal behavior. Tokens could be conveniently dispensed to the children contingent on their exhibiting improvements in their behavior. The tokens were then subsequently exchanged for a panoply of rewards."

Primary reinforcers are the meaningful objects, privileges or activities that children's receive in exchange for their tokens. Examples include food items, toys, extra free time, or outings. The success of a token economy depends on the appeal of the primary reinforcers. Initially tokens are awarded frequently and in higher amounts, but as child learn the desirable behavior, opportunities to earn tokens decreases.

Ideally, children will use the skills learned in a token economy in their everyday surroundings. They will display the undesirable behavior less frequently or not at all. They will also engage in positive and adaptive behaviors more often.

Need for the Study:

Change cannot alter love

Nor time impair

For love is more than a feeling

Love is a decision, a commitment to care forever

- Robin lim

About 5% of the world's children, 14 years of age are under moderate to severe type of Mental Retardation. In India, the prevalence rate is 1.5-2.5% of developmental delay in children with less than 2 years of age (**WHO, 2010**).

In an epidemiological study the prevalence rate of mental disorders in India shows that an estimate of 4.2/1000 population are mentally retarded (**Murali Madav.S, 2012**).

As per the census report 1, 27,521 populations were found to be mentally handicapped in Tamil Nadu (**Census India, 2011**).

A survey was conducted in Maharashtra to find out delay in mental development among 0 to 15 years children. They found out of 1000 children 29 children were from rural areas had developmental delays. Also the study reported as 3 out of every 100 children found to be mentally retarded in India. The Incidence of mental retardation seems too increased sharply at the age of five years. The number of cases identified at the age of 15 (**Nadeem Ahmad, et al., June 2010**).

Mental retardation is a disorder characterized by significantly sub average general intellectual function and IQ of 70 or below, with impairment in adaptive behavior (including thinking, learning, social and occupational adjustment) and manifested during the developmental period (below age of 18). This especially characterized by impairment of skills manifested during development period that cognitive (knowledge) language, motor and social abilities (**Louise, Rebraca, et al., 2005**).

A study was conducted to assess the behavioral and emotional problems among mentally retarded children. In this study, 60 children were included. The age groups of the children were between 5-19years. They were selected by the developmental behavior check list. The study reported that the problems will occur in school age and early adolescence age. Because they are in a situation where more is expected of them. So researcher stressed about the importance of intervention to

change the behavioral and emotional problems in mentally challenged children (Andrea et al., 2006).

The researcher said that tokens are secondary reinforcers; a secondary reinforcer is something that is conditioned, (not intrinsically reinforcing or needed to live) but can be exchanged for a primary reinforcer. Secondary reinforcers can include money, tokens, praise, high fives, or vouchers. A primary reinforcer is something that fulfills primary needs directly, e.g. food, warmth or air, or sensory stimulation. "Patients earn tokens, which they can exchange for privileges, such as time watching television or walks on the hospital grounds, by completing assigned duties (such as making their beds) or even just by engaging in appropriate conversations with others(Nolen-Hoeksema's Abnormal Psychology).

A study was conducted to examine the Use of the Token Economy in reducing undesired Behaviors among Mentally Challenged Children. The purpose of this study was to examine the efficacy of the token economy system in reducing physical aggression, property destruction, and disruptive talk. The study was conducted at residential school. The age group of the sample was 12 to 16 years. The sample size was 45. In this study Quantitative, Single Subject Treatment Reversal design was used. The participant behavior was observed and data was collected in phase I, baseline "A" (1 week) phase II, intervention, "B" (7 weeks) and phase III, return to baseline "A" (1 week). Behavioral data sheets were used to record the frequency of behavior. The results revealed that during phase I the variability of the frequency of physical aggression was 0 to 10, property destruction was 0 to 6 and disruptive behavior was 0 to 7. During phase II, the variability of the frequency of physical aggression was 0 to 8, property destruction was 0 to 5 and disruptive behavior was 0 to 4. During phase III, the variability of the frequency of physical aggression was 0 to

6, property destruction was 0 to 2 and disruptive behavior was 0 to 2. So researcher concluded that token economy was effective to reducing the behavior problem(Jennifer Luby, 2011).

Token programs are very useful in dealing with the delinquent behavior of children. Few of the later studies started concentrating more on the control of delinquent behavior of both the sexes (Tyler & brown, 1998).

Prevention is key but early intervention can improve the outcomes. The investigator had come across many mentally challenged children admitted in many special homes with the behavior problems, where the care givers, parents are unaware of the token economy for behavior modification of the mentally challenged children with behavior problem. So the investigator decided to conduct the study for evaluating the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children.

Statement of the Problem:

A Study to Evaluate the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children in a Selected Special School, Salem.

Objectives:

1. To assess the behavioral problem among mentally challenged children.
2. To evaluate the effectiveness of token economy on behavioral problem among mentally challenged children.
3. To associate the behavioral problem among mentally challenged children with their selected baseline variables.

Operational Definition:**Effectiveness:**

It refers to the outcome of token economy on behavior problem as measured by inferential statistical method.

Token Economy:

It refers to the star sticker given as reward as the tokens. Later these tokens are accumulated and exchanged as biscuits and fruits, to the children while they show desirable behavior. It is used as a behavioral intervention to reduce the behavioral problem of mentally challenged children.

Behavior problem:

It refers to the set of behaviors that are exhibited by the samples like who don't sit still, who never seem to listen, who don't follow instructions, who get irritated suddenly and burst out anger, who distract and hurt others, crying often are measured by using the Conner's Abbreviated Rating Scale.

Mentally challenged:

It refers to the children who are already categorized as mild and moderate mentally challenged by the institution.

Assumptions:

- Token economy may have an effect on behavior problem of mentally challenged children.
- The token economy intervention which is introduced by the investigator may help care takers to use the same on children with behavior problem.

Hypotheses:

H₁: There will be a significant difference between the pre test and post test score on behavioral problem among mentally challenged children at $p \leq 0.05$ level.

H₂: There will be a significant association between behavioral problem with the selected baseline variables among mentally challenged children at $p \leq 0.05$ level.

Delimitation:

- The study was limited to the mentally challenged children with behavioral problem.
- Data collection period was limited to 4 weeks.

Projected Outcome:

- The study helped to identify the behavioral problem among mentally challenged children at special school.
- Token economy would reduce behavior problem among mentally challenged children.
- Findings of the study would help health professionals to gain adequate knowledge for further research.

Conceptual Framework:

Conceptual framework is a brief explanation of a theory or those portions of a theory to be tested in a study. (Grove, 2003)

The conceptual framework for this study is based on modified **Roy's adaptation model**. This model consists of 5 elements i.e. Person, Goal of Nursing, Nursing Activities, Health and Environment. Persons are viewed as living adaptive systems whose behaviours may be classified as adaptive responses or ineffective responses. These behaviours are derived from Cognator and Regulator Coping Mechanisms. The cognator coping mechanisms is cognitive –emotive channels that may be information processing, learning etc. The regulator coping mechanisms is a basic type of adaptive process. These mechanisms work within 4 adaptive modes (Physiologic Function, Self-Concept, Role Function, Interdependence). The goal of

nursing is to promote adaptive responses in relation to 4 adaptive modes, using information about person's adaptation & various stimuli. Nursing activities involve manipulation of these stimuli to promote adaptive responses. Health is a process of becoming integrated. The environment consists of person's Internal and External Stimuli.

In Roy's system, there is an input, throughput (processes and effectors) and output.

Input:

Input is identified as stimuli, which can come from the environment (or) from within a person. The Cognator (Mild & Moderate Intelligent Quotient Level) and the Regulator (Chemical or Endocrine imbalances) mechanisms are activating the exhibition of behavioural problems.

In this study the stimuli was behavioral problem and baseline variables of samples. Conner's Abbreviated Rating Scale was used to assess the Behavior problems of mentally challenged children like Runs and climbs abnormally, Disturbing others work, Not waiting for their turn to talk, Crying often, Burst out anger, Get irritated suddenly, Distract and hurt others. Then the samples were made to be in a separate class room (environment) for the intervention.

Throughput:

Throughput makes use of a person's Processes and Effectors.

Processes:

Processes refer to the control mechanisms that a person uses as an adaptive system.

In this study Token economy intervention acts as the control mechanism on behavior problems of the samples.

Effectors:

Effectors refer to the Physiologic Function, Self-Concept, Role Function and Interdependence involved in adaptation.

- **Physiological function:**

It involves body's basic needs.

The samples basic needs like sleeping, eating, dressing and elimination was maintained adequately. It was checked in their activity note.

- **Self-concept:**

It refers to beliefs and feelings about oneself.

Through token economy behavioral intervention the samples were appreciated (verbally & nonverbally) thereby the self of the samples was motivated to change the maladaptive behaviour into adaptive behavior.

- **Role function:**

It involves set of exhibited behaviours based on a person's positions in society.

The samples learnt behavior through token economy intervention are imitated and continued till longer is called role function.

- **Interdependence:**

Involves a person's relationship with significant others and support systems.

The token economy intervention made the samples to get involved with other caregivers and peer groups in the special school & homes. Through that they started sharing their love and affection in the environment.

Output:

Output is the outcome of the system; when the system is a person. Output refers to the person's behaviour. Output is categorized as adaptive responses [those

that promote a person's integrity] or ineffective responses [those that do not promote goal achievement, less adaptive behavior]. These responses or output, provide feedback for the system.

In this study, Output was categorized as two i.e. adaptive behavior (adaptive responses) and less adaptive behavior (ineffective responses). Samples with less adaptive behavior are brought back to feedback system.

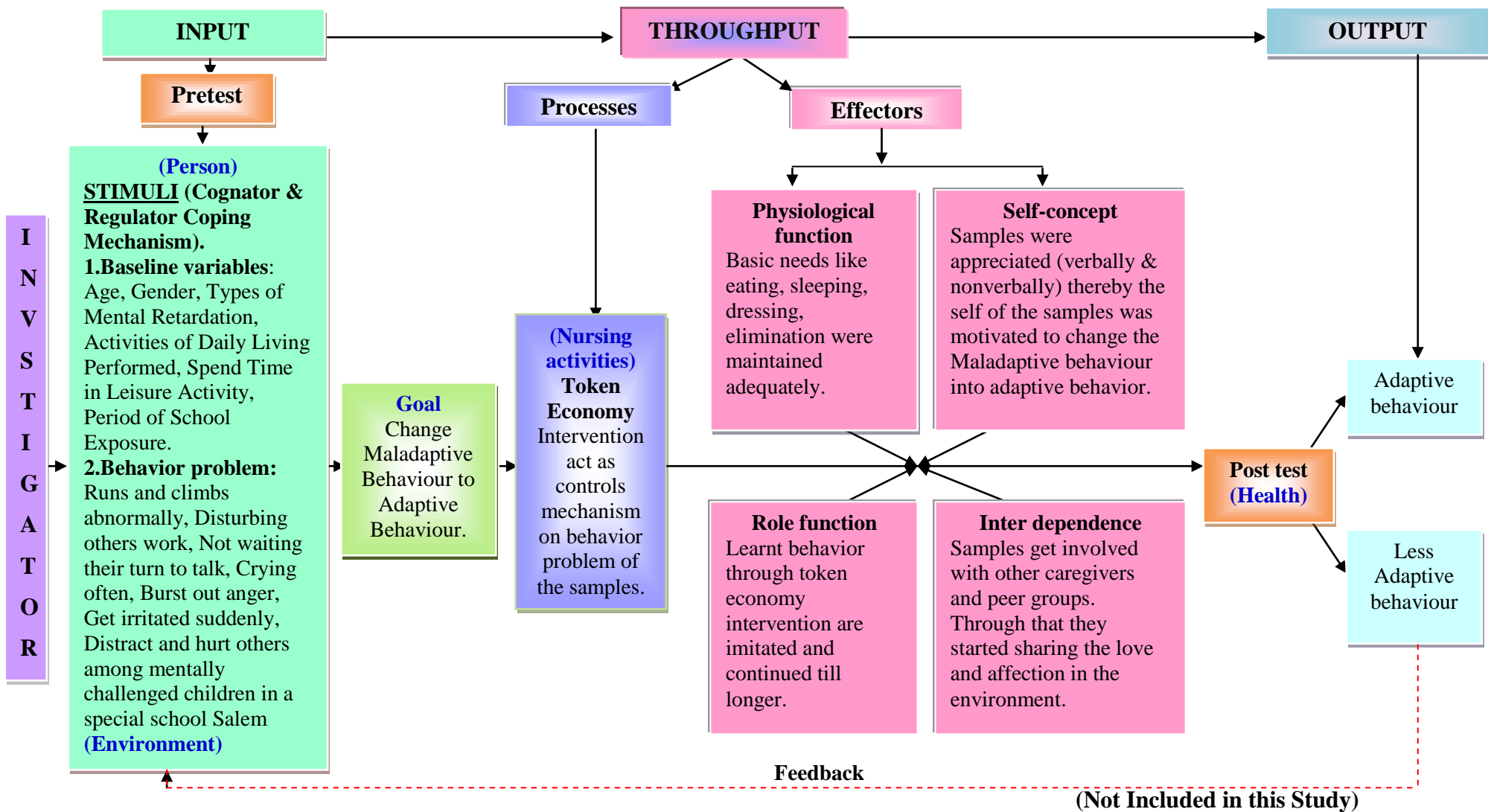


Figure-1.1: Conceptual Framework Based on Modified Roy's Adaptation Model

Summary:

This chapter dealt with the introduction, need for the study, statement of the problem, objectives, operational definitions, assumptions, hypotheses, delimitations, projected outcome and conceptual framework.

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an essential step in the development of a research project. It helps the researcher to design the proposed study in a scientific manner so as to achieve the desired result. It helps to determine the gaps, consistencies and inconsistencies in the available literature about particular subject under the study.

Review of literature for the present study is classified under the following headings.

1. Literature related to behavioral problem of mentally challenged children.
2. Literature related to the token economy on behavioral problem among mentally challenged children.

1. Literature related to behavioral problem of mentally challenged children.

Dr. Bharati Roy, et.al, (2012) conducted a study on examine the adjustment problems of educable mentally retarded students at Ranchi (India). The Purposive sampling technique was used. The total sample in the study consisted of 200 subjects – out of which 100 served as experimental group (mentally retarded) and 100 as normal control. The subjects in the experimental group were selected from the schools of mentally retarded and normal control subjects were selected from different high schools of Ranchi. They were matched with the experimental group with respect to various socio-demographic variables, like age, economic status, religion and domicile. For assessing the intelligence and adjustment problems of the subjects, Sandford Binet intelligence scale and Bell adjustment inventory were used. Results showed that: (i) mentally retarded subjects had greater adjustment problems than the normal control group. (ii) Mentally retarded group showed highest score in social area and lowest score in health area in comparison to other areas of adjustment.

Benson BA, (2008) conducted a study to determine the Aggressive challenging behavior among intellectually disabled children. The aim of this study is to review reports of aggressive challenging behavior in individuals with intellectual disability. The period of the study was from September 2006 to March 2008. Aggressive behavior in adults often has multiple functions. The most frequently studied interventions were either behavioral or somatic. Parents learnt skills to effectively intervene with their aggressive preschool children. Reviews of medication efficacy studies concluded that there was insufficient evidence to recommend a single medication. Psychiatrists agreed that medication should not be the first treatment option. In one study, a class of medication was found to reduce aggression, but not aggression with self-injury or self-injury alone. Research on aggressive challenging behavior requires an assessment instrument that addresses the topography and severity of aggression. Identifying aggression types may clarify mixed results of previous research and improve treatment effectiveness. Greater accesses to effective, non-medication treatments are needed.

Stephen von Tetzchner, (2007) conducted a study to determine the Psychiatric disorders and behavior problems in children with intellectual disability. The study was conducted in Libenshilfe special school in Visakhapatnam district, Andhra Pradesh. Totally 109 samples were selected in this study. The age groups of the samples were between 8-16 years. The Aberrant Behavior Checklist (ABC) was used to assess behavior problems. The Reiss Screen, the Mini PAS-ADD (Mini Psychiatric Assessment Schedule for Adults with Developmental Disability), the DASH-II (Diagnostic Assessment of the Severely Handicapped) and the ADD (Assessment of Dual Diagnosis) were used to screen the psychiatric problems. The results of the present study demonstrate a strong relationship between behavior

problems and psychiatric symptoms.69% of samples were behavior problem and remaining 31% of the samples had both the psychiatric and behavior problem. The researcher concluded that there was a strong relation between behavior problems and psychiatric disorders in individuals with intellectual disability.

Jyothi Prakash, (2007) conducted a study to determine the behavioral problems among mentally challenged children in New Delhi. 50 children from age group 6-14 years were randomly selected from a School of mentally challenged children. Child Behavior Check List (CBCL) was used to assess the behavior patterns in each child. The results revealed that 35 children were in the age group of 6-11 years and 15 children were in the age group 12- 14 years. Religion wise distribution reflected that most of the children i.e. 37 were Hindus, Remaining 6 were Muslim, 4 were Sikh and 3 were Christian. Sex wise distribution of the samples revealed that male samples had higher behavior problem than the female samples. There was no statistically significant difference in behavior problem with regard to income of the parents. Analysis of the data with regards to severity of mental retardation revealed a significant higher prevalence of behavior problems in children with moderate mental retardation than in children with mild mental retardation. As the sample consisting of children with severe mental retardation was quite small it was not commented upon.

Matson JL, (2004) conducted a study to find out the relationship between behavior motivation and social functioning in persons with intellectual impairment. The objective for the study was to assess the social functioning of individuals with severe and profound intellectual impairment who displayed maladaptive behavior as assessed by a functional analysis checklist. The sample size was 100 children with severe and profound intellectual impairment. Samples were placed into one of four groups according to function of maladaptive behavior. The behaviors were assessed

by the Questions about Behavior Function Scale (QABF). The Matson Evaluation of Social Skills for the Individuals with Severe Retardation (MESSIER) was used to assess social functioning. The results revealed that significant differences were found for all the MESSIER subscales except one. A list of most commonly displayed behaviors for each function group was identified. A pattern of social behaviors among groups, indicating that positive and negative social behavior varies somewhat with behavior motivation.

Meer, Dirk Jan van der, (2000) conducted an exploratory study to determine the Cognitive level functioning in mild mental retarded children with externalizing behavioral disorders. The aim was to gain more insight into the complex behavior of children with mild mental retardation and externalizing behavioral disorders. The goals were: making recommendations for future research, discovering tendencies central to behavior and improving the treatment that such children receive. The children in this study were institutionalized and have a long history of care prior to their admission. These children have been diagnosed as mildly mentally retarded (MMR) with Attention Deficit/Hyperactivity Disorder (ADHD) and Conduct Disorder (CD). As well as the official diagnoses, the children have many comorbid problems.

Haruhiko Ando MD, (2007) conducted a study on comparison of comprehensive skills and maladaptive behavior among autistic and mentally challenged children. Totally 100 children are participated. In that autistic children were 50 and mentally challenged children were 50. Results indicated that the group of mentally challenged children with hyperactivity or withdrawal had slightly, significantly, lower comprehension skills level than the group of those without each of these maladaptive behaviors. On the other hand, the correlation between prevalence

of hyperactivity or withdrawal and lower comprehension skill levels was seen more clearly, with statistically significant differences rather among the autistic children.

2. Literature related to the token economy on behavioral problem among mentally challenged children.

Mahmood Mirzamani, (2013) conducted a study to evaluate the Effect of Social and Token Economy Reinforcements on Academic Achievement of Students with Intellectual Disabilities in Tehran Province.. The Objectives of this study investigates the effect of social and token economy reinforcements on academic achievement of 9th grade boy students with intellectual disabilities. The method used for this study was experimental by pre-test, post- test with a control group. This study was conducted in three junior high schools. The schools were chosen by the multistage cluster method. The samples size of this study was 65. To measure the students, a teacher made test and the Wechsler intelligence test were used. The reliability coefficient was obtained by the reliability coefficient of related tests; the percent agreement method and the obtained data were analyzed using one-way variance analysis and Shefe prosecution test. The results showed that there was a significant increase in academic achievement of students with intellectual disabilities when using token economy than using social reinforcements compared with the control group. Also, when using social reinforcements, the academic achievement of students was more than the control group. The researcher concluded that Token economy and social reinforcements increased the academic achievement of students with intellectual disabilities in the science class; and also the effect of token economy reinforcements was more than social reinforcements on the subjects.

Juliet S, (2012) conducted a study to determine the effectiveness of token economy on modifying self-care activities among mentally retarded children

attending to selected rehabilitation centres in Madurai. One group pre-test post-test design was used. 60 mild mentally retarded children in the age group of 6-12 years were selected. Paul H's modified self-care assessment checklist was used. The duration of the study was 4 weeks. In pre-test 18 (30%) had poor self-care activities, 42(70%) had average self-care activities. In post-test 1(1.7%) had poor self-care activities, 44(78.3 %) had average self-care activities and 15(25%) had good self-care activities. Computed 't' value was 24.714 is more than the table value which is statically significant at 0.05 levels. Thus token economy was effective in modifying the self-care activities of mentally retarded children.

Shahnam Abolghasemi, (2012) conducted a study to evaluate the Effectiveness of Music Therapy Methods and Token Economy on the Amount of Chips Aggressive Mean Mentally Disability in a Goochland City Rehabilitation Centre. The research design of this study has been two experimental groups and a control group. This study sample included 30 male children, which was selected under the random sampling technique. The samples were divided into 3 groups each group induced 10 samples. Questionnaires aggressions (AGQ) were used. Three groups before, after of follow – up period were measured. Resulted data has been analyzed using multi variable covariance test. The results show that two methods of music therapy and token economy effective to reduce aggression levels of mentally low ability children.

Damayanthi Sethy, Sunil Mokashi, (2011) conducted a study to evaluate the effects of a token economy behavioral therapy on drooling children with mental retardation in swami Vivekananda National Institute of Rehabilitation Training and Research Centre. The objective of this study was to investigate the effect of token economy a behavior therapy technique for controlling the drooling in children with

mild intellectual disability. Single blind randomized pre and post-test control group were selected. 25 samples were included in this study. The samples were randomly allocated to group A (experimental n=12) and group B (control n=13) the samples were observed by two independent rates for 20 minutes for both the groups. The group A received conventional therapy with token economy and group B received conventional therapy alone. The result showed that there was a significant decrease in frequency of drooling after application of token economy in experimental group ($p=0.001$) as compared to the control group ($p=0.070$).

Jennifer Luby, (2011) conducted a study to examine the use of the token economy in reducing behaviors in the adolescent with Mental Retardation. The purpose of this study was to examine the efficacy of the token economy system in reducing physical aggression, property destruction, and disruptive talk. The study was conducted at residential school. The age group of the sample was 12 to 16 year old children. The sample size was 45. This study used quantitative, single subject treatment reversal design. The participant behavior was observed and data was collected in phase I, baseline "A" (1 week) phase II, intervention, "B" (7 weeks) and phase III, return to baseline "A" (1 week). Behavior data sheets were used to record the frequency of behaviour. The results revealed that during phase I the variability of the frequency of physical aggression was 0 to 10, property destruction was 0 to 6 and disruptive behaviour was 0 to 7. During phase II, the variability of the frequency of physical aggression was 0 to 8, property destruction was 0 to 5 and disruptive behaviour was 0 to 4. During phase III, the variability of the frequency of physical aggression was 0 to 6, property destruction was 0 to 2 and disruptive behaviour was 0 to 2. So researcher concluded that token economy was effective in reducing the behaviour problem.

Ashley Tomaka, (2009) conducted a study on Evaluation of a level system with a built in token economy to decrease inappropriate behaviours of individuals with mental retardation at selected special homes. The objective for this study was to evaluate the effectiveness of a level system with a built in token economy. The study was conducted at residential special school. The sample size was 3 male participants. Each participant was diagnosed with mental retardation and behavioural issues. The level system was comprised of 5 different levels, each having different privileges and reinforcers. Each participant received token dollars for displaying replacement behaviours and the tokens were used to purchase items from a token store. A preference assessment was conducted to determine the items and their values. The results of the study suggest that a level system with a built in token economy was an effective form of treatment in managing severe, inappropriate behaviours in individuals with mental retardation residing in a group home setting.

Louis, (2008) conducted a study to examine the effectiveness of a combined token economy and self –monitoring package for the children having Attention Deficit Hyperactive Disorder and severe aggressive and persistent disruptive behaviours among mentally challenged children. The research design was an A-B-C-B single subject design. The age groups of the samples were 13 years who attended a special school. The sample size was 45. Control data was obtained in the student residential group home. Data was collected in 5 intervals throughout the day at the home. The 5 intervals were divided at natural routine times in the students day breakfast, after school, dinner, evening, bedtime. A clinically significant decrease occurred in the frequency of targeted behaviours from a baseline mean of 118 following the implementation of the token economy. The frequency of these targeted behaviours continued to decrease throughout the initial token economy phase. This

study demonstrates the clinically significant additive effectiveness of self-monitoring procedures when coupled to a token economy.

Anna Kliams, (2007) conducted a study to evaluate the effects of a token economy system to improve social and academic behavior with rural primary disabled children, Pacific Northwest. The purpose of this study was to increase a kindergarten-aged special education student's assignment completion and decrease the inappropriate behaviors in the classroom. The setting for this study was a special education classroom located in a rural elementary school in the Pacific Northwest. The research design was Experimental design An ABC single-subject design was used. The sample size was 10. The result indicated that, during three baseline sessions, the average amount of time taken to complete an assignment was 10.0 minutes per assignment with a range from 9 to 12 minutes. For the first token economy (3 Token System), the mean amount of time taken to complete an assignment to be 4 minutes per assignment (range 3 to 5 minutes. During the five-token system resulted in a small increase in the average amount of time taken to complete an assignments ($M = 4.571$ minutes; range 3 to 6 minutes). During three baseline sessions, the average amount of assignments completed was 2.0 with a range of 2 to 3 per 30-minute period. When the first token program was implemented (3 Token System), the number of assignments completed increased to 7.67 (range 6 to 9) per 30-minute period. For the five-token system, a slight decline in assignment completion was seen 6.75 (range 6 to 10). The researcher concluded that token economy system would improve social and academic behavior of the children.

Claudine Boussicaut, (2004) conducted a study to examine the effects of music therapy and token economy system vs. music therapy on decreasing inappropriate behaviours with labeled emotionally disturbed children. The purpose of

this study was to examine the effect of token economy with music therapy vs. music therapy to decrease the behavioural problems. Subjects included 20 students aged 13-17 years. The schools on-going behaviour data sheet was used. A comparison of two groups was made: Class A received music therapy with a token economy system while Class B received only music therapy. In Class A, tokens were given to reinforce the students for demonstrating appropriate behaviours during sessions. During Class A's last session, the children used the points acquired to select roles in an original music video. The results showed little difference between groups except on prosocial behaviours. The token economy group improved more than the music therapy only group in this area. There was no significant difference between groups on Mann-Whitney U comparison in reduction of inappropriate behaviour.

Holly A. Filcheck, (2003) conducted a study on Evaluation of a Whole-Class Token Economy to Manage Disruptive Behavior in Preschool Classrooms, Morgantown. 20 mild mentally challenged children included in the age group of 6- 8 years. The research design was pre experimental design. Behaviors were assessed using unobstrusive classroom coding of activities and teacher report. Mainly the Conner's global index was used to identify the hyperactivity behavior .The behavior of children in a preschool classroom was assessed to evaluate the effectiveness of two classroom management approaches: (a) strategies already employed by the teachers, and (b) the Level System. Data were collected from October through April in a rural preschool with one class and 5 preschool teachers. This preschool was arranged in such a way that the class of children rotated through 2 teachers per day for 1 hour class in the morning. The result was revealed that appropriate behavior increased 55.4% during the Level System condition, decreased 13.7% during the withdrawal condition, increased 19.9% during re-implementation of the Level System, and

decreased 18.1% during follow up (no Level System). So researcher concluded that the token economy was very effective for children.

Baker, Filcheck, et.al, (2003) conducted a study to examine the effectiveness of token economy and time-out procedure for disruptive behaviour among mental retardation children. The research design was ABAB design. The sample size was 50. The intervention in this study was children received poker chips accompanied by social reinforcement (i.e. praise) for appropriate behaviour. Chips could be exchanged for a treat (i.e. candy). In addition, a 5-minute time out procedure was used in which the children were taken to a timeout booth for severe inappropriate behaviour such as temper tantrums and aggression. Results indicated that the experimental group exhibited significantly more disruptive behaviour than the control group at baseline. During the treatment phases, the experimental group exhibited less disruptive behaviour than the control group. Thus, the token economy was effective.

Linda, (2000) conducted a study to focuses on use of a token economy to eliminate disruptive classroom behaviour in the child with attention deficit hyperactive disorder. This study focused on management of three types of disruptive classroom behaviour in a 12 year old male child: odd noises, disturb other children and uncooperative. A token economy with response cost procedure was implemented using a differential reinforcement of other behaviour interval as the basis for earning tokens using a multiple-baseline design, across behaviour; each of three types of disruptive classroom behaviour was successfully treated. After demonstrating the success of the procedures, the differential reinforcement of other behaviour interval was increased while maintaining the reductions in disruptive classroom behaviour. The token economy with response cost procedure effectively reduced and eventually eliminated each of the targeted behaviours 99% reduction in odd noises, 97%

reduction in disturbs other children and 97% reduction in uncooperative behaviour.

The study evaluated the effects of a token economy procedure on several categories of target behaviour.

Summary:

This chapter dealt with review of literature related to Behavioral Problems of Mentally Challenged Children and Token Economy for Behavioral Problem among Mentally Challenged Children.

CHAPTER - III

RESEARCH METHODOLOGY

The methodology of research involves the steps and actions to be taken and represents the thinking, beliefs and strategies of the researcher is and the logic of enquiry. (Parahoo Kader, 2006)

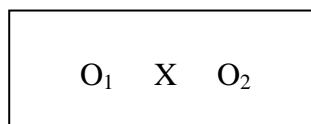
The present study aims to evaluate the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children in a selected Special School, Salem.

Research Approach:

The research approach adopted for this study was Quantitative Evaluative Research Approach.

Research Design:

Pre Experimental Research Design, in which one group pre test-post test design was used in this study to evaluate the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children in a selected Special School, Salem



O₁ = Pre test

X = Intervention (Token Economy)

O₂ = Post test

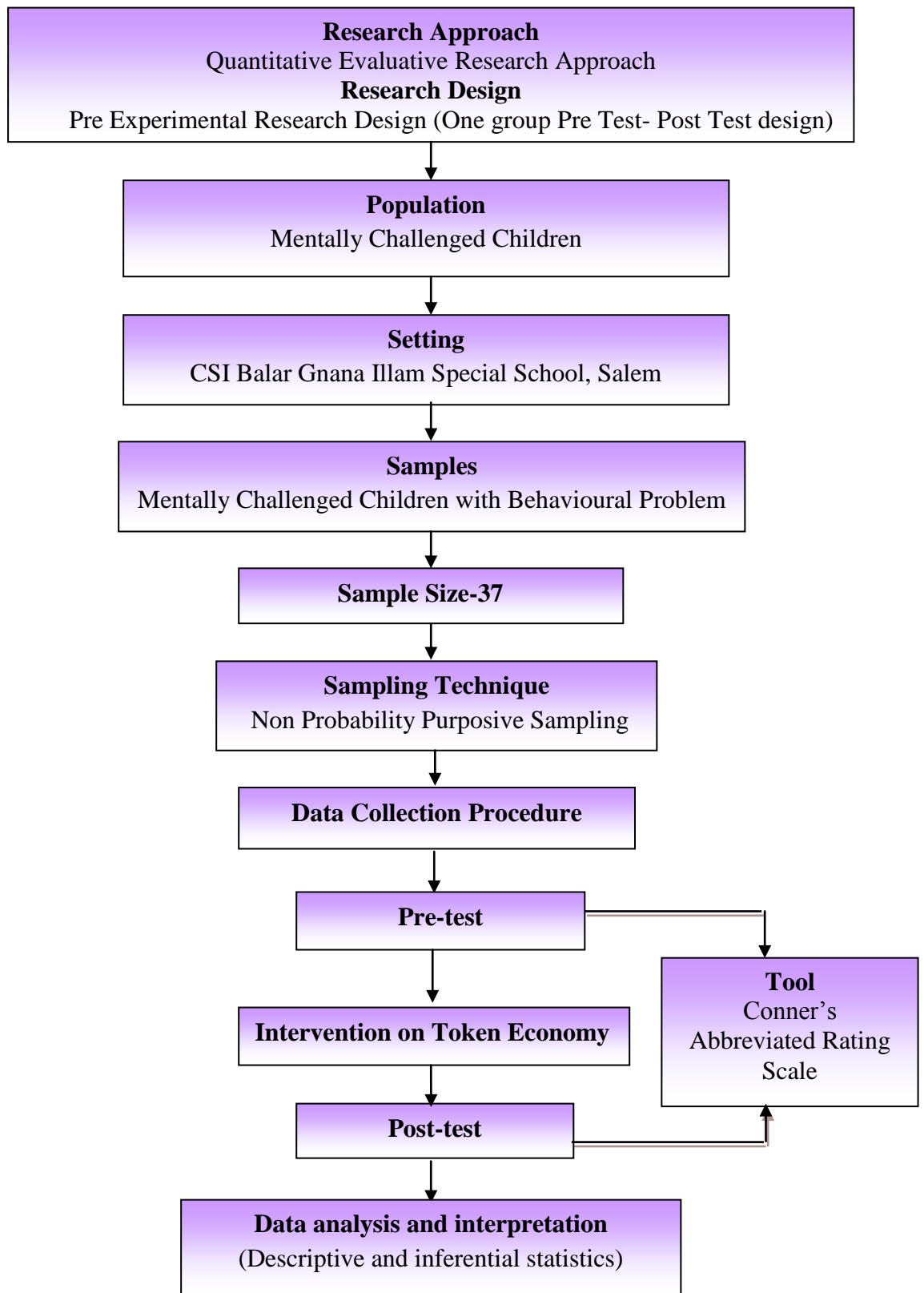


Fig.3.1: Schematic Representation of Research Methodology

Population:

Population is defined as the entire set of individuals or objects having some common characteristics. **(Polit D.F & Beck Tatano Cheryl, 2008)**

The study population comprised of all mentally challenged children present in a selected special school.

Description of the Setting:

Setting is the physical location and conditions in which data collection takes place in a study. **(Polit D.F & Beck Tatano Cheryl, 2008)**

The study was conducted in CSI Balar Gnana Illam, Salem. It is one of the residential settings, which is situated 10 kms away from Sri Gokulam college of Nursing. It is a private non-profit organization run for mentally challenged children. Total number of mentally challenged children was 140.

Sample:

Sample is defined as the subset of population, selected to participate in a study. **(Polit D.F & Beck Tatano Cheryl, 2008)**

The sample of the study was mentally challenged children with behavioral problems.

- **Sample Size:**

The sample size of this study was 37.

- **Sampling Technique:**

The sampling technique adopted for this study was Non Probability Purposive Sampling.

Criteria for Sample Selection:**Inclusion criteria:**

1. Mentally challenged children with behavioural problem.

2. The age group between 6-15 years.
3. Includes both males and females.

Exclusion criteria:

Mentally Challenged Children with,

1. Severe and Profound Intelligent Quotient level.
2. Other disorders like Autism and Down syndrome etc.
3. Psychosis.
4. Physical illness like fever, vomiting and fits etc.

Variables:

- **Independent variable:** Token Economy.
- **Dependent variable:** Behavioral Problem.
- **Extraneous variable:** Age, Gender, Type of Mental Retardation, Spend Time in Leisure Activity, Period of School Exposure and Activity of Daily Living Performed (Brushing, Bathing etc.).

Description of the Tool:

The tools to collect data from the selected samples consist of two sections.

Section A: Baseline variables:

This section consists of age, gender, type of mental retardation, spend time in leisure activity, period of school exposure and activity of daily living performed (brushing, bathing etc.)

Section B: Conner's Abbreviated Rating Scales to assess the behavioral problem.

This is one of standardized observation checklist scale which helped to assess the behavioral problem of the samples. This scale was introduced by Conner in 1987, India. It consists of 10 items. The items are graded with four point rating as 'very much' was given the score of 3; 'pretty much' was given the score of 2, 'a little' was

given the score of 1, 'absent' was given the score of 0. The maximum score of scale was 30. According to the score, the children were categorized as 1-10 with mild behavioral problem, 11-20 with moderate behavioral problem, 21-30 with severe behavioral problem.

Validity:

Validity of an instrument refers to the degree to which an instrument measures what it is supposed to measure. (Sharma Suresh K, 2012)

Validity of the tool and content on Token Economy was obtained from One Psychiatrist, one clinical psychologist and five Nursing experts in the field of psychiatric nursing. As per the suggestions and recommendations from the experts the tool and content was finalized.

Reliability:

Reliability is the degree of consistency and accuracy with which an instrument measures the attribute for which it is designed to measure. (Sharma Suresh K, 2012)

Reliability of the tool was measured by Test Retest method. Score obtained was $r = 0.89$, which shows that the tool was highly reliable.

Pilot Study:

A pilot study was conducted to determine the feasibility of the study, to refine and modify the instrument, and to establish the sample size. The pilot study was conducted from 22.07.2013 to 28.07.2013 in Salem Institute for Mentally Challenged (SIMEC), Salem. Four mentally challenged children with behavior problem were selected for pilot study. They were selected through Non Probability Purposive Sampling Technique. Day 1 (22.07.2013) the pre test was conducted. From day two (23.07.2013 to 27.07.2013) the investigator started introducing the token economy intervention. Final day (28.07.2013) the post test was conducted. Finding of the pilot

study revealed that the tool and intervention was found to be feasible and practicable to conduct the main study.

Method of Data Collection:

Ethical Consideration:

Written permission was obtained from the authorities of Salem Institute of Mentally Challenged (SIMEC) and CSI Balar Gnana Illam, Salem and then the main study was conducted.

Period of Data Collection:

Data was collected over a period of four weeks from 29.07.2013 to 27.08.2013.

Data Collection Procedure:

After obtaining formal permission from the manager of CSI Balar Gnana Illam, Salem, all mentally challenged children were selected. During first week (29.07.2013 to 03. 08.2013) the investigator used the Conner's Abbreviated Rating Scale for assessed the behavioral problem of the children. After selecting the 37 samples, from second week onwards the investigator started introducing totally 20 tokens. First, the investigator introduced the interventions as follow instructions (like listen to me, showing the star stickers, singing, dancing, etc.), making them to obey commands (Runs and climbs normally, Not disturbing others work, Waiting for their turn to talk, Not crying often, Not burst out the anger, Not get irritated suddenly, Not distract and hurt others) and then started pasting star stickers (as token) on their palm (for each desirable behavior). There by the children were motivated to follow the adaptive behavior. On daily basis the intervention was continued in same way for 2 weeks. In the beginning samples who secure 5 tokens were given biscuits and additionally who secure 15 tokens were given fruits. Likewise the intervention was

continued. There by the investigator made the samples come to adaptive behavior from maladaptive behavior. Every 12 children given 2 hours of training per day. Last week the children were reassessed by using the same scale to see the improvement in behavior.

Plan for Data Analysis:

The data analysis was done using descriptive and inferential statistics.

- ❖ Baseline information was calculated by using frequency and percentage
- ❖ The effectiveness of token economy on behavioral problem was calculated using inferential statistics. (paired 't' test)
- ❖ Association between the pre test score of behavioral problem was calculated using inferential statistics (chi- square analysis)

Summary:

This chapter dealt with the methodology of the study. It consists of research approach, research design, population, setting, sampling, variables, and description of the tool, validity and reliability, pilot study, method of data collection and plan for data analysis.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Analysis and interpretation of data is the most important phase of the research process, which involves the computation of the certain measures along with searching for patterns of relationship that exists among data group. Analysis and interpretation of data includes compilation, editing, coding, classification, and presentation of data. (Sharma Suresh K, 2012)

Analysis is the process of systematically applying statistical and logical technique to describe, summarize and compare the data. (Sharma Suresh K, 2012)

This chapter deals with analysis and interpretation of data collected to evaluate the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children in a Selected Special School, Salem. The collected data are tabulated, analyzed, and preserved in tables, figures and interpreted under the following sections based on objectives and hypotheses of the study.

Presentation of Data:

The findings are presented under the following sections,

Section-A:

Distribution of Samples according to their Selected Baseline Variables.

Section-B:

Distribution of Samples according to their Pre test Scores of Behavioral Problem.

Section- C:

a) Distribution of Samples according to their Post test Scores of Behavioral Problem.

- b) Comparison between the Pre and Post test scores of Behavioral Problem among Samples.
- c) Comparison of Mean, Standard Deviation, and Mean Difference according to their Pre and Post test Scores of Behavioral Problem among Samples.

Section-D: Testing of hypotheses

- a) Effectiveness of Token Economy on Behavioral Problem among Samples.
- b) Association between the Pretest Scores of Behavioral Problem among Samples and their Selected Baseline Variables.

Section-A

Distribution of Samples according to their Selected Baseline Variables.

Table-4.1:

Frequency and Percentage Distribution of Samples according to their Baseline Variables.

n =37

S. No	Baseline variables	Frequency (f)	Percentage (%)
1.	Age (in years)		
	a) 6 to 9	10	27.03
	b) 9 to 12	15	40.54
	c) 12 to 15	12	32.43
2.	Types of Mental Retardation		
	a) Mild Mental Retardation	17	45.95
	b) Moderate Mental Retardation	20	54.05
3.	Gender		
	a) Male	22	59.46
	b) Female	15	40.54
4.	Activities of Daily Living Performed		
	a) By self	14	37.84
	b) With the Help of Care takers	12	32.43
	c) By Care takers Only	11	29.73
5.	Spend Time In Leisure Activity		
	a) Yes	37	100
	b) No	-	-
6.	Period of School Exposure		
	a) > 1year	23	62.16
	b) ≤ 1 year	14	37.84

The table-4.1 shows that, the majority of samples i.e. 15(40.54%) belongs to 9 - 12 years of age group, 12(32.43%) samples belongs to 12 - 15 years of age group and 10(27.03%) samples belongs to 6 -9 years of age group. Most of the samples i.e. 22(59.46%) are males and remaining i.e.15 (40.54%) are females.

Majority of the samples i.e. 20(54.05%) have moderate mental retardation and others 17(45.95%) have mild mental retardation.

Most of the samples i.e. 14(37.84%) are performing their activities of daily living by self, 12(32.43%) are performing their activities with the help of care takers and remaining 11(29.73%) samples are performed by care takers only.

Majority of the samples i.e. 37(100%) are spending time in leisure activity. Most of the samples i.e. 23(62.16%) have >1 year period of school exposure and remaining 14(37.84%) have \leq 1 year period of school exposure.

Section-B

Distribution of Samples according to their Pre test Scores of Behavioral Problem.

Table-4.2:

Frequency and Percentage Distribution of Samples according to their Pre test Scores on Behavioral Problem.

n=37

S. No	Behavior problem	Pretest	
		Frequency (f)	Percentage (%)
1.	Mild Behavior Problem	7	18.92
2.	Moderate Behavior Problem	12	32.43
3.	Severe Behavior Problem	18	48.65

The above table reveals that, in pre-test, majority of the samples i.e. 18(48.65%) have severe behavioral problem, 12(32.43%) have moderate behavioral problem and remaining 7(18.92%) have mild behavioral problem.

Section- C

a) **Distribution of Samples according to their Post test Scores of Behavioural Problem.**

Table-4.3:

Frequency and Percentage Distribution of Samples according to their Post test Scores on Behavioral Problem.

n=37

S.No	Behavioral Problem	Posttest	
		Frequency (f)	Percentage (%)
1.	Mild Behavioral Problem	9	24.32
2.	Moderate Behavioral Problem	15	40.54
3.	Severe Behavioral Problem	13	35.14

The above table indicates that, in post-test majority of the samples i.e. 15(40.54%) have moderate behavioral problem, 13(35.14%) have severe behavioral problem and remaining samples 9(24.32%) have mild behavioral problem.

b) Comparison between the Pre and Post test Scores of Behavioural Problem among Samples.

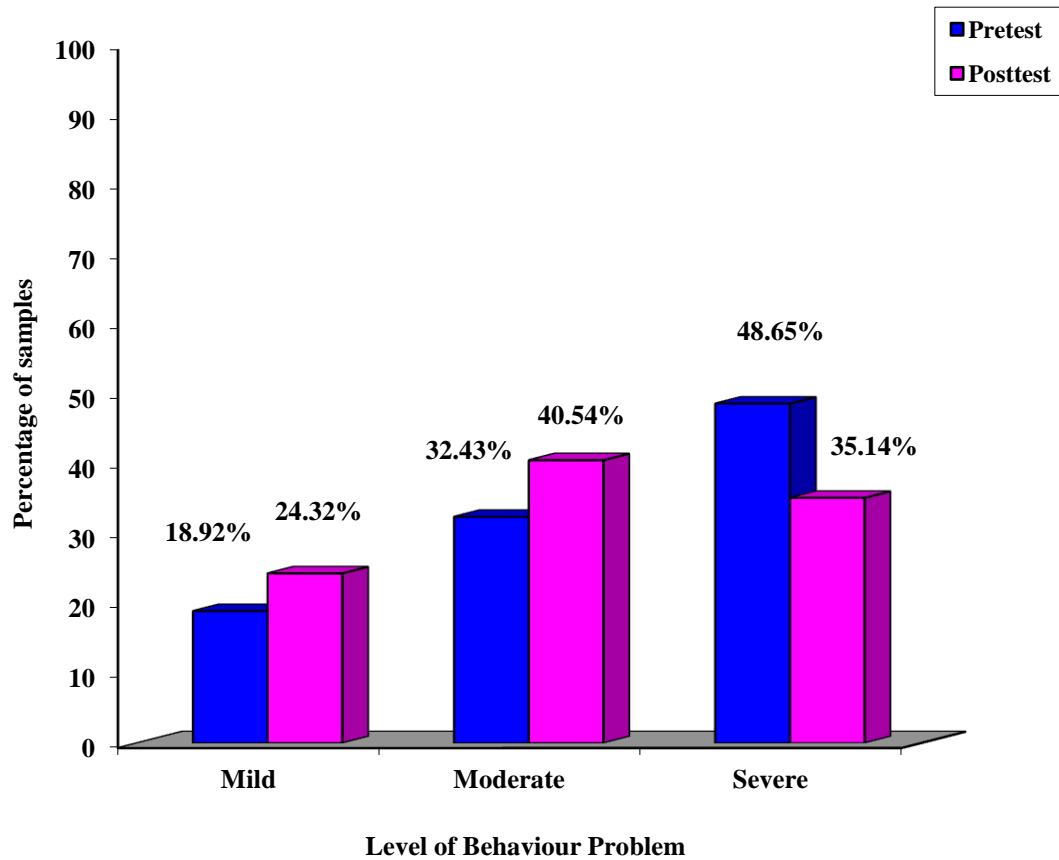


Fig-4.1: Percentage Distribution of Samples according to their Behavioral Problem.

The above figure shows that, during pre test 18(48.65%) have severe behavioral problem, 12(32.43%) have moderate behavioral problem and remaining 7(18.92%) have mild behavioral problem.

During post test the majority of the samples i.e. 15(40.54%) have moderate behavioral problem, 13(35.14%) have severe behavioral problem and remaining 9(24.32%) samples have mild behavioral problem.

c) Comparison of Mean, Standard Deviation, and Mean Difference according to their pre and post test scores of behavioural problem among Samples.

Table 4.4:

Mean, Standard Deviation, and Mean Difference according to their pre and post test scores of behavioral problem among Samples.

n=37

Behavioral problem	Max score	Mean	Standard deviation	Mean difference
Pretest	30	18.54	5.99	3.05
Posttest		15.49	5.88	

The above table shows that mean pre test score is 18.54 ± 5.99 and the mean post test score is 15.49 ± 5.88 with a mean difference is 3.05. This highlights that there is reduction in the behavior problem among samples.

Section-D

Testing of Hypotheses

a) Effectiveness of Token Economy on Behavioural Problem among Samples.

Table-4.5:

Mean, Standard Deviation and 't' value according to their Pre test and Post test Scores on Behavioral Problem.

n=37

Behavioral problem	Max score	Mean	Standard deviation	Paired 't' value	df
Pre test	30	18.54	5.99	2.93*	36
Post test		15.49	5.88		

Table value $t=2.03$, *Significant at $p \leq 0.05$ level

The above table indicates that the mean pre test score is 18.54 ± 5.99 and the mean post test score is 15.49 ± 5.88 . The paired 't' test value is 2.93 at $p \leq 0.05$ level. This reveals that the token economy is effective in reducing the behavior problem among samples. Hence the hypothesis H_1 is retained.

b) Association between Pre test score of Behavioral Problem among samples and their selected Baseline Variables.

Table- 4.6: Chi-square test on the Pre test Scores of Behavioral Problem among samples and their Selected Baseline Variables.

n=37

S.No	Baseline Variables	df	χ^2	't' value
1.	Age(in Years)	4	1.93	9.49
2.	Type of Mental Retardation	2	0.46	5.99
3.	Gender	2	1.08	5.99
4.	Activities of Daily Living Performed	4	7.09	9.49
5.	Period of school exposure	2	1.6	5.99

Significant at $p \leq 0.05$ level

The above table shows that, there is no significant association found between the pretest scores on behavior problem among samples and their selected baseline variables at $p \leq 0.05$ level. Hence hypothesis H_2 is rejected.

Summary:

This chapter dealt with the data analysis and interpretation in the form of statistical values based on the objectives, Paired 't' test was used to evaluate the effectiveness of token economy on behavioral problem. Chi square test was used to find out the association between the behavioral problem among mentally challenged children and their baseline variables.

CHAPTER V

DISCUSSION

The present study was conducted to evaluate the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children. In this study Pre- experimental (One Group Pre test & Post test) design was adopted. The mentally challenged children with behavioral problem were selected by using Purposive Sampling Technique. The samples comprised of 37 and the data was collected from them with the use of Conner's Abbreviated Rating Scale.

Distribution of Samples according to their Baseline Variables.

Baseline variables of samples shows that 15(40.54%) were belongs to the age group of 9 to 12 years, 22(59.46%) were males, 20(54.05%) had moderate mental retardation, 14(37.84%) were performed their activities of daily living by self, 37(100%) children were spending time in leisure activity and 23(62.12%) had > 1 year period of school exposure.

The present study was supported by **David .J. Purpura, (2009)** done a study on behavior problems among mentally retarded children. The finding says that male samples were higher than female samples and also the age group of samples between 6-11 years.

The First Objective of the Study Was to Assess the Behavioral Problem among Mentally Challenged Children.

In pretest, majority of the samples i.e.18 (48.65%) had severe behavioral problem, 12(32.43%) samples had moderate behavioral problem and remaining 7(18.92%) samples had mild behavioral problem.

This objective was supported by **Sydney. S. Zentall, (2004)** conducted a study to determine behavior problems among mentally retarded children in eastern

Kentucky. Totally 49 special children were selected. With the help of Achenbach behavioral checklist he indicated that almost 89.38% of the children had the behavior problem. (Aggressive behavior, destructive behavior, hyperactivity, odd behavior)

The Second Objective of the Study Was to Evaluate the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children.

In the pretest, the mean score of behavioral problem was 18.54 ± 5.99 , were in post test, the mean score of behavioral problem was 15.49 ± 5.88 . The paired 't' test value was 2.93 at $p \leq 0.05$ level. This reveals that the token economy was effective in reducing the behavior problem among mentally challenged children. Hence hypothesis H_1 was retained.

This objective was supported by **Adib Sereshki, (2011)** conducted a study to evaluate the effect of social and token economy reinforcements with intellectual disabilities. A total of 98 mentally retarded were taken from Guideline School at Tehran province. The results of this study reveals that the mean pretest score was 3.4 ± 1.34 and the mean post test score was 16.01 ± 0.848 with the mean difference of 13.28. The 't' value was 33.26 at $p < 0.001$ level. This revealed that the token economy reinforcement was highly significant for reducing maladaptive behavior of the mentally challenged children.

The Third Objective of the Study Was to Associate the Behavioral Problem among Mentally Challenged Children with Their Selected Baseline Variables.

There was no significant association found between the pre test scores on behavioral problem among mentally challenged children with their selected baseline variables at $p \leq 0.05$ levels. Hence hypothesis H_2 was rejected.

This objective was supported by **Claudine Boucicault, (2004)** conducted a study to evaluate the effects of token economy system on decreasing inappropriate

behaviors. Result showed that there was no significant association found between the behavior problems with their selected demographic variables.

Summary:

This chapter dealt with the discussion of the study with reference to objectives and supportive studies.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter consists of four sections. In the first two sections, the summary and conclusion are presented. In the last two sections, the implications for nursing practice and recommendations for further research are presented.

Summary:

The main focus of the study was to evaluate the effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children in a Selected Special School, Salem. Pre Experimental (one group pre test & post test) design was used for the study. The conceptual frame work for the study was based on Modified Roy's Adaptation Model. The tool used in this study consisted of two sections. Section one was Base line variables, Section two was Conner's Abbreviated Rating Scale to assess the behavioral problem. Non Probability Purposive Sampling Technique was used to select the samples and data was collected from 37 mentally challenged children with behavioral problem of CSI Balar Gnana Illam, Salem, Tamil Nadu.

The collected data were analyzed by using both descriptive and inferential statistics. To test the hypothesis paired 't' test and chi square test were used. The hypothesis $p \leq 0.05$ level of significance was assessed.

Major Findings of the Study:

During pre test, majority of the samples i.e. 18(48.65%) had severe behavioral problem, 12(32.43%) had moderate behavioral problem and remaining 7(18.92%) had mild behavioral problem. During post test, the majority of the samples i.e. 15(40.54%) had moderate behavioral problem, 13(35.14%) had severe behavioral problem and remaining 9(24.32%) samples had mild behavioral problem.

In the pre test, the mean score of behavioral problem was 18.54 ± 5.99 , were in post test, the mean score was 15.49 ± 5.88 . The paired 't' test value was 2.93 at $p \leq 0.05$ level. This reveals that the Token Economy was effective in reducing the behavioral problem among Mentally Challenged Children. Hence the hypothesis H_1 was retained.

There was no significant association found between the pre test scores on behavioral problem among mentally challenged children and their selected baseline variables at $p \leq 0.05$ level. Hence hypothesis H_2 was rejected.

Conclusion:

A study was conducted to evaluate the Effectiveness of Token Economy on Behavior Problem among Mentally Challenged Children in a Selected Special School, Salem. During the pre test, majority of samples had severe behavioral problem. After the implementation of token economy intervention majority of the samples had moderate behavioral problem .This indicates that the token economy intervention was effective in reducing the behavioral problem of mentally challenged children.

Implications for Nursing Practice:

The findings of the study have implicated in different branches of nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice:

- Nursing personnel need to update their knowledge and skill on token economy to deal behavioral problem of children.
- Student nurses need to be given opportunity to handle the behavioral problem of children with token economy.
- Health promotion is vital function of the nurse. So nurses can use this intervention at the level of prevention (i.e., primary, secondary and tertiary).

Nursing Education:

- Nurse educator need to teach school teachers how to handle mentally challenged children with behavioral problem and the effect of token economy intervention.
- Nurse educator can teach public regarding behavioral problem of children and how to reduce and control it with token economy.
- In service and continuing education to be conducted to update knowledge and practice of health professionals regarding token economy, to handle the children with behavioral problem effectively.

Nursing Administration:

- Nurse administrator can arrange in service education programme and continuing education programmes for directing and motivating staff utilize token economy system to modify the behavioural problem.
- Nursing administrator has to make the nurses who work in mental health centres and teachers who work in special school to introduce token economy system to reduce the behavior problem.
- Nursing administrator should involve in making policy to evaluate the children behavior periodically and as the beginning itself the behavioral problem of children to be maintained and controlled with token economy.
- Nurse administrator need to influence media that mentally challenged children on behavior problem is so common and the token economy is area of intervention is available to reduce behavior problem.

Nursing Research:

- This study finding can be effectively utilized by emerging researchers.

- All nursing personnel's need to be motivated to conduct various researches regarding behavior problem of mental retardation with token economy.
- The research finding can be used as evidenced based nursing care.
- Disseminate the finding through conferences, seminars and publication in journals.
- The finding of this study helps to expand professional knowledge upon which further researcher can be conducted.

Recommendations:

- A large scale study in various special schools can be carried out to generalize the findings.
- A comparative study on the level of behavior problems and effect of token economy system among mentally challenged children who are admitted in special school and mental health centers can be conducted.
- A comparative study can be carried out between token economy system and other techniques of behavior therapy.
- A longitudinal study can be conducted to find the long term effect of token economy and prevention of relapse.
- A study can be done to find out the role of nurses in assessing and managing the behavior problems among special children.

Summary:

This chapter dealt with summary conclusion, implications for nursing practice and recommendations for further research.

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ANNEXURE – A

**LETTER SEEKING PERMISSION TO CONDUCT A
RESEARCH PROJECT**

From

Ms.N.Ramya,
Final Year, M.Sc. (N),
Sri Gokulam College of Nursing,
Salem.

To

The Principal,
Sri Gokulam College of Nursing,
Salem.

Respected Sir/Madam,

Sub: Permission to conduct research project- request –reg.

I, **Ms.N.Ramya**, Final Year M.Sc. (Nursing) student of Sri Gokulam College of Nursing, is conducting research project which is to be submitted to The Tamil Nadu Dr.M.G.R. Medical University, Chennai as partial fulfillment of University requirement for the award of M.Sc. (Nursing) Degree.

Topic: “A Study to Evaluate the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children in a Selected Special School, Salem.”

I wish to seek administration permission to conduct the research study at CSI Balar Gnana Illam, Salem.

Kindly do the needful.

Thanking you.

Date: 10.07.2013

Place: Salem

Yours sincerely,

(Ms.N.RAMYA)

ANNEXURE – B

LETTER GRANTING PERMISSION TO CONDUCT A RESEARCH PROJECT



SRI GOKULAM COLLEGE OF NURSING

3/836, Periyakalam, Neikkarapatti, Salem - 636 010.

Phone : 0427 - 6544550, 2272240, 2272250 Fax : 0427 - 2270200, 2447077

Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date :

LETTER REQUESTING TO CONDUCT A RESEARCH STUDY

To

The Manager,
CSI Balar Gnana Illam,
Hasthampatti,
Salem

Respected Sir/Madam,

Sub: Permission to conduct Research Project-request- reg.

This is to introduce **Ms. N.Ramya**, Final year M.Sc (N) student of Sri Gokulam college of Nursing. She is to conduct a research project which is to be submitted to "The Tamilnadu Dr .M.G.R. Medical University, Chennai" in partial fulfillment of university requirement for the award of M.sc (Nursing) Degree.

Topic: "A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children at Selected Special School, Salem"

I request you to kindly permit her to conduct the research project in your esteemed institution from 29-07-13 to 27-08-13. She will adhere to the institutional policies and regulation.

Kindly do the needful,

Thanking you,

Date: 10.07.2013

Place: Salem

Yours Sincerely,

(Dr.K.Tamizharasi)

PRINCIPAL

**Sri Gokulam College of Nursing
SALEM - 636 010.**

OK.
Johannee Gurbolu
29/7/13



SRI GOKULAM COLLEGE OF NURSING

3/836, Periyakalam, Neikkarapatti, Salem - 636 010.

Phone : 0427 - 6544550, 2272240, 2272250 Fax : 0427 - 2270200, 2447077

Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date :

LETTER REQUESTING TO CONDUCT A PILOT STUDY

To

The Manager,

SIMEC,

Salem

Respected Sir/Madam,

Sub: Permission to conduct Pilot Study – request- reg.

This is to introduce **Ms. N.Ramya**, Final year M.Sc (N) student of Sri Gokulam College of Nursing. She is to conduct a research project which is to be submitted to “The Tamilnadu Dr .M.G.R. Medical University, Chennai” in partial fulfillment of university requirement for the award of M.Sc (Nursing) Degree.

Topic: “A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children at Selected Special School, Salem”

I request you to kindly permit her to conduct the pilot study in your esteemed institution from 22-07-13 to 27-07-13. She will adhere to the institutional policies and regulation.

Kindly do the needful,

Thanking you,

Date: 10.07.2013

Place: Salem

Yours Sincerely,

(Dr.K.Tamizharasi)

PRINCIPAL

Sri Gokulam College of Nursing

SALEM – 636 010.

11/7/2013
After personal interview
her potential in attitude & aptitude
were appreciated. Certainly, she
is permitted to do her training at
source.
Dr. A. Chandrasekaran
In-charge

ANNEXURE - C

**LETTER REQUESTING OPINION AND SUGGESTION OF EXPERTS
FOR CONTENT VALIDITY OF THE RESEARCH TOOL**

From,

Ms.Ramya.N,
Final Year M.Sc., (N),
Sri Gokulam College of Nursing,
Salem, Tamilnadu.

To,

(Through proper channel)

Respected Sir / Madam,

**Sub: Requesting opinion and suggestions of experts for establishing
content validity of the tool.**

I ,**Ms.Ramya.N** Final year M.Sc. (Nursing) student of Sri Gokulam College of Nursing, Salem, have selected the below mentioned statement of the problem for the research study to be submitted to The Tamil Nadu Dr. M.G.R Medical University, Chennai as partial fulfillment for the award of the Master of Science in Nursing.

Topic: “A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children in a Selected Special School, Salem.

I request you to kindly validate the tools developed for the study and give your expert opinion and suggestion for necessary modifications.

Thanking you

Place: Salem

Yours sincerely

Date:

(Ms.N.Ramya)

Enclosed:

1. Certificate of validation
2. Criteria checklist for evaluation of tool
3. Tool for collection of data
4. Intervention

ANNEXURE – D

TOOL FOR DATA COLLECTION

SECTION- A: BASELINE VARIABLES

Instruction:

The investigator will collect the information through observation of the child and the records maintained in the institution. This information will be kept confidential.

1. Age (in years)

- a) 6-9
- b) 9-12
- c) 12-15

2. Type of Mental Retardation

- a) Mild Mental Retardation
- b) Moderate Mental Retardation

3. Gender

- a) Male
- b) Female

4. Activities of Daily Living Performed by the Children

- a) By self
- b) With the Help of Care takers
- c) By Care takers only

5. Spend Time in Leisure Activity

- a) Yes
- b) No

6. Period of School Exposure

- a) >1 year
- b) \leq 1 year

SECTION B

OBSERVATION CHECKLIST (CONNER'S ABBREVIATED RATING SCALE)

The investigator will use the Conner's Abbreviated Rating Scale to screen the behavioural problem. Here the investigator will tick the rating while the child does the activity. Based on the score obtained, child will be classified. This information will be kept confidential.

S.NO	ITEMS	Very much(3)	Pretty much(2)	A little(1)	Absent(0)
1.	Disturbs other Children				
2.	Poor Attention Span				
3.	Fidgety				
4.	Easily Distracted				
5.	Easily Frustrated				
6.	Cries often/ Easily				
7.	Mood Changes Quickly				
8.	Temper Outburst				
9.	Restlessness				
10.	Excitable/ Impulsive				
Total					

SCORING KEY:

1-10 Mild Behavioural Problem.

