IMPACT OF VARIOUS INSTRUCTIONAL APPROACHES ON WRITTEN EXPRESSION SKILLS OF CHILDREN WITH LEARNING DISABILITY

A SUMMARY OF THE THESIS
Submitted to the
FACULTY OF EDUCATION
PANJAB UNIVERSITY, CHANDIGARH
For the degree of
DOCTOR OF PHILOSOPHY
(2013)

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SUMMARY

Introduction

Education is the fundamental right of every child. Improvements in education are not only expected to enhance efficiency but also augment the overall quality of life. Various Programmes to universalize primary and secondary education are being organized worldwide. With all the efforts of the Government of India to universalize Primary Education, the enrolment of children in schools has also increased. Consequently, the total enrolment at primary level increased from 113.9 million in 2001-02 to 130.8 million in 2004-05, an increase of over 11.3% (Planning Commission, Government of India, 2008). Though the scenario is encouraging yet the harsh reality is that a large number of student population drops out of the school before they reach class VII. One major reason of dropout is low level of achievement in academics.

Low levels in achievement can be attributed to some specific breakdowns in the learning process involving listening, thinking, perceiving, memory and expression. This invisible barrier that comes in the way of their learning is known as learning disability (Raj, 2010). Like all school-age students, students with learning disabilities are expected to acquire information, skills, and knowledge presented through a variety of formats (e.g., textbooks, lectures, and audio-visual media). Additionally, students need to be able to store this knowledge and information in a way that enhances understanding and retention. Finally, students must be able to demonstrate this knowledge via outlets such as making notes, taking tests and completing homework. Similar expectations extend to post school settings, such as the workplace, where new knowledge and skills must be continually updated by using the same acquisition, storage, and expression procedures. Unfortunately, a significant number of learning disabled students do not exhibit the skills which are required for being successful learners. As a result, these children do not find learning easy and can suffer from low self-esteem and sometimes exhibit unacceptable behavior— a way of avoiding failure (Nakra, 2007).
Learning disability is not a single disorder, but is a general category of special education composed of disabilities in any of seven specific areas: (1) receptive language (listening), (2) expressive language (speaking), (3) basic reading skills, (4) reading comprehension, (5) written expression, (6) mathematics calculation, and (7) mathematical reasoning (Lyon, 1996). Students with Learning disability comprise the largest single category of students with special educational needs in most countries. An estimated 4–7% of school-aged children are classified as having specific learning disability (Geary, 2006; Hasselhorn & Schuchardt, 2006; Mercer & Pullen, 2005). The actual number of children who have a learning disability in India is difficult to obtain because no national census has been taken yet. The studies to measure prevalence of specific learning disability in India are scanty and its importance is under recognized (Crawford, 2007). The true prevalence of the problem remains disputable among the scholars due to variable diagnostic criteria and measurement tools (Demonet & Taylor, 2005; Lyon, 1996; Ramaa, 2000). Prevalence rates for learning disability (LDs) vary from 5 to over 15% depending on the definition, identification criteria and measures used (Bradley et al., 2002; Prior, 1996; Prior et al., 1995).

Over the last decade, research has revealed that many students with academic disabilities (mostly students with LD) can make significant academic gains when provided high-quality instruction in part-time or separate settings (Foorman & Torgesen, 2001; Gersten et al., 2009a, 2009b; Holloway, 2001; Marston, 1996, 2001; Torgesen, 2002; Torgesen et al., 2001; Vellutino et al., 2006). Furthermore, these gains are often significantly greater than gains which are experienced by most students with similar difficulties who are educated in high-quality, full-time inclusive settings (Marston, 2001; McLeskey & Waldron, 2010; Torgesen, 2009; Torgesen et al., 2001; Vellutino et al., 2006; Waldron & McLeskey, 1998). Special education seems to be nearing a tipping point regarding the delivery of effective services that considerably improve students’ outcomes, mainly for students with learning disabilities.

