CHAPTER V

DISCUSSION

This chapter deals with the discussion of the results tabulated in the previous chapter, obtained through statistical analysis of data. The results are discussed in the light of the hypothesis discussed in chapter 1 and analyzed in accordance to the literature reviewed and the observations made by the researcher in course of the research.

Hypothesis: 1

Three tiered model will enable in identifying children with learning difficulties by providing increasing degree of intervention.

This study has established a response to intervention model in the Vth standard of 8 schools of Goa in the actual school settings, schools being present both in the rural and urban areas of Goa. Fewer empirically-based studies have investigated the implementation of RtI in authentic school settings, particularly schools in rural areas (Dexter, Hughes, & Farmer, 2008; Kovaleski, 2007). Out of the two general models practised in RtI the researcher chose the one that is rooted in general education where research based intervention was given in the general class itself, followed by increasing intervention to children identified as “at risk “in the next level. Identified non responders would receive child specific intervention only after standardised assessment procedure.

Often the children identified as ‘at risk” are of a considerable proportion in the class as the class strength itself in the Indian schools is quite high. This model was thus best suited for the Indian Education system where a large class size and the lack of resources are impediments for giving immediate specialised intervention to students identified as ‘at risk’ by a specialist. As per the characteristics of RtI the researcher worked towards negating external environmental factors that could have interfered with learning in the first level and then intensified the intervention for those children who did not respond to the level 1 intervention to create a suitable learning environment for these non responders. The non responders at the end of level 2 interventions were to be sent for standardized assessment procedures to understand if any innate learning difficulty was the obstacle to learning.
The study aimed at gradually reducing the number of low achievers by subsequently increasing the intensity of intervention for the no responders at each level of intervention. Thus the aim to progressively identify children with learning difficulties was not for labelling but for “recognizing the large numbers of students who need academic and behavioral intervention in schools, in which students' response to quality intervention is monitored and used to inform decisions about future intervention and placement (Fletcher, Lyon, Fuchs, & Barnes, 2007; Jimerson, Burns, & VanDerHeyden, 2007). The present study has used the term "responders" for students who progress at both an acceptable rate and reach an established criterion and "non-responders" for those students who are not progressing at an acceptable rate. This method is the most reliable when compared to other indicators of response to treatment (Fuchs, Fuchs, and Compton (2004)).

An indigenous tool to identify children at risk at entry level and monitor their progress at each level had to be developed for several reasons. Firstly, inspite of teacher referrals some ‘at-risk ‘students are left from being identified. Thus the process of identifying children with learning difficulties in this study had to be done through a screening tool. Secondly ,the researcher was working with middle school children but worldwide research on universal screening within an RTI framework focuses predominantly on children in kindergarten through second grade (Compton, Fuchs, Fuchs, & Bryant, 2006; Speece & Case, 2001). Extant practices have occurred largely within primary grades (Bender & Shores, 2007) where the three tiered model was used extensively to identify children with learning difficulty. It was to be seen whether the same findings could be applicable in the middle school setting as well.

Thirdly, though a number of studies have also explored the predictive validity of specific reading assessments with respect to their ability to accurately identify children with reading challenges (Catts, Petscher, Schatschneider, Bridges, & Mendoza, 2009; Walker-Dalhouse et al., 2009), the researcher has not been able to come across a tool that deals with the components like, concept development, knowledge development and language development. But in the middle school level a number of new concepts emerge, the vistas of knowledge has to be widened and a firm grip over language is required to express this knowledge. Thus this model aimed at identifying the children with learning difficulties in the above mentioned areas in the middle school level.
Fourthly, researches have shown that RtI implementation in two secondary schools addressed only reading and math concerns and not any other academic subjects (Windram, Scierka, and Silberglitt's (2007), but the present study focused on all major academic subjects like English, History, Geography and Science. Thus the second and the third part of the tool, namely, Sharanya B and C and have encompassed curriculum based measurements using the contents taught by the teachers in Academic subjects in the regular class and in afternoon sessions to progressively identify children having difficulty.

The researcher found no evidence of any prior RtI model been implemented in India. Therefore the need to develop a culture specific identification tool containing items familiar to children in India at the entry level arose.

The process of identification in the study has been possible for the following reasons:
The tool used in the study for the identification at the three levels, namely, screening (Sharanya-A), level 1(Sharanya -B) and level 2(Sharanya-C) was simple, inexpensive, could be easily understood, implemented and was established as a reliable and valid way of assessing student achievement.

Also since Identification model used in this study was a prevention model and did not indicate that students have a learning difficulty but that they needed additional instruction to develop skills this did not lead to labeling but providing progressively intensive interventions.

The spacing out of the assessment intervals as 12 weeks benefitted the process in two ways. Firstly both teachers and students got used to the new methods of teaching learning process implemented in their class rooms before being assessed. Secondly there was no loss in teaching time which could have been an obvious consequence of monthly progress monitoring.

**Hypothesis: 2**

Level 1 Intervention will enhance the performance of children in a. Concept development b.Knowledge Development c.Language Development
The existing literature have focused on children from kindergarten to second grade level mostly in the areas of reading. The two studies available on Rti in middle school focused on individualized reading interventions (Vaughn and Wexler (2009)) in 7th and 8th grade and middle school children with identified learning disabilities (Wanzek et al., 2011). But the researcher perceived Rti as a change process that was fundamentally a general education initiative rather than a special education initiative and envisioned a strong foundation for level 1 where intervention was given to all children. Also, this study went beyond reading programs and extended the model to all major academic subjects like English, Maths, History, Science and Geography in order to study concept development, knowledge development and language development. The major focus was on studying the overall improvement on certain academic components that influenced positively on general academic performance of a student.

The goal was to provide general education instruction that is effective for the vast majority of students, with the guiding principle that 80%-85% (identified at risk) of students of the 539 should be able to meet grade level performance standards with Level 1 instruction only through the use of curricula that is scientific and in the general education setting. The principal objective was to ensure better academic outcomes for all students.

The findings of this study reveal an increase in each of the components - concept development, knowledge development and language development after level 1 intervention in spite of the inherent features of a secondary setting like structured class periods, rigid schedules, high population of students in middle school which could have acted as major barriers in implementing Rti as seen in the findings of a study by Sansosti, Goss, Shannon Noltemeyer, 2011. The success can be attributed to the following factors:

1. This study included instructional practices and strategies for a broad range of students, including students who are low achieving, without compromising on the content delivered. A uniform syllabus with systematically distributed content was given to the teachers across the schools. The instructional content was the same as the content in the Vth standard NCERT curriculum as prescribed by the Goa Board of Secondary Education. Indigenous instructional practices were developed for teaching of the curriculum.

2. The researcher felt in the Indian scenario with large class strength it would be impossible for regular class teachers to follow an individualized approach. Therefore
strategies used for interventions were “preselected”, by the researcher and all students received the same standard intervention in level 1 intervention in the general classroom.

3. Changes were brought about in the existing modes of teaching with the help of activity based teaching, graphic organizers and guided notes which were planned well in advance and the teaching learning material were prepared before commencement of intervention.

4. This study focused on delivering the curriculum in a way that was comprehensible as well as interesting for the students and they would connect to it. This was principally reflected in Activity based Learning, in the use of dialogue in group work, role-play, and executing tasks that closely related to normal, everyday language-use situations.

5. The integration of the activity based learning strategies across different subject content followed by the use of guided notes, organisers and advanced organizers ensured high quality systematic instruction in the mainstreamed classrooms.

6. The Cognitive maps and organizers which provide a visual referent for relationships, used in this study were simplified conceptual diagrams which have improved understanding of causal relationships, developed the ability to reconstruct and link concepts leading to holistic understanding. The children were thus able to write answers to classification based question that involved retrieval, linking as well as organization of concepts sequentially.

7. Another contributing factor behind positive effect of intervention in level1 may be because of the use of guided notes. The researcher had observed prior to the implementation of the study that at middle school level note taking implied reduction of a chapter to a number of questions and answers that the teacher would write on the Blackboard and the students merely copied those down even without trying to understand the link between the question and the response. Guided notes in this study represented an activity by itself where the student actively interacted with the content and the teacher by listening carefully to discern important information and recorded the information (visually or through an organiser) without writing extensively (Montis, 2007)

8. Guided notes were not teacher prepared handouts with simplified content but as it has been termed in this study was actually “note book modification” where “many supplemental activities ultimately culminated into guided notes that crystallized the
classroom process of learning. This process where the child has participated could be taken back home instead of only inked alphabets in notebooks.

9. Multiple opportunities of evaluation using different modalities like project based, group discussion, open book etc. benefitted both the children and the teachers in the area of knowledge development. The child could avail of any or all the opportunities to express his/her understanding as per the potential and the teacher by providing multiple opportunities, to respond on the same content would understand which is the best modality through which the child can respond and what is the nature difficulty in responding.