11-20 Moderate Behavioural Problem.

21-30 Severe Behavioural Problem.

ANNEXURE – E

PROCEDURE FOR TOKEN ECONOMY INTERVENTION

Token economy is a form of behavior modification that is designed on the principal of operant conditioning.

A system was a child earns tokens as a positive reinforcer, which can later be exchanged for back-up reinforcers for displaying targeted behaviors.

PURPOSE

To increase the frequency of desired & targeted behaviors while decreasing the frequency of undesired behaviors.

ADVANTAGES

- There is immediate and inconspicuous delivery of reinforcers – very important for students with behavior problem.
- There is a component of delay in reinforcement
- Reinforcement can be frequent and occur over an extended period of time
- Reduces subjectivity
- Allows for individualization of expectation and performance
- Supports specific goals
- Back-up reinforcers can be tailored to meet individual tastes.

ESSENTIAL ELEMENTS OF TOKEN ECONOMIES

Tokens

- a) Visible and countable.
- b) Easy to carry and give out.
- c) Have no value on their own, but can be exchanged for meaningful back-up reinforcers.

Clearly defined targeted behaviors

- Desired and undesired behaviors are clearly explained.
- The number of tokens rewarded for each behavior is clearly established.

TYPES OF TOKENS

20 Colorful Tokens (Star Stickers). The 5th tokens will be exchanged with toy biscuit and 20th token will be exchanged with fruits [e.g. banana, apple, orange].

1. Toy biscuit,
2. Fruits.

PROCEDURE

Step 1: Select the behavior targeted for change.

The investigator chosen important behaviours which are targeted for change. First, the behaviour was defined in such a way that it is clear to the children when the behaviour occurs. The behaviour was observed through checklist.

Second, a token reinforcement program was designed to be positive and motivational, focusing on increasing desired behaviours. Behaviours targeted for change was defined in terms of what the child should do, rather than what the child should stop doing.

Programs are targeting disruptive behaviour such as obey commands like Runs and climbs normally, Not disturbing others work, Waiting for their turn to talk, Not crying often, Not burst out the anger, Not get irritated suddenly, Not distract and hurt others were successful in changing these behaviours.

Step 2: Develop a method for displaying track of tokens.

The investigator has developed a method for displaying track of tokens to achieve the easy attention from the children. The above mentioned method is arranging the tokens in an attractive manner within a tray and keeping it on the side of

the classroom in front of the children. With this method, the tokens are easily visible for the children and it had motivated the children to participate actively in the program.

Step 3: Establish goals.

The investigator has developed few goals to reduce the behaviour problem. These goals include obey commands like Runs and climbs normally, Not disturbing others work, Waiting for their turn to talk, Not crying often, Not burst out the anger, Not get irritated suddenly, Not distract and hurt others.

Step 4: Explain the program to the child.

The program was explained to the children at a time. The behaviours targeted for change and how to successfully perform the behaviours was discussed. In addition, the goal for earning the rewards and when the rewards will be given was also discussed.

Example: Obey Commands

The investigator was explaining to the children about the token economy. The investigator explains the children that they will get the token by following the instructions. The instructions include obeying commands like Runs and climbs normally, Not disturbing others work, Waiting for their turn to talk, Not crying often, Not burst out the anger, Not get irritated suddenly, Not distract and hurt others. Saying them that if they also maintaining the same behaviour for 10 minutes the investigator gave an oral appreciation and made the other children to clap for him/ her. Then the investigators have increased the time duration for 30 minutes and if the children could follow means the investigator have given a token (pasting star stickers on the palm). Likewise the investigator gradually increased the time duration and given the tokens to him/ her. When the children got the 5 tokens the investigator has

collected back the tokens and it was replaced with the biscuits. This has continued for next day starting from first token onwards. While children got 15 tokens the investigator had exchanged it with the fruits. So the children get attracted towards the tokens and they changed the undesired behavior.

ANNEXURE-F

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by Ms.Ramya.N ,Final year M.Sc Nursing student of Sri Gokulam College of Nursing ,Salem (affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **“A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children in a Selected Special School, Salem”**.

Signature with Date

ANNEXURE-G

LIST OF EXPERTS

1. **Dr.C.Babu.MD,**
Specialist in Deaddition and Child Psychiatry'
Consultant Psychiatrist,
Sri Gokulam Hospital, Salem.
2. **DR. Babu Rangarajan, M.Sc(Psy), M.Phill(Psy)(Child.Psy),**
PGDM (CPG), IDGC
Child & Clinical Psychologist,
Neuro foundation, Salem.
3. **Mrs. Meera. Saravanan, M.SC (N),**
Associate Professor, Mental Health Nursing,
PSG College of Nursing,
Coimbatore.
4. **Mrs .R, Naganandini, M.Sc(N),**
Prinicipal,
Dhanalaskhmi Srinivasa College of Nursing,
Perambalur-12.
5. **Mrs.R.Sreevani, M.Sc (N),**
Professor and HOD Department of Psychiatric Nursing,
Sri Devaraj URS College of Nursing, Kolar.
6. **Mr. P.Selva Raj, M.Sc. (N)**
HOD, Psychiatric Nursing dept,
Shamuga College of Nursing, Salem.
7. **Mrs.Devi Arul. M.sc (N),**
Associate Professor, Mental Health nursing,
Shamuga College of Nursing, Salem.

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by Ms.Ramya.N ,Final year M.Sc Nursing student of Sri Gokulam College of Nursing ,Salem (affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **“A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children in a Selected Special School, Salem”**.

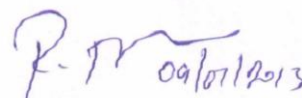
C. Babu,

Signature with Date

Dr. C. BABU, MD(NIMHANS),
Consultant Psychiatrist,
KMC Reg. No: 89733
SRI GOKULAM HOSPITAL,
3/60, Meyyanur Road,
SALEM-4

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by Ms.Ramya.N ,Final year M.Sc Nursing student of Sri Gokulam College of Nursing ,Salem (affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **“A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children in a Selected Special School, Salem”**.

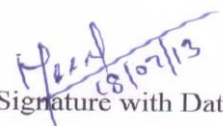


Signature with Date

Dr. BABU RANGARAJAN
M.Sc(Psy). M.Phil (Psy) (Chi. Psy).,
PGDPM (CPC)., IDGC (NCERT, New Delhi)
Child & Clinical Psychologist
மனோதத்துவ நியுனர் ReI. CRR No: A. 1915.

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by Ms.Ramya.N ,Final year M.Sc Nursing student of Sri Gokulam College of Nursing ,Salem (affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **“A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children in a Selected Special School, Salem”**.


Signature with Date



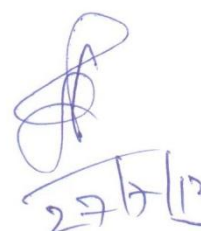
CERTIFICATE OF VALIDATION

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Signature with Date 11/07/13
(MRS. R. NAGANANDINI)
PRINCIPAL
DHANALAKSHMI SRINIVASAN
COLLEGE OF NURSING,
PERAMBALUR - 621 212.

CERTIFICATE OF VALIDATION

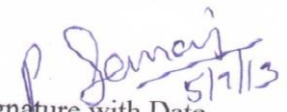
This is to certify that the tool developed by Ms.Ramya.N ,Final year M.Sc Nursing student of Sri Gokulam College of Nursing ,Salem (affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **“A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children in a Selected Special School, Salem”**.

A handwritten signature in blue ink, followed by the date 27/7/13 written in a similar style.

Signature with Date

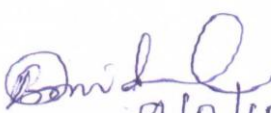
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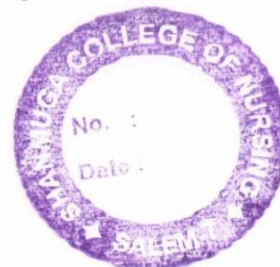
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Signature with Date
Head of the Department
Dept. of Mental Health Nursing,
Shanmuga College of Nursing,
Salem - 636 007.

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by Ms.Ramya.N ,Final year M.Sc Nursing student of Sri Gokulam College of Nursing ,Salem (affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **“A Study to Evaluate the Effectiveness of Token Economy on Behavioural Problem among Mentally Challenged Children in a Selected Special School, Salem”**.


9/2/13
Signature with Date



ANNEXURE-H

CERTIFICATE OF EDITING

TO WHOMSOEVER IT MAY CONCERN

Certified that the dissertation paper titled “A Study to Evaluate the Effectiveness of Token Economy on Behavioral Problem among Mentally Challenged Children in a Selected Special School, Salem.” By Ms. N. Ramya. It has been checked for accuracy and correctness of English language usage and that the language used in presenting the paper is lucid, unambiguous free of grammatical or spelling errors and apt for the purpose.


Signature with Date
A. VELAYUDHAM M.A., B.Ed.,
B.R.T.E in English
Block Resource Centre
R.S. Velayampatty, Trichy (Dt)

ANNEXURES-I
LIST OF PHOTOS