Learning to write is critical to students' literacy development, as well as to overall learning and school success (Graham & Perin, 2007; Shanahan, 2006). Yet, many students do not attain target levels of writing proficiency (Salahu-Din, Persky, & Miller, 2008). Among students who struggle most with writing are those at risk for
or identified as having learning disabilities (Graham & Harris, 2005; Salahu-Din,
Persky, & Miller, 2008).

Inability to express the ideas through writing is the most common disability
among children with learning disability. It is also widely recognized by the
professionals that almost 90% of the children with learning disability have difficulty
with written language in some form or the other. Written expression disability is
characterized by writing skills that are significantly below the expected level for a
child’s age and intellectual capacity. These difficulties impair the child’s academic
performance and writing in everyday life. However, children with this disability may
have the normal language skills needed to understand verbal or written
communication (Simms, 2007). This disability affects both the mechanical aspects
and the organization of thoughts and ideas in written compositions.

Researchers suggest that early identification and intervention to build writing
skills can improve writing outcomes (Graham et al., 2000). Thus, it is critical to find
ways to identify students with writing problems early, and provide intervention
designed to prevent long-term writing difficulties (Berninger et al., 2008).

Writing has always been an important part of the school curriculum (U.S.
Department of Education, Institute of Education Sciences, & National Center for
Education Statistics, 2003) but has received less attention from researchers than
reading and mathematics (Bradley-Johnson & Lesiak, 1989). Learning disability in
writing has not been as thoroughly studied and researched as in other areas of learning
disability. Studies on learning disabled children carried out by Englert and Gregg
(1987); Englert and Raphael (1988); Graham (1990); Graham and Harris (1991,
1992); MacArthur and Graham (1987); Newcomer and Barenbaum (1991); Nodine et
al. (1985) have brought to light the fact that students with learning disability (LD)
frequently have greater difficulty with writing than their normally achieving peers.

Adopted and modified writing instructions promote success and understanding
in the writing skills of students with learning disability. Anderson et al. (1991); Engelmann and Carnine (1982); Englert et al. (1997); Harris and Graham (1996);
Lewis (1998); Swanson et al. (2000) and Wong et al. (2001) also agree with the
adapted and modified instructional method. When effective strategies and practice are
combined in instruction, students with learning disability will more likely reap benefit and show improvement.

Hence, children with writing problems could do well if they are provided intervention to reduce learning disability with special attention. It has been recognized that intervention should be provided to the children with special needs. The present study concentrates on the few intervention measures. Out of the recent method and strategies of intervention, the investigator has studied the impact of three different instructional strategies i.e. Self-regulated strategy development approach, direct instruction approach and eclectic approach (self regulated strategy development approach and direct instruction approach) on written expression skills of children with learning disability.

Statement of the problem

“Impact of Various Instructional Approaches on Written Expression Skills of Children with Learning Disability.”

Objectives

The study was planned and designed to achieve the following objectives:

1. To study the incidence of learning disability in written expression among grade III and IV children.
2. To study the impact of self-regulated strategy development approach on written expression skills of children with learning disability.
3. To study the impact of direct instruction approach on written expression skills of children with learning disability.
4. To study the impact of eclectic instruction approach on written expression skills of children with learning disability.
5. To study the comparative effectiveness of different approaches on written expression skills of children with learning disability.
6. To study the side effects of enhancement in written expression skills on the increase of other learning abilities of learning disabled children.
7. To study the side effects of enhancement in written expression skills on the increase of intelligence quotient of learning disabled children.
Hypotheses

1. Self-regulated strategy development approach would be effective in enhancing written expression skills of children with learning disability.

2. Direct instruction approach would be effective in enhancing written expression skills of children with learning disability.

3. Eclectic approach would be effective in improving written expression skills of children with learning disability.

4. There would be differentials in the effectiveness of self-regulated strategy development approach, direct instruction approach and eclectic approach in enhancing written expression skills of children with learning disability.

5. There would be an increase in the learning abilities of learning disabled children as a result of intervention provided for the enhancement of written expression skills.

6. There would be an increase in the intelligence quotients of learning disabled children as a result of intervention provided for the enhancement of written expression skills.

Delimitations

The present study was delimited to:

1. Children of grade III and IV with poor written expression skills.

2. Children with learning disability in written expression skills studying in English medium Public Schools of Chandigarh.

3. Self-regulated strategy development approach, Direct instruction approach and Eclectic approach only.

Design of the Study

In the present study, pre-test, post-test experimental and control group design was used. The experimental control group design includes at-least two groups, one experimental and one control group. In the present study, there were four groups; three experimental groups and one control group. All the four groups were assessed before the treatment on the Malin’s Intelligence Scale for Indian Children (1969),
Diagnostic Test of Learning Disability by Swarup and Mehta (2005) and Test of Written Expression prepared by the investigator. Treatments were randomly assigned to three experimental groups. Training in self-regulated strategy development approach, direct instruction approach and eclectic approach was provided to the three experimental groups for four months whereas no training was provided to the control group. After intervention, Malin’s Intelligence Scale for Indian Children (1969), Diagnostic Test of Learning Disability by Swarup and Mehta (2005) and Test of Written Expression were re-administered on all the subjects of experimental and control group to see the effectiveness of instructional approaches.

Types of school, time and class were taken as control variables. In the present study, different strategies i.e. Self-regualted strategy development, Direct Instruction and Eclectic Approach (Combination of Self-regualted strategy development and Direct Instruction) were independent variables and written expression was the dependent variables.

Sample

In the present study, purposive sampling and two-stage random sampling technique was used. In purposive sampling a sample is built up which enables the investigator to satisfy his specific needs in the project (Stodla & Storodahl, 1967). Purposive sampling is considered desirable when the universe happens to be small and a known characteristic of it is to be studied intensively (Kothari, 2009). The sample is purposive in nature because only the English medium Public schools in Chandigarh were taken. Further, children from these schools who were having learning disabilities were selected. Two staged random sampling technique was used. During the first stage, out of total English medium schools of Chandigarh, 4 schools were randomly selected. Further, treatments were randomly assigned to various groups.

In the initial phase of this study, list of existing English medium public schools in Chandigarh, U.T., was collected from the office of District Education Officer (DEO). Four English medium public schools were selected randomly from the list. Principals of the four randomly selected schools were contacted and made aware of the purpose and need of the study.
Initial sample

During the second stage, English language teachers of the four selected schools of Chandigarh were made aware of specific writing disabilities of the children. After that teacher referral forms were given to the teachers to obtain information about written expression difficulties being faced by the children. There were 745 children studying in grades III and IV, out of 745 children, 128 children were referred by the teachers. The English language teachers referred those children whom they found having writing problems with poor academic performance. Those children who had more than 60% writing problems on the basis of teacher referral form and scored below 40% (Grade D₁ and D₂) in their previous class were selected for further study.

Children fulfilling the following criteria were included in the initial sample:

1. Children between the age range of 8 to 10 years,
2. Children studying in grade III and IV,
3. Children having more than 60% writing problems on the basis of teacher referral form, and
4. Children who scored below 40% (Grade D₁ and D₂) in their previous class.

Out of 128, referred cases, only 102 children fulfilled the above mentioned criteria and they were included in the initial sample of the present study.

Final sample

In the third and final stage, 102 children between 8 and 10 years of age who were identified as having writing problems with poor academic performance constituted the initial sample. These children were administered Malin’s Intelligence Scale for Indian Children (1969). Out of 102 children, 89 children who scored 90 and above (full scale IQ) were given Diagnostic Test of Learning Disability by Swarup & Mehta (2005) in order to identify the learning problem areas of children. Out of 89 children, 48 learning disabled children were selected for further study because they scored below 50 in whole test of DTLD. Further, out of forty eight, only 42 children who scored below 3 in expressive language area of DTLD indicating severe problem were included. Then the Test of Written Expression (prepared by the investigator) was administered to assess their writing problems.
On the basis of these tests children who fulfilled the following criteria besides the above mentioned criteria for the initial sample, were included in the final sample.

I) Children with IQ 90 and above (Full Scale IQ)
II) Children who had a composite score below 50 in DTLD (whole test)
III) Learning disabled children who had a score below 3 in expressive language area of DTLD indicating severe problem
IV) Learning disabled children with scores below 40% in Test of Written Expression.

Hence, on the basis of above mentioned criteria, out of 102 selected third and fourth grade children, only 40 were selected for the final sample.

Tools Used for Data Collection

To test the above-mentioned hypotheses, the following tools were used:

3. Test of Written Expression for grade III and IV prepared by the investigator.
4. Teacher Referral Form prepared by the investigator.

Procedure of Data Collection

The data of the present study was collected in the 5 phases given as under:

Phase-I- Preliminary preparation

In the first phase of data collection, the list of existing public schools in Chandigarh, U.T., was collected from the Director of Public Instructions (schools). In the list there were 54 Public School in Chandigarh. Out of these 54 schools, four schools were randomly selected for the purpose of data collection. Principals of the four randomly selected schools were contacted and made aware of the purpose and need of the study.

Teacher referral form and Test of Written Expression for grade III and IV were prepared. Language (English) teachers of grade III and IV were contacted and made aware of written expression difficulties faced by the school children. Teacher referral forms were distributed among the teachers of selected schools to obtain
information about written expression difficulties being faced by the children. Details regarding academic performance of the children were also obtained. Out of 128, referred cases, children who had more than 60% writing problems on the basis of teacher referral form were taken. Further, children who had poor academic performance i.e., scored below 40% in their previous class were retained. 102 children between 8 and 10 years of age from third and fourth grades showing difficulties in written expression with poor academic performance were included in the initial sample.

Phase II- Pre-test

In the second phase of data collection, Malin’s Intelligence Scale for Indian Children (1969) was administered individually by the investigator on 102 children between 8 and 10 years of age. Out of 102 children, 89 children who scored 90 and above (full scale IQ) were given Diagnostic Test of Learning Disability by Swarup & Mehta (2005) in order to identify the learning problem areas of children. Out of 89 children, 48 learning disabled children were selected for further study because they scored below 50 in whole test of DTLD. Further, out of forty eight, only 42 children who scored below 3 in expressive language area of DTLD indicating severe problem were included. Then the Test of Written Expression (prepared by the investigator) was administered to assess their writing problems. On the basis of test scores, out of 42 children, only 40 children who scored below 40% in written expression test were selected. Hence, 40 children between 8 and 10 years of age from third and fourth grades identified with learning disability in written expression were included in the final sample. Ten children were randomly assigned to each of the four groups - three experimental and one control group. Further, treatments were randomly assigned to various experimental groups. Intervention in self-regulated strategy development approach, direct instruction approach and eclectic approach was given to the three experimental groups for four months, whereas no intervention was given to the control group.

Homogeneity of the final sample was tested with the help of analysis of variance. The four groups were found to be homogenous with regard to intelligence, learning disability and written expression scores.
Phase III- Orientation of the subjects

In the third phase, investigator gave orientation to the subjects of three experimental groups. The subjects were explained about the purpose and objectives of their respective intervention. The subjects were told about the disadvantages of poor writing and how it could affect their academic performance and which will ultimately hamper progress in all walks of their life. The subjects were not allowed to undergo any other treatment or systematic intervention program during the intervention period. Parents of the subjects were also taken into confidence.

Phase IV- Intervention

In the fourth phase, intervention was provided to the three experimental groups through self-regulated strategy development approach, direct instruction approach and eclectic approach. All the three experimental groups, i.e. EG₁, EG₂ & EG₃ were given intervention for 40-45 minutes thrice a week for 4 months.

Subjects of EG₁ were taught through a general strategy that emphasized planning. This strategy helped them to carry out three basic processes: select a topic to write about, organize possible ideas into a writing plan, and use and upgrade a plan when writing. To help them organize possible ideas into a writing plan, they were also taught story-writing strategies. This involved asking themselves a series of questions, with each question focusing on a particular element commonly found in stories such as “Who are the main characters?” and “What do they want to do?” Students additionally learned about the characteristics and basic parts of a story, which provided them with knowledge essential in using the strategies. Students were further taught self-regulatory procedures, including how to use self-talk to facilitate performance (e.g., What do I have to do here?), planning (e.g., What comes next?), self-evaluation (e.g., Does that make sense?), self-reinforcement (e.g., I really like that part!), and coping (e.g., I’m almost finished!), set goals to write complete story (e.g., Do I have included all the basic parts of the story!), monitor and graph their personal success in achieving these goals and credit their success to effort and the use of the target strategies.
Students of $\text{EG}_2$ who were provided training through direct instruction approach were taught basic writing skills step by step. They were given lesson plans for each concept. The investigator started with capitalization and punctuation skills and then moved to next skill. Scripted presentation ensured that all steps in the teaching sequence were followed and that all questions and instructions were clear. Once students became proficient with mechanical skills, the subjects were instructed to write story using different prompts like beginning, middle and end. To assist students, the investigator provided adjectives and verb word banks that could be used to make student story more descriptive and interesting. Investigator gave immediate feedback and correction on the story written by the students.

The subjects of $\text{EG}_3$ who were provided training through eclectic approach were given treatment according to the need and severity of the problem. The intervention was started with direct instruction. Lessons on rules of capital letters, punctuations and sentence constructions were given one by one to the subjects. Then story writing strategy, which was a part of self regulatory strategy, was explained to the subjects. Self-instructions, self- reinforcement and self-evaluation strategies were also explained so that students could independently motivate themselves and evaluate their performance. Words required to write the stories were also given by the investigator where needed.

Subjects of $\text{CG}$ were not provided with any intervention.

**Phase V- Post-test**

In the fifth phase, Malin’s Intelligence Scale for Indian Children (1969), Diagnostic Test of Learning Disability by Swarup & Mehta (2005), and Test of Written Expression for grade III and IV (prepared by the investigator) were re-administered on the subjects of 4 groups i.e. three experimental and one control group.

**Statistical Analysis**

The following statistical techniques were employed for testing research hypotheses:

1. Descriptive Statistics, namely, Mean and SD for all variables were obtained.
2. Analysis of variance was worked out to test homogeneity of all the groups and to find out variance among treatment groups.
3. t-test was applied to test the effectiveness of instructional approaches.
4. Graphical representation was done wherever necessary.

Results and Conclusions

Results

The findings of the present research study are as follows:

Incidence of learning disability in written expression

- In the present study, 5.36% children of 3rd and 4th grade were having learning disability in written expression. The percentage of children with learning disabilities in written expression in grades III and IV were found to be 4.28% and 6.32% respectively. Percentage of learning disabilities in written expression among girls and boys were found to be 2.57% and 7.84% respectively.

Impact of self-regulated strategy development approach on written Expression skills of children with learning disability

- The t-values between pre-and post-test scores of EG₁ (whose subjects were provided intervention through self-regulated strategy development approach) in various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing and written expression skills (total) were significant at .01 level.

- On the other hand, insignificant t-values were found between pre- and post-test scores of control group (whose subjects were not provided any intervention) in various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression (total).

- All the obtained t-values between the post-test scores in various written expression skills for capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skills (total) of EG₁ and CG were significant at .01 level.
Impact of direct instruction approach on written expression skills of children with learning disability

- Mean differentials between pre-and post-test scores in various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skills (total) of EG₂ (whose subjects were provided intervention through direct instruction) were significant at .01 level.

- The t-values between the post-test scores of EG₂ and CG with regard to various written expression skills namely, capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing and written expression skills (total) were found significant at .01 level.

Impact of eclectic approach on written expression skills of children with learning disability

- The t-values between pre-and post-test scores of EG₃ (whose subjects were provided intervention through eclectic approach) in various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skills (total) were statistically not significant.

- The t-values between the post-test scores in various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skills (total) of EG₃ and CG were found significant at .01 level.

Differential impact of various instructional approaches on written expression skills of children with learning disability

- Mean differentials in the post-test scores between EG₁ and EG₂ with regard to various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing and written expression skills (total) were statistically not significant.

- The t-value in the post-test scores between EG₂ and EG₃ with regard to capitalization and punctuation skills was found significant at .01 level.
• Mean differential in the post-test scores between EG₁ and EG₃ with regard to capitalization and punctuation skills was found significant at .05 level.

• Mean differentials in the post-test scores between EG₂ and EG₃, and EG₁ and EG₃ with regard to syntax were found significant at .05 level.

• The t-values in the post-test scores of EG₁ and EG₃ with regard to vocabulary and spelling and fluency were found significant at .01 level.

• Mean differentials between post-test scores of EG₂ and EG₃ with regard to vocabulary and spelling and fluency skill were found significant at .05 level.

• Mean differentials in the post-test scores between EG₂ and EG₃, and EG₁ and EG₃ with regard to story writing and written expression skills (total) were found significant at .01 level.

• The t-values between post-test scores of EG₁ and CG, EG₂ and CG, and EG₃ and CG with regard to various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing and written expression skills (total) were significant at .01 level.

Side effect of enhancement in written expression skills on learning abilities of children with learning disability

• Mean differentials between pre-test and post-test scores of EG₁ (whose subjects were trained through self-regulated strategy) in position in space (PS), spatial relationship (SR), cognitive ability (CA), memory (M), expressive language (EL), and learning abilities (total) were significant at .01 level of significance and t-values for eye-hand co-ordination (EHC) and figure constancy (FC) were significant at .05 level of significance. The t-values for figure ground (FG), auditory perception (AP), and receptive language (RL) were statistically insignificant.

• Mean differentials between pre-test and post-test scores of EG₂ (whose subjects were provided intervention through direct instruction) in figure constancy (FC), position in space (PS), spatial relationship (SR), cognitive ability (CA), memory (M), expressive language (EL), and learning abilities (total) were significant at .01 level of significance and the t-values between
pre-test and post-test scores of EG₂ in eye hand co-ordination (EHC), figure ground (FG), auditory perception (AP) and receptive language (RL) were significant at .05 level of significance.

- Mean differentials between pre-test and post-test scores of EG₃ (whose subjects were provided intervention through eclectic approach) in eye hand co-ordination (EHC), figure ground (FG), figure constancy (FC), position in space (PS), spatial relationship (SR), cognitive ability (CA), memory (M), expressive language (EL), and learning disability (total) were significant at .01 level of significance and the t-values between pre- and post-test scores of EG₃ in auditory perception (AP), and receptive language (RL) were significant at .05 level of significance.

- Mean differentials between pre- and post-test scores of CG (whose subjects were not provided any intervention) in all the areas i.e. eye-hand co-ordination (EHC), figure ground (FG), figure constancy (FC), position in space (PS), spatial relationship (SR), auditory perception (AP), receptive language (RL), cognitive ability (CA), memory (M), expressive language (EL) and learning disability (total) were statistically insignificant.

**Side effect of enhancement in written expression skills on intelligence quotients of children with learning disability**

- Mean differentials between pre-test and post-test scores in verbal IQ and full scale IQ of EG₁ were significant at .01 level and t-value of performance IQ was statistically insignificant.

- Mean differentials between pre-test and post-test scores in verbal IQ and full scale IQ of EG₂ and EG₃ were significant at .01 level and t-value of performance IQ was significant at .05 level of confidence.

- Mean differentials between pre-and post-test scores in verbal IQ, performance IQ and full scale IQ of CG were statistically insignificant.

**Conclusions**

In the light of the findings of the present study, the following major conclusions have been drawn:
Incidence of learning disability in written expression

The overall 5.36% (approx.) of children having learning disability (LD) in written expression validates the high incidence of LD in written expression among grade III and IV in the light of estimates given by various researchers.

Impact of self-regulated strategy development approach on written expression skills of children with learning disability

On the basis of significant mean differentials between the pre-test and post-test scores with regard to various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skill (total) of experimental group 1 (EG₁), it can be concluded that self-regulated strategy has effectively and significantly enhanced the various written expression skills of children with learning disability.

