CHAPTER – III

REVIEW OF RELATED LITERATURE

3.1 INTRODUCTION

A review of related literature is a crucial constituent of the research process. Literature includes theoretical discussion, reviews of the status of knowledge by authorities, papers, description and evaluation of current practices and lastly includes empirical researches. It facilitates the investigator to have a clear understanding of the research problem. Merriam (1988) is of the opinion that, "An investigator who ignores prior research and theory chances pursuing a trivial problem, duplicating a study done, or repeating others' mistakes. The goal of research contributing to the knowledge base of the field may then, never be realised."

A research project is always a relief against a background of past studies in the same field. A survey of related literature facilitates the investigator to see that the study has been largely supported by a number of other studies and it is settled on a firm ground. A researcher must take the most quintessence of the past as a foothold for his study.

Mouly (1970) explains that no experienced researcher would think of undertaking a study without acquainting himself with the contribution of pervious studies.

Reviewing the literature is beneficial for the researcher. It will enable the researcher to locate and find out the problem of the present study. The review gives information about how different methods and techniques are adopted so that the researcher may use and modify them to give practicable results.

Best (1983) states about the related literature that, "a summary of the writings of recognised authorities and previous researchers provides evidence that the researcher is familiar with what is already known and what is still unknown and interested." The research studies reviewed in this chapter include closely related investigations carried out in India and abroad. The review has been classified into researches done on instruction, researches done in teaching in English, researches done on package, researches done on teaching at the engineering college level, researches done on other subjects and researches done on slow learners.

3.2 NEED FOR THE REVIEW OF RELATED LITERATURE

1. It enables the researcher to limit the research problem and to define it better.
2. Reviewing the literature helps the researcher not only to know what work has been carried out but also to think of an approach which is creative and unique.
3. It paves way for the researcher to avoid unnecessary and unintentional replication.

4. Review of related literature will give the researcher a good insight into the various methods and measures for the improvement of the design.

5. Research studies often contain specific suggestions and recommendations for further research in the area. To delimit the research problem, specific research topics are suggested.

3.3 RESEARCHES DONE IN INDIA

1.Anandan (1998) conducted a study and attempted to find out "The Effectiveness of Computer Aided Learning in Teaching Economics at XI Standard Level". From the results it was found out that compared to the traditional method the computer assisted instruction method had produced significant positive effects on the achievement of the students. It was observed even after controlling the intelligence and socio-economic status of the students and there was significant difference in achievement between computer assisted instruction method and the traditional method.

2.Krishnamurthy, B. (1998) conducted a research titled "A Course in English for Students of Engineering with Emphasis on Problem Solving Methods". The objective of the research is to highlight the problem-solving approach in the English language courses with the prospect of the experiment being accepted as a possible model. It shows how best problems solving skills can be inculcated in the learners even through English language courses, especially for the students of engineering programmes.

3. **Shinde** (1998) attempted to find out "The Effectiveness of Teaching English Grammar to the IX Standard Pupils through the Computer Assisted Instruction Packages". The results of his study revealed that comparing to the traditional methods the computer assisted instruction packages were more effective in teaching English grammar and positive opinion was shown about the computer assisted instruction by the pupils of the experimental group and a feeling arouse in them that the computer assisted instruction packages were useful.

4. **Meera, S.** (2000) conducted a study titled "Relative Effectiveness among Different Modes of Computer-based Instruction in Relation to Students' Personality Traits." The objectives of this study are: (1) to find out whether there is any significant difference between the Conventional Lecture Method and the Computer Assisted Instruction (CAI) as an individualised Instructional strategy in terms of their effectiveness in realising the instructional objectives in Biology at Class XI; (2) to find out significant difference among the different modes of Computer-based Instruction viz. Tutorial, Drill & Practice and Simulation in realising the instructional objectiveness in Biology at Class XI; (3) to find out whether there is any significant difference among the different modes of Computer-based Instruction (CBI), viz. Tutorial, Drill and Practice and Simulation in terms of their effectiveness in enhancing the retention of cognition as revealed by the learners' performance in the retention test; (4) to develop syllabus based CAI package; (5) to assess the personality of the subjects of the control and experimental groups using Cattell's 16 P.F Inventory with a view to study whether it has any influence on the media effectiveness

in realising the instructional objectives. Quasi-experimental method as well as qualitative and quantitative approach was adopted for the study. The sample was taken four groups of each having 35 students selected through probability sampling method. Cluster sampling technique was adopted in the study. The tools were used in the study such as Cattell's 16 P.F inventory for students, CRT developed by Raymond B and Achievement test. The following are the findings (1) Different modes of Computer based Instruction, viz. Drill, Practice and Simulation were more effective than conventional lecture method in realising the instructional objectives in Biology at Class XI. (2) Effectiveness of the conventional lecture method and the different modes of the Computer-based Instruction, viz. Tutorial, Drill and Practice and Simulation were not influenced by the learner's personality. (3) There was significant difference among the different modes of CBI (Computer-based Instruction), viz. Tutorial, Drill and Practice and Simulation in terms of their effectiveness in enhancing the retention of cognition as revealed by the learner's performance in the retention test. There was significant difference among the different modes of Computer-based Instruction in enhancing retention of what have already learnt.

5. **Thillaka, S. and Pramilla**, **K. S.** (2000) conducted a study titled "Use of Computer Multimedia Programme in Learning Trigonometry among High School Students." The objective of this study is to find out the influence of computer-based multimedia programme on achievement in Maths among high school students; to find out the difference in achievement in Maths between high achievers and low achievers from both relative retention of learning in Mathematics. Here the

experimental method and quantitative method was adopted for the study. A sample of 62 students studying in Class IX, Madras were selected for the study. The probability sampling method chosen for the study. Attitude Scale used for data collection. There is no influence of computer-based multimedia programme on the achievement in Mathematics among high school students. There is no significant change in their attitude towards mathematics after learning Trigonometry through computer-based Multimedia and text-based self-study material. There is no significant difference in achievement of Mathematics between high achievers and low achievers for both experimental and control groups. There is no significant difference in the retention of learning in Mathematics between the experimental group and control group.

6. **Muthaiah, N.** (2001) conducted a study titled "Enhancing the Pronunciation of Words with Pure Vowel Sounds among the Pre-service Teacher Education Students – An Action Research." The objectives of this study are: (1) to enable the students to understand and learn the vowel sounds;(2) to enable the students to have a correct and good exposure to spoken English; (3) to enable the students to pronounce the vowel sounds by facilitating them with the perfect role model; (4) to make the peer group pronounce the sounds correctly. Experimental method and fifty students from the pre-service teacher education course were selected through purposive sampling techniques as sample for the study. Tools were used such as charts having the worlds' and their respective transcription are used to administer the pre-test and post-test and for the oral practice. (2) Pre-

recorded cassettes are used as perfect model for the students to do practice. The students have learned, from cassettes, the correct pronunciation of the words. (3) The researcher, both in the pre-test and post-test, used a three point rating scale. The students' performance was evaluated based on the three point rating scale. The sounds are not found in the student's mother tongue, i.e. Tamil. Adequate and proper exposure is not given to the students. Perfect model is not available for the students. The peer group's mispronunciation influences the students.

7. **Singaravelu, G.** (2001) conducted a study titled "A Study of the Problems of Students of Higher Secondary Classes in Learning English as a Second Language in Thiruvarur District." The objectives of this study are to find out the: (1) to identify and analyse the general problems of the students of higher secondary course in learning English as a second language in Thiruvarur district; (2) to study the availability of general facilities and curriculum experiences provided by the teachers for learning English language; (3) to study the problems faced by the students in writing essays, usage of phrases and idioms, understanding stress shift, using conjunctions and sentence pattern; (4) to study whether there is any difference in the problems faced by the students in pronunciation, learning grammar of sentence pattern, habit of hearing news, rectifying the errors of exercises, memorisation without understanding, remedial teaching on the bases of different variables such as sex, locality and type of management; (5) to study whether there is any significant relationship between the opinion of the teachers on the problems faced by the students in

pronunciation, understanding grammar, using punctuation marks, mother tongue interference, guidance of parents and different variables such as sex, experience, locality and type of management. Descriptive normative survey approach was adopted for the study, which mainly focused on qualitative research. The Probability sample method was taken through which 285 boys and 285 girls were selected from higher secondary schools in Thiruvarur district. Stratified random sampling technique was adopted for comprehensive study. Major tools used in the study were Achievement test for the students; Questionnaire for the students; and Problem inventory for the teachers. The collected data were analysed qualitatively and quantitatively using basis statistics, 't' test and chi-square. The findings are (1) Students of higher secondary in Thiruvarur district had some specific problems in learning English as a second Language. (2) Students faced the problems in writing essays, phrases and idioms, using conjunctions and sentence pattern. (3) There was significant relationship between the problems faced by the students in pronunciation, learning grammar, knowledge of sentence pattern, habit of hearing news, rectification of homework, memorisation without understanding, remedial teaching and different variables regarding sex, locality and type of management. (4) There was significant relationship between the opinion of the teachers on the problems faced by the student, in understanding grammar, using punctuation marks, mother tongue interference, guidance of parents and different variables such as sex, locality, experience and type of management.

8. **Chandrakanthi, S.** (2003) conducted a study titled "Socio-pedagogical Factors Affecting Language Skills among Engineering College Students – a Study." The objectives of this study are to find out: (1) to find the relationship among language skills, language aptitude and verbal intelligence of the selected engineering college students; (2) to find the influence of socio-economic factors of family, influence of college environment and influence of personality traits in language skills of engineering college students; (3) to study the influence of pedagogical factors such as study habits locus control, learning approaches, learning styles, and learners' effectiveness on language skills of the students. Descriptive survey method and Quantitative approach was employed for the study. A sample of 135 Engineering College students from Coimbatore District was taken, using of probability sampling method for the study. The tools were used for the study as CALSAP (Computer Assisted Language Skills Assessment Package), Language Aptitude Test (Spelling) DAT, Language Aptitude Test (Error) DAT, Group Test of Intelligence in English (verbal) – Dr. Mrs. Ahuja, Socio-economic status scale-(Bhardraj Gupta), Family Environment scale (Bhatia and Chadha), College Environment scale (Arokiadoss), Study Habits Inventory (Patel), Learning Style Questionnaire (Grasha and Reichman), Learner's Effectiveness Questionnaire (Arokiadoss), Personality Traits Scale (Cattell), Locus of Control Questionnaire (Crandall). ANOVA was used as a statistical technique for the study. The finding (1) Socioeconomic status, family environment and personality traits were identified as significant factors affecting the language skills

among the selected engineering students. (2) The influence of pedagogical factors such as study habits, locus control, learning approaