ASSESSING THE EFFECTIVENESS OF INDIVIDUALIZED INTEGRATED INTERVENTION STRATEGIES TO TURN AROUND SLOW LEARNERS: AN EXPERIMENTAL STUDY

NCERT SPONSORED RESEARCH

PROJECT REPORT SUBMITTED

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OCTOBER 2012

ACKNOWLEDGEMENT

I am enormously indebted to NCERT, New Delhi for extending research grant to conduct this research project and extending all possible support for the completion of this research project on time.

I would like to express my immense gratitude to the Honorable Vice Chancellor, Bharathiar University, Coimbatore for extending full support and encouragement in the completion of the research project

I express my profound gratitude to the Headmaster/Principal of the Government Higher Secondary School and Government Aided Higher Secondary Schools for granting permission to conduct this experimental research during school hours.

I thank the Registrar, Bharathiar University, Coimbatore for rendering all the administrative support and timely help to complete the project work in time.

My sincere thanks are also due to the respondents of the study – the 8^{th} and 9^{th} standard students, teachers, and their parents for extending their fullest cooperation, generous support and facilitation during the data collection process.

Very special thanks is also due to the Junior Research Fellow of this research project Mr. M. Vinoth Kumar and other research scholars; Mr. Krishnakumar. M, Mr. T. Vijayalaya Srinivas, and Mr. K. Magaveera Nagappa, for their immense help during all the stages of this project work.

I would also like to thank all the non-teaching staff in the Department of Psychology, Bharathiar University, for their cooperation and support rendered during my research.

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EXECUTIVE SUMMARY

Slow learners are those children who are low in achieving academic skills and often ignored by others as dull, lazy or inept in the school setting. Slow learners lag behind other students not only in academics but also in social, emotional and psychological well-being. It has been estimated that 5 to 15 percent of school going children suffer from scholastic backwardness. The early identification of students who are at risk for educational failure is an important process that deserves much attention and research.

Although they have no intellectual disability, no identifiable neurological impairments and no learning disorders, slow learners perform poorly in school and exhibit discrepancy between expected achievement based on their intellectual ability assessment scores and actual achievement. As children advance in school, there is a corresponding increase in difficulty of school subjects and assignments. Thus, children's performance depends progressively more on their motivation to sustain an active commitment to and efforts towards self-regulated learning

Proportionately these problems affect slow learners more often than children labeled mentally retarded. A general education teacher's decision on not providing any extra help to a slow learner has lifelong consequences. This group constitutes approximately 14.1% of the population based on estimates from normal distribution. This warrants intervention training that can help slow learners to reach as close to normal development as possible. ***Keeping in mind all the above facts, an Integrated Intervention based experimental study was proposed to assess the ways in which a significant gain in academic performance of slow learners can be realized.***

A Pretest Posttest Randomized Control Group Experimental Group Research Design was followed to assess the effects of the Integrated Instruction on the academic performance and other psychological indices of slow learners.

i) Experimental Group: The total sample comprised of 60 slow learners as Experimental Groups studying in 9^{th} standard in Government High School who were given an exposure to a specially designed integrated intervention program for the duration of six weeks period of time.

ii) Control Group: Another group of 60 slow learners of 9^{th} standard drawn from the same school were kept as control group. No such exposure to intervention would be given for this group.

In order to have the homogeneity in the sample size, they were matched for age, gender, IQ, mother tongue, socio-economic status etc. The slow learners were selected using the following three screening methods based on their academic performance, teachers report and IQ test.

i) **Academic Performance:** Only those students who scored less than 50 % of marks in all the subjects consistently for the first monthly and quarterly examination were selected.

ii) **Teachers' Assessment:** Teachers' ratings on children's overall performance in class room and those who were found to be dull or below average were identified as slow learners.

iii) **Intelligence Tests:** The Standard Progressive Matrices (SPM) developed by Raven (1988) was used to assess the level of intelligence. The students who scored below 25^{th} percentile were categorized as slow learners.

NATURE OF INTEGRATED INTERVENTION:

A Three Tier Individualized Integrated Intervention Program:

A three-tier mutually supportive Integrated Intervention program was administered to the slow learners.

I. Individual Skill Development Program:

The following three types of activities such as graphic organizer, mindfulness meditation and mnemonics which had been designed exclusively to address the specific needs of the slow learners such as memory improvement, goal setting, and overall study skills improvement were administered between 3.30 and 5.00 pm for the period of 12 weeks.

(a) Graphic Organizer Method: Graphic Organizers were constructed using 'XMind' and 'Microsoft Smart Art' for Biology and History based on the lessons that were taught to them in their regular classes. Only the slow learning students in experimental group were provided these graphic organizers as an additional academic input. Participants received instruction for a period of 12 weeks. The intervention was given for 40 minutes daily.

(b) Mindfulness Meditation: The meditation program was given in 20 minutes sessions per day for 12 weeks. The intervention program consisted of learning the mindfulness technique and practicing daily for 20 minutes even on holidays at home. The mindfulness strategy was intended to facilitate emotional control and adjustment.

(c) Mnemonic Strategies: The slow learners were introduced to three main mnemonic strategies, namely, the method of loci, the letter method and the keyword technique to improve their memorizing skills with suitable examples and techniques. These were given exclusively to the experimental group of slow learners.

II. Mentor Training for Teachers (Conveying positive expectation to slow learners)

This program was aiming at changing teacher's attitude towards their students of slow learners in the areas of (i) acceptance, and supports to slow learners (ii) rewards or appreciation for demonstrating acceptable behaviors of slow learners and (iii) conveying positive expectations to slow learners and not biased by past events. A three day workshop was organized to impart these behavioral science inputs to the concerned teachers.

III. Relaxation Training for increasing Concentration:

Jacobson's Progressive Muscle Relaxation therapy was administered to slow learners to improve their concentration in their subjects. In summary, the overall intervention was aiming at eliciting more effort from the slow learners and their mentors to gain required knowledge and skills to master their subjects.

MEASURES

The following instruments were used to collect data for the study.

- The Ravens Standard Progressive Matrices (SPM) (Raven, 2000 a)
- Objective Academic Performance collected from the school records
- Academic Self-Efficacy scale developed by Muris (2001)
- Harter's Self-Perception Profile (Harter, 1985) to assess Self-Perception
- Child Behaviour Scale developed by Ladd and Profilet (1996) to assess Socio-emotional adjustment
- Malhotra's Temperament Schedule (MTS) developed by Savita Malhotra and Anil Malhotra (1988).
- Intrinsic Motivation Inventory (IMI) developed by Ryan (1982)

Methods of Data Collection

Phase I: Pre-test Data Collection: The Pre-test was carried out during the months of August/September 2011.

Phase II: Administration of a Three Tier Integrated Intervention Program: A three-tier mutually supportive Integrated Intervention program was administered to the Experimental Group of Slow Learners during the period of October 2011 - January 2012 to students, parents and their teachers.

Phase III: Post-test Data Collection: Soon after the completion of Integrated Intervention program given exclusively to the experimental group of slow learners for about 12 weeks period, the academic performance of both the experimental group and control group in their annual examination was collected along with other psychological criteria factors. For this purpose, once again, the concerned teachers, parents, and the respondents were requested to furnish data on the same parameters such as academic self-efficacy, self-perception, socio-emotional adjustment, temperament, intrinsic motivation, and academic performance levels using the same questionnaire/inventory as in phase I.

The data of the gain score acquired by the experimental group and control group of slow learners were compared using an independent sample *t* test to ensure that the effects of the Integrated Intervention were significant and specific to the experimental group of slow learners. In addition to the test of significance, effect sizes were calculated to measure the relative magnitude of the experimental treatment using Cohen's *d*. Based on the analysis, the following conclusions were drawn:

i) *Academic Performance*: As expected, the Integrated Intervention strategy in addition to conventional classroom teaching seemed to be very effective in improving the academic performance scores in Biology (Science) and History (Social Science) of slow learning students in grade 9.

ii) *Self-Efficacy*: The experimental group showed a significant improvement in Academic Self-efficacy perhaps due to the effect of Integrated Intervention. It can be inferred that the graphic organizer and memory techniques could have acted as effective tools which drive the slow learners to summarize their ideas and structure their writing work as a visualizer by converting a text into an appropriate paragraph which, in turn, further facilitates to retrieve the required information at the appropriate time

iii) *Self-Perception*: The two dimensions of the Self Perception Profile namely Scholastic Competence and Global Self-worth of the slow learners of the experimental group have increased to a considerable level in the post-test.

iv) *Socio-emotional Adjustment*: There is a substantial level of reduction in Anxious Fearful Behavior and increased Pro-Social Behavior among the experimental group of slow learners which may alter their cognitive capacities to acquire additional reading skills helping them to overcome the suppressed feelings about their inadequacy in academic activities. Such activities results in putting them at ease in their interaction with peers and teachers. Similarly, there is a considerable level of reduction in Hyper Active-Distractible Behavior among the slow learners in the experimental group.

v) *Temperament*: The gain scores of the experimental group on Sociability and Attentivity dimensions were markedly greater than the control group. Due to this Integrated Intervention, their level of attentiveness in the class room proceedings and responding to the queries raised by the teachers/peer group members had increased quite significantly.

vi) *Intrinsic Motivation*: There had been a significant level of increase in Perceived Competence and Effort/Importance while a significant level of reduction in the Pressure/Tension dimension among the experimental group of slow learners were found.

Recommendations:

It has been confirmed confidently that the customized Integrated Intervention targeted at the slow learners are able to enhance the academic performance and other psychological indices facilitating the psychological well-being. The key recommendations based on those significant psychological aspects are listed under two categories as short-term and long term.

Short-term Strategies:

- Introduction of Mindfulness Meditation with immediate effect to reduce academic as well as general anxiety and stress.
- Implementing Integrated Intervention Program such as graphic organizers, mindfulness meditation, mnemonics training, relaxation techniques etc., periodically addressed to all the slow learners at the beginning stage.
- Enriching the Self-efficacy and Self-perception of slow learners through selected intervention regularly.

- Spearheading studies to address those limitations and lacunae of this study.
- Replacing unconditional promotions with comprehensive continuous assessment to monitor the progress of the slow learners.

Long-term Strategies:

- Introduction of guidelines for Graphic organizers and Mnemonics in the appendix of text books as learning strategies.
- Periodic scheduling of Teachers' Mentoring Programs to enhance their awareness, attitude and competence.
- Enhanced involvement of parents through appropriate sensitization.
- Improving the Teacher-Taught ratio at the national level especially at primary level.
- Drafting a National Level Inclusive Policy for slow learners and learning disabled students enabling Education For All (EFA).