It can be concluded from the insignificant mean differentials between pre-test and post-test scores of control group (whose children were not given any intervention) that there was no enhancement in various written expression skills and total of all the skills of written expression.

Significant mean differentials between post-test scores of EG₁ whose subjects were provided intervention through self-regulated strategy development approach and CG whose subjects were not provided any intervention with regard to various written expression skills i.e., capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skill (total) further indicates that self-regulated strategy was effective in enhancing the written expression skills of children with learning disability.

Impact of direct instruction approach on written expression skills of children with learning disability

Significant mean differentials between the pre-test and post-test scores of EG₂ with regard to various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skill (total) indicate that direct instruction approach has effectively enhanced the written expression skills of children with learning disability.
In addition, significant mean differentials between post-test scores of EG2 and CG in various written expression skills i.e. capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skill (total) indicate that direct instruction approach has enhanced the written expression skills of learning disabled children effectively.

**Impact of eclectic approach on written expression skills of children with learning disability**

Significant mean differentials between the pre-test and post-test scores in capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skill (total) of EG3 indicate that eclectic approach has effectively and significantly enhanced the written expression skills of children with learning disability.

It can be concluded from the significant mean differentials between post-test scores of EG3 and CG in capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing, and written expression skill (total) that eclectic approach has enhanced the written expression skills of learning disabled children substantially.

**Differential impact of various instructional approaches on written expression skills of children with learning disability**

Insignificant mean differentials in the post-test scores between EG1 and EG2 in capitalization and punctuation, syntax, vocabulary and spelling, fluency, story writing and written expression skills (total) indicate that self-regulated strategy development and direct instruction approach are equally effective in enhancing the written expression skills of children with learning disability.

It can be concluded from the significant mean differentials in the post-test scores between EG2 and EG3, and EG1 and EG3 that eclectic approach was more effective than self regulated strategy development approach and direct instruction approach in enhancing the written expression skills i.e., capitalization and punctuation, syntax, vocabulary and spelling, fluency, and story writing skills of children with learning disability.
From the significant mean differentials in the post-test scores between EG₂ and EG₃, and EG₁ and EG₃ in written expression skill (total), it can be concluded that eclectic approach was more effective in enhancing the written expression skill (total) of children with learning disability than self-regulated strategy development approach and direct instruction approach.

**Side effect of enhancement in written expression skills on learning abilities of children with learning disability**

Significant mean differentials between pre-test and post-test scores in eye-hand co-ordination (EHC), figure constancy (FC), position in space (PS), spatial relationship (SR), cognitive ability (CA), memory (M), and expressive language (EL) areas of learning disability of EG₁ (whose subjects were provided intervention through self-regulated strategy development approach) indicate that with the enhancement in written expression skills, learning abilities in these areas have also been improved. There was no enhancement in figure ground (FG), auditory perception (AP) and receptive language (RL) areas of learning abilities which indicates that learning disability in these areas has not reduced.

From the significant mean differentials between pre-test and post-test scores in all the areas of learning abilities of EG₂ (whose subjects were provided intervention through direct instruction approach) and EG₃ (whose subjects were provided intervention through eclectic approach), it can be concluded that with the enhancement in the written expression skills of learning disabled children, the learning abilities in all the areas i.e. eye-hand co-ordination (EHC), figure ground (FG), figure constancy (FC), position in space (PS), spatial relationship (SR), auditory perception (AP), receptive language (RL) cognitive ability (CA), memory (M), and expressive language (EL) have enhanced. This suggests that learning disabilities in these areas have been reduced significantly.

Further, it can be concluded from the insignificant mean differentials between pre-test and post-test scores in various areas of learning disability of CG (whose children were not given any intervention) that there was no reduction in any of the area of learning disability of these children which indicate that there was no enhancement in any areas of the learning abilities.
Significant mean differentials between pre-test and post-test scores in all the areas of learning abilities of different EGs and CG indicate that learning abilities of subjects of EG\textsubscript{1}, EG\textsubscript{2}, and EG\textsubscript{3} have been enhanced significantly where as the insignificant mean differential of CG indicates that there was no enhancement in the learning abilities of the learning disabled children who were not given any intervention. It implies that their learning disability has not reduced.

**Side effect of enhancement in written expression skills on intelligence quotients of children with learning disability**

From the significant mean differentials between pre-test and post-test intelligence quotient of EG\textsubscript{1} (whose subjects were provided intervention through self-regulated strategy development approach) it can be concluded that with the enhancement in the written expression skills the verbal IQ and full scale IQ of the learning disabled children have also enhanced where as there was no enhancement in the performance IQ.

Further, it can be concluded from the significant mean differentials between pre-test and post-test intelligence quotient of EG\textsubscript{2} (whose subjects were given intervention through direct instruction approach) and EG\textsubscript{3} (whose subjects were given intervention through eclectic approach) that with the enhancement in the written expression skills, the verbal IQ, performance IQ and full scale IQ of the learning disabled children have also been enhanced.

Insignificant mean differentials between pre-test and post-test intelligence quotients of CG indicate that there was no enhancement in the IQ of the learning disabled children who were not given any intervention.

**Educational Implications**

Learning disability is relatively a new and less explored area. At present, in India, the problems of learning disabled children are not adequately addressed and attended because special education schools are less in number. The learning needs of disabled children demand special attention.

Many children with learning disability remain undiagnosed and go through life with the “hidden disability”. The resulting problems can lead to poor self-esteem and failure to thrive in school. With early detection and interventions, teachers and parents
can develop the necessary skills in them for improving their learning disability. In order to achieve this ideal scenario, all regular classroom teachers should be sensitized to identify this problem as early as possible and should be trained for screening and planning need based strategies to help young children come out of this problem.

The results of the present study support the positive impact of remedial education given at an early age as it is the time when the child is most receptive to any change. Therefore, special educators, clinical psychologists, early childhood care workers can benefit from these results as these would help them to focus their efforts in needful direction.

The test of written expression for third and fourth graders prepared by the investigator can be used by the special educators, early childhood educators and teachers to identify and assess the writing problems of the children.

This study reveals the significant role and effectiveness of self-regulated strategy development approach, direct instruction approach and eclectic approach. Development of self-regulation process is an important part of learning and it can be fostered and improved through instruction. Direct instruction approach was also found to be beneficial in improving the writing skills of learning disabled children. Eclectic approach has come out to be more beneficial as compared to single approach. It is recommended that regular teachers and special educators should incorporate the elements of both self regulated and direct instruction approach while planning remedial programs for children with writing problems that help the children to attain their maximum educational potential and become a productive and contributing adult member of the society.

**Suggestions for Further Research Work**

A number of limitations need to be considered in interpreting the findings of this study:

1. Due to paucity of time, the present study investigation was only restricted to enhance the written expression skills of learning disabled children. Similar studies can be conducted in other areas such as reading, spelling, mathematics etc.
2. This study included only the students from III and IV grades. A more comprehensive study including the students from the other grades will contribute to the understanding of effectiveness of various instructional approaches. It is expected that students from different classes would yield different results.

3. It also needs to be emphasized that this study includes subjects from English medium public schools. Therefore this study can be extended to further examine the effectiveness of instructional approaches on subjects from convent as well as government schools.

4. This study included the sample from urban area only. Further research work could be undertaken to replicate the present study in the other urban and rural regions of India.

5. In the present study, self-regulated strategy development approach, direct instruction approach and eclectic approach have resulted in enhancing the written expression skills of learning disabled children. It would be also fruitful to test the effectiveness of other instructional approaches such as computer assisted, cooperative learning, multisensory approach etc. on written expression skills of learning disabled children.

6. In the present study, the incidence of learning disabilities was confined only to III and IV grade students of four schools. In order to get a more comprehensive picture, the study can be extended on larger sample including public, convent and government schools.

7. In the present investigation, enhancement in written expression skills has resulted in reducing the other learning disability and enhancing the IQ – To confirm such results, this study can be replicated.