10. The planning of evaluation also became more structured for the teachers. Evaluation through paper pencil was also modified to a great extent. The division of the question paper into sections each representing a different level of evaluation aided the teachers in understanding the area of difficulty of the children, whether in recognition of content or retrieval of single data or multiple concepts or in application and accordingly evaluations could be planned.

11. Teacher’s role during this activity based learning aided in language development as well. Teacher's role during instructional practice had largely been to organize and plan appropriate experiences so that the student is able to construct meaning thereby develop concepts. Further, learners enjoyed acquiring English vocabulary across subjects because of the diversity of activities. Students who spend time interacting with a variety of materials, representing ideas and processes in different ways and sharing their knowledge with one another, develop both language as well as concepts (Cathcart, Pothier, Vance, & Bezuk, 2000). Language development was also brought in through indigenous writing of answers instead of copying from the blackboard with the help of organizers.

Hypothesis: 2a

Level 1 Intervention will enhance the performance of children in concept development

Concept development:

Concepts were developed by the teachers through interactive sessions using activity based learning, group participation, creating organisers or doing notebook modification. Feedback given by teachers, differentiated instructions and opportunities to respond enabled the students to develop concepts at a higher rate. Instructional features associated with positive academic outcomes, such as high rates of opportunities to respond, immediate
corrective feedback, and groups differentiated by skill level are components of the instruction within RTI models (Vaughn et al., 2007).

**Hypothesis: 2b**

**Level 1 Intervention will enhance the performance of children in Knowledge development**

Most of the teachers involved in this study agreed on one point that the use of the organiser had systematically and sequentially organised the content for the student. While building Organiser, different groups had put in different parts of the organiser by collecting information and arranging them with or without pictures. The teacher guided them to link, the various organisers, and form connections through group discussions the collective product of the class had been put into individual notebooks as notebook modification. This systematic storage of data facilitated increased memory in children after intervention in level 1

Teachers throughout level I intervention, motivated their students, helped them prepare for tests and assessments by providing tutorials, teaching study skills, and advanced organizers, during the intervention phase, children were encouraged to recognize single data, classify multiple data systematically and apply these data to find a cause and effect relationship and finally put these down in their note books with guidance from the teachers. One mode of formative exam practiced in this study was group discussion where children had been given higher order questions the answers of which they had to discover by sharing their individual responses within the group and then present it to the class. The open book exam encouraged them to make independent reading themselves and categorize information before writing the response down. All these have facilitated in developing the ability to link response with the questions of increasing levels of intellectual skill, recognize accurate data from the content or retrieve single concept from memory accurately, retrieve or recognize multiple concepts and link them appropriately and finally apply previous knowledge to give reasons, all of which are constituents of knowledge development.
Language Development:

This study worked in a broader panorama encompassing all the principal academic subjects, but it was not possible to incorporate a separate language development programme. Instead the language development was interwoven in the teaching learning process. The very nature of the intervention demanded active participation of students. Children were encouraged to read text book materials to do their project work within their groups. Group discussions enabled students to express their opinions, share ideas and make presentations to the class – which aided in language development as from passive listeners they became active participants developing their own language in the course of event. Even though typical RtI model does not include intensive small-group instruction in early reading at level 1 intervention in middle school, group activities planned by the teachers required children to read, express orally and write.

Advanced organiser, used as main teaching resource in this study had dual benefits - help the learner to focus on the key language and develop required concepts. Since this activity involved colour coding blends in key words, highlighting sound symbol relationship in the organiser and computer based presentations along with comprehension as well, facilitated language development.

Integrated instruction among the language processes of listening, speaking, reading, and writing so that students are actively involved in making and conveying meaning in natural ways, immensely benefitted the students. (Palmer, Nicholas &, Rancourt, 2002)

Hypothesis: 3

Alternative forms of evaluation will identify strengths and deficits of children for further intervention.

With the implementation of RtI in the 8 schools, children were learning through active participation and more involvement in the learning process brought out various talents in children hitherto unknown. Also the positive effects of cooperative learning were noticed during the activity based learning sessions. The system of only paper pencil exam would perhaps not be able to evaluate all these emerging additional aspects in the students.
The alternative methods of evaluation that the teachers were already trained on were implemented to show “RTI approaches not only prevent academic failure, but also improve academic outcomes for students” (Ardoin, Witt, Connell, & Koenig, 2005). Many of these children had already experienced a sense of failure in their inability to perform well in the paper pencil exam. Since it is known that both affective and cognitive domains interact to produce maximum learning in an individual, his continuous sense of failure resulted in learned helplessness, and the individual gave up trying.

The aim of this study was not just to understand deficits but in bringing out strengths that hitherto went unnoticed, as compared to most achievement tests, which typically highlight the strengths of high performers and the weaknesses of low-performers.

The purpose benefits and effect of each of the modes of the above mentioned evaluation is being discussed below:

**Project Based exam**

Based on the results of performance of children in Project based Exam it was observed that students performed better when open ended activity was given and the context allied with the activity was explained. Thus creating contextualizing assessments, providing greater open ended activity and engaging students effectively resulted in better student performance.

The results highlight that flexible grouping, where students were within the same class but divided into smaller groups for specific activities and purposes used in this mode of evaluation have resulted in students making more efficient use of their intellectual resources.

Appropriate learning experiences for students with diverse needs have resulted in better performance through cooperative learning experiences. Children excelled in the hands on activities, in the fine motor skills like assembling objects, drawing or creating models, in doing role plays or dramatics.

**Group Discussion**

The process of group discussion with its mixed ability grouping by using peer tutoring as a strategy ensured higher rates of student learning as Peer mentors and peer tutors are effective and enjoyable alternatives (Wolpert, 2001).
The evaluation through group discussion led to developing academic language proficiency as it involved tasks consisting of listening, processing information, and speaking. While children performed tasks to acquire concepts, the continuous verbal interactions developed language. These students who were often described as passive learners, excelled in an interactive setting that provided collaboration with peers.

**Open Book Exam**

Open book facilitated teachers to discover strengths of children who may have performed not as per the teacher’s expectations. Most of the teachers in this study were surprised to find many of the low achievers performing much above their standards and obtaining marks at par with their high achieving peers. The questions were of increasing difficulty, thus a higher score indicated very high cognitive ability. Low performance in the Paper Pencil Exam, stemmed from their difficulty in retrieving data. Modifying examination pattern by reducing the load on memory allowed these children to perform well. Thus this mode of assessment gave children opportunities to demonstrate strength rather than weakness.

Through the structured pattern of question paper of open book exam containing the recognition, classification and application based questions the teachers could understand what level of mastery the children had achieved in each of those sections. This mode of assessment helped the teachers to set expectations for student performance and helped to identify children ‘at risk’ who scored 2 or below in open book exam indicating that they may need special intervention on reading, writing or understanding concepts.

**Hypothesis 4:**

Teacher training in teaching strategy intervention for level 1 will significantly improve the performance of children across subjects in paper pencil exam.

In this study, given the interest and expenditures of material and human resources made in establishing this model in schools the preparatory phase that is training the teachers for imparting level 1 intervention was given the maximum importance. It was the teachers who played the key role in bringing about changes and creating a pro learning, enriched, child centric environment.
Teacher training was effective as emphasis was given in the beginning to convince the teachers in understanding the rationale behind RtI. This was not done through mere lecturing mode. Instead, concerned teachers were given a presentation of samples of written work of children in middle schools studying in regular schools collected by the researcher from 2008 reflecting the magnum of difficulties faced by the middle school students.

A conscious process of sensitization helped them in building the belief that how they could become a torchbearer of change in altering external environment labeling the child’s inability behind the reason of failure.

It is evident that to ensure success in the training of a group of professionals with years of experience and deep-rooted belief in the oft used methods of teaching, giving theoretical inputs only was not enough. Therefore the researcher simulated the strategies that they would implement in the classroom environment post training. The teachers performed hands-on activities, prepared organizers and made modified note books in small groups. This approach encouraged greater involvement on the part of the teachers and gave them a miniscule experience of how the process could be implemented in the classroom.

Necessary resources were made available to teachers to aid in the solving of problems. Throughout the training workshop, the teachers were given the opportunity to voice their opinions and exercise their choice so that the programme became a collaborative effort and not a researcher tailored suit for them to adorn.

Post training the teachers implementing RtI were inducted into adopting a multifarious role—that of a creative teacher, student mentor, collaborator with other teachers and special educators as well as monitoring progress and recording data. Care was taken that the teacher in this system never felt bogged down with added responsibilities to implement this process. Thus the model of professional development adopted in this study, combined an intensive teacher training workshop with opportunities for ongoing professional development during the period of intervention as well.

The training and support thus did not end only at the end of the workshop. Guidance available at the workshop was extended to the intervention period as well. A weekly meeting with each school was arranged within the school environment to discuss and solve any specific problem regarding the process of intervention. The researcher’s level of assistance on
an "as needed" basis for a full year following initial implementation aided the teachers in discussing their problems faced during implementation, prepare solutions and maintain the programme with fidelity.

The researchers presence also led to modifications that were incorporated with the changing environment of each school. The flexible nature of RtI was highlighted as without modifications the variety in the student composition, teacher background and belief structures of the Principals following a rigid structure could have acted as a hindrance to the pace of intervention.

**Hypothesis 5**

**Level 2 Intervention will significantly improve the performance of children in a. Concept development b. Knowledge Development c. Language Development**

Level 2 intervention in all the areas of concept, knowledge and language development had certain common characteristics. They were supplementary to general classroom instruction, was delivered in small groups by special educators as well as general classroom teachers, was implemented for 90 min daily, ranging from 8 weeks to 12 weeks. All students taken for level 2 intervention were taught by teachers and special educators who had participated in a professional development programme designed to train the teaching staff on curricular adaptations. The four mandated domains--instructional, methodological, delivery, and evaluation-were addressed individually. In this study the special educators were responsible for monitoring progress of children in all the areas and identifying children for intervention at level 3.

The findings suggesting an improvement in overall performances is attributed to the use of methodological modifications such as multi-sensory approach, materials read to student and hands on activities.. The most effective materials reported by the teachers for their students were a combination of "hands-on" activities and computer-assisted instruction.

Scaffolding by modifying the text content in terms of comprehension of text and understanding of course content yields positive effects (Baker et al., 2002). In this study, the text book material was altered in consultation with the regular teacher, where responses to certain types of questions were colour coded and highlighted in the text. Scaffolded text had pictures, cues such as highlighting text for specific words, and visuals such as graphic organizers and outlines, which was aimed at developing concepts as well as improving storage.
Scaffolding was done in the extensive use of computer presentations prepared by the special educators before implementing level 2 interventions. Teachers and special educators were trained to interweave scaffolding in their computer presentation by making them interactive with opportunities for children to read, fill in responses, complete partially presented data. Though praise and small rewards were effective for motivating all students, greater attention was paid to offer the students a learning structure within which they could read, understand, answer and experience success and thereby increase the intrinsic motivation to perform. Delivery modifications like oral directions during activities were implemented. Each activity in this study during level 2 intervention involved “breaking down as task or skill and verbalizing each part of the skill” (Lipscomb, Swanson, & West, 2004) and then putting each subtask into writing along with a visual so that children could remember the sequence. Cues and prompts were repeatedly used during teaching. A continuous review/drill was practiced at the end of each session. Prior notice and extended time for assignments was given post teaching, aided in bringing about positive effects of level 2 intervention. Teachers involved in this study regrouped the children in every session using preferential seating and moved around the class to give guidance and direction to each group member, and assessed the children regularly on the content taught in each session.

Another factor directly responsible for the positive effect was increased reading efficiency. Improving reading was not included in the initial objectives of the study, unlike most RtI studies, this study aimed at improving general academic performance. But, small group instructions and frequent assessment during level 2 revealed that most of the students were non responders, as they had great difficulty in reading textual matters. Research studies have shown that students who are poor readers early in their school careers progress academically, however, they do so at a slower rate. Thus structured reading was introduced through reading of modified text, reading of non textual matters and having activities centered on reading. Cooperative learning and peer tutoring were practiced where higher performing readers were paired with lower performing readers to practice skills identified as critical for beginning reading including phonemic awareness, letter-sound recognition, decoding, and fluency.

Last but not the least factor that enhanced improvement in performances is the prior planning that took place before the execution of the intervention programme. Planning was done with regards to scheduling of interventions, preparation of computer assisted presentations, consultation meetings for preparing text books and series of assessments that was to be conducted.
Hypothesis 5a:

**Level 2 Intervention will significantly improve the performance of children in concept development**

In spite of use of computer presentations, scaffold text materials, part organisers in notebooks, concept development did not improve significantly at the end of level 2 intervention. The major reason behind children not showing improvement in concept development could be due to the resources used, “especially for social studies” though diverse and extensive still was “technical or abstract”, due to the very nature of certain content “and the vocabulary was complex, as it was in content-area textbooks.” Any alteration, modification or scaffolding of text book matter was a time consuming laborious affair which was made even more challenging with the rigidity in the content itself.

Another reason could be that, though the study used curricular adaptations including quantity and input, no adaptations was made in the area of output, where altered test forms were not given. Modifications in teaching was made but modifications in evaluation was not possible due to environmental limitations where the school was not yet ready to have separate evaluation procedures for level 2 children by the regular teachers. Children of level 2 were thus assessed at par with the children of level 1. Thus modifications needed to be made in the areas of both conceptual difficulty and learning outcome for better results.

Evaluation modifications including items such as modified test format, materials/tests read to students, oral tests/oral responses, and small-group assignment (Hawkins, Ruban, Johnson, Sharon2008) could perhaps have shown a positive effect in concept development intervention. In the present study, even though teachers, as well as, resource persons felt that the “children were too weak to come up to Vth grade level and requested for simplified content modified evaluation format could not be used as teachers felt this could lead to peer ridicule , unnecessary labeling and would not be taken well by the parents.

**Hypothesis 5b:**

**Level 2 Intervention will significantly improve the performance of children in Knowledge Development**

The significant improvement in the knowledge development could be attributed to the structured activities, usage of part organisers, and notebook modifications with both visual
and tactile inputs prepared by the students themselves through guided assistance of the teaching staff, all of which helped the children to organise information sequentially.

Another factor that facilitated retrieval was the systematic usage of memory strategies. At around the 5th grade, students begin to demonstrate a more efficient use of memory strategies. Children were taught how to apply Mnemonics used in their guided notes as research on mnemonic strategies used with special education students has shown that the students may become very proficient in using the mnemonic as taught, but seldom transfer the strategy to another area unless taught to do so. Keyword mnemonics comprised one of the few mnemonic strategies used.

Scaffolded texts also helped greatly where the children could immediately link the concepts with the questions and through repeated practise; exposure to reading could locate the answers.

Hypothesis 5c:
**Level 2 Intervention will significantly improve the performance of children in Language Development**

Language development post level 2 did not show significant improvement except in one of its sub components of contextual writing. Direct intervention on contextual writing was done through a very structured guided practice throughout the intervention. Difficulty in contextual writing, is due to a lack of knowledge of the writing process, students in the study, were given guided practice, independent practice, till they could perform the new skill independently and fluently. Results would be much more significant if this was also carried outside the scope of this research by teachers and parents.

During the use of part organizers for questions, where children were required to write from the key words, instructors typically defined the non familiar word, showed a picture or acted out the meaning. This continuous word picture association could have indirectly positively influenced contextual writing ability of children during level 2 interventions. Children were also asked to write sentences in notebooks based on text, were coupled with pictures or from the visuals in graphic organizers.
Due to time constraint addressing the vocabulary each day by teaching the meaning of the words, reviewing new vocabulary words with students and assisting students in locating words in text could not be done by the mainstream teachers on a regular basis.

Spelling pattern was dealt only by the special educators and through play way method. No significant improvement in spelling pattern thus reemphasizes the importance of collaboration between special educators and regular teachers in imparting level 2 intervention and necessitates introduction of structured teaching after activity based learning for students where mainstream teachers need to follow up the procedure followed by the special educators in their language development sessions.

In this study, no significant improvement has been observed in syntax and semantic as well. This could be attributed along with the absence of collaboration factor to the use of minimum twelve is to one student teacher ratio due to the large number of students taken for level 2 intervention.

Most of these students were non or low achievers as they had great difficulty in reading textual matters. It may be possible that the complexity of words, non sequenced presentation of content, juxtaposition of activities and theories present in these text books added to their reading difficulty.

Another factor could be that these students started out too low and, therefore, despite an intensive intervention, were not able to reach the benchmark. Most of them were first generation learners and had no opportunities of interaction with the language at home. Many of these children lacked numerous foundation skills like knowledge of the alphabet, phonological and phonemic awareness, spelling, syllabification, capitalization, punctuation, sentence structure, sequential order, vocabulary, and initiation and maintenance of thoughts. It could be possible that academic writing assignments that involve complex language tasks and the process writing approach have overwhelmed these students (Bain, Bailey, & Moats, 2001).

Inspite of the above factors success could have been achieved if more focus on individualization or responsiveness to student specific needs was practiced. Intervention was aimed at meeting the needs of the group in this study at level 2 as well. The researcher followed a standard protocol approach even for level 2 intensive interventions. Probably a
combination of problem solving and standard protocol approaches at this level for specific areas like language development would have yielded better results.

**Hypothesis 6:**

RtI can be established in middle school in identifying children ‘at risk for learning difficulties and remediating the deficit areas. “RTI is recognized as an alternative and promising systems change initiative that can comprehensively address the diverse academic and behavioral needs of all students” (Batsche et al., 2006). It was necessary to understand how feasible and practical it is in the Indian context. Thus the principal objective behind giving the monitoring module to the principal of each school immediately after their orientation programme and then after completion of level 1 and 2 interventions respectively was to compare the responses and understand the perception of the people in the field, people who are actually going to plan and implement RtI. It was important to understand how feasible it was to establish RtI in middle school in identifying children ‘at risk’ for learning difficulties and remediating the deficit areas.

In this study RtI was envisioned as a multi petalled system that fuse together to shape the blossom. Thus the 10 point monitoring module was divided into few parts. The first part dwelled on the need for such a system in today’s education and talked about the importance of the project in today’s education. The second part was the change in the process of teaching that needed to be done and talked about the teaching strategies like activity based learning note book modifications and organisers. The third part was about the systemic change to be brought in to the evaluation process which talked about the relevance of alternative modes of assessments used in this study that is project based exam, open book exam and group discussion. The fourth component talked about the effectiveness of teacher training. The fifth component was about the relevance of the process in identifying children at risk and the last was how effective the process had been in bringing about positive change in these children. An analysis of the responses of the schools revealed the following: On being rated by a 5 point scale none of the parameters had received a rating of 2 or 1 that signified “below average and needs to change” by any of the schools either in the post training or in the post intervention response. The findings most encouragingly suggest that none of the above mentioned parts needed to be altered before implementing RtI as a process in schools.
All the schools strongly believed that RtI helped in effective teacher training and identification of children with difficulties. Excepting one school all the others believed that RtI implementation could bring in a positive change in these children. It is interesting to note that teaching strategies like activity based teaching, improved resources like note book modification have been rated as average but the alternative mode of evaluation has been rated high.

The findings show that 5 out of 8 schools have agreed that RtI can be determined as a process of systemic change. 3 schools felt that RtI was an ideal educational process but difficult to implement. On interviewing the teachers and principals, it was found that while they had no problems in applying RtI methodologies which encompassed high-quality, research-based classroom instructions, implemented research-based academic and behavioural interventions at multiple levels, they were opposed to continuous and frequent progress monitoring and

A follow-up after the completion of the study revealed that the progress monitoring system that was established during the study, was difficult to continue due to time constraints which made it difficult for the teachers to keep up with this practice. Thus the greatest barrier to RtI implementation within middle schools was the lack of a systemic process that uses progress-monitoring data to make important educational decisions. Computer-based data management system seemed to be cumbersome for some of the teachers and made them perceive RtI as important but difficult to put into practice within the high school setting.

Another important point of concern for those schools who did not agree to be a part of this study, was scheduling and structural factors like more number of subjects, syllabus to be completed within a stipulated time which was perceived as major obstacles to the application of RtI within secondary settings.

It can be inferred that Principals played a major role in implementing the process of RtI in their schools. The principals of the schools showed an active interest in calling the researcher during the process of intervention, surveying classes during activity based teaching, supervised personally the plans and the resource indent submitted by the teachers, slotted separate time to meet and discuss progress of students at level 2 with the special educators and even made adjustments in the daily schedule of the concerned teachers to give level one intervention. Thus displaying that the success of RtI hinges on the support it receives from school leaders. (Sansosti, Noltemeyer, Goss, 2007).
These principals’ also delegated responsibilities from the beginning of the study. The senior teachers in these schools were transferred to Vth standard for teaching at least one subject. They were associated with the day to day functioning of Vth standard, forming the key link between the principal, researcher and other teachers. Thus, RtI in a way expanded the role of teachers and created new leaders. (Sansosti, Shannon - Noltemeyer, Amity 2011.)

The implementation of the RtI approach is associated with the willingness of principals, teachers, and staff in each of the schools to take on new roles and responsibilities. (Shepherd, Katharine Salembier, George, 2011). RtI cannot be implemented by few people in a constricted set up. It is a vision that can be given shape to by the collaborative efforts of the management and the teaching staff.

Though it is more of a general education initiative, its success also depends on the special educators who need to unobtrusively be present during level 1 and maintain a constant communication with the regular teacher during level 2 delivering interventions themselves. Because of the very nature of their training the special educators could play a very important role in preparing the scaffolded materials and plan the instructional match for level 2.

An obvious conclusion that can be drawn from implementation efforts of the study is that unless in the RtI approach general education and special education teachers work together to systematically assess problems and intervene as part of the general education cycle that change is unlikely to be wholly successful. (Vaughn & Klingner, 2007)

It can thus be concluded that with the support of school Management, the regular planned interactions between the special educators, teachers, and principal, the continuous professional development before and during interventions of the teaching staff, prior planning for timely availability of resources in form of human, material and technical and lastly making teaching and learning a participatory process involving both students and teachers would definitely establish RtI firmly in India.

**Hypothesis 7**

The implementation of RtI model will have a positive impact on social behavior of children in the general class during teaching as well as evaluation

The general class with the implementation of RtI was different from the traditional class in the following ways:
Firstly, children were involved in the functioning of class right from framing class rules, to delegating and distributing responsibilities amongst the group members for activity based teachings.

Secondly, they were given opportunities to talk to the teachers as well as with their peers due to the very nature of the teaching methodology.

Thirdly, they participated in the process of teaching by reading from the text, preparing organizers, doing note book modifications.

Fourthly, each person was individually responsible for upholding the prestige of the class group that was formed in the beginning of the sessions and each played a role for earning accolades in the form of stars and tokens for the group—a job that these children took very seriously. In spite of the large class strength application of classroom management techniques in the form of small group formation, altering of seating and group reinforcement given during each group act by positive markings/tokens/stars etc created the appropriate learning environment for activity based teaching learning.

The class as a result comprised of active learners with the teacher playing the role of a facilitator. The following changes were noticed in them:

1. The students in the present study were motivated to learn and the use of multisensory inputs sustained their interest in learning and gradually made children attentive. These activities also instilled a sense of confidence in children as they witnessed the results through hands on activities.

2. Continuous effort by the teachers to introduce "motivating" tasks offered personal challenge, variety, and appeals students’ interests. Activity based learning adds "meaningfulness" and "variety" as task conditions facilitates interest in student learning and allowed student to interact with materials connected to the concepts taught. This holistic intervention resulted in better classroom interaction that had greater pupil-pupil and teacher-pupil interaction thus reducing aggressiveness and use of abusive language. Some showed excellent social skills and leadership abilities in managing conflict situations. They made decisions about their own learning and develop skills in managing time and materials.

3. Reports of teachers from the first day to the last day of intervention reveal how the students had adjusted to the new ways of learning. Their observation ranged from “A lot of
excitement and noise due to the activity conducted and during notebook modification students were more excited with the sketches than the actual problem.” to “Students take down matter quietly and neatly. Noise level reduced. Students were comfortably working in a group” and finally to “Students brought materials, enjoyed doing different items out of the activities came up with different ideas and enjoyed”.

4. The children exhibited appropriate organizational behavior. Excerpts from teacher’s reports reveal, “Each one was trying to keep their notebooks neat and colourful, comparing books, showing to the teacher”. “Lot of improvement was seen in the class with regards to writing, reading, drawing and framing sentence.”

5. The system of alternative evaluation was introduced in the study to make the teachers understand the student, his/ her interest in the activity, level of participation, ability to interact with other members, face and resolve conflict. Opportunity was provided to the student to identify a problem, generate solutions, listen to others solutions and then modify and pick the best one and express it to all.

6. Project based assignment in this study had created an environment when students were engrossed in achieving personally meaningful goals. Thus a state of "flow" was achieved by the otherwise low achiever from active interaction between the learner and his/her learning environment. A class engaged in project based exam revealed a much focused group of children, with short term and long term goals completely oriented to the task.

7. Goals act as a primary pivot around which context, content and learning activities evolve. The students were seen encouraging each other, helping each other and motivating each other. Many of the teachers involved in this study reported that even the shyest child in the class who would never respond in the class had been engaged actively. This type of evaluation resulted in students becoming intrinsically motivated to learn, because they were working on topics of interest to them and fully utilised opportunities to become involved in solving "real world" problems. There was no stress of exam. It is specifically for this reason that the technique of systematic behaviour observation has been avoided in this study. Emphasis had been on building an environment where facilitating social behaviour became an intricate component and not identifying children with behaviours prohibit learning.
8. The result reveals that the pressure on the child who had difficulty in storage had reduced during open book exam when compared to paper pencil exam. With an open book exam the student was relaxed and knew that he/she will not go through the arduous task of remembering the information. His/her job now was that of a specialist-he could search the relevant information, classify, string it and add a bit of his earlier concept to present something that was praise worthy. Thus Open Book Exam created a stress free environment, motivated students to learn and provided a supportive environment.

The performance of children in this type of exam emphasized the fact that the aim of school should be to create an environment of positive interactions, where the children’s maximum potential are tapped, their self esteems are raised and they become better individuals. Through this process, a holistic development of children was in progress where children showed conflict resolution characteristics, team spirit, accountability, sharing of responsibilities and empathy towards others, all of which contribute in shaping an adult giving his or her best to the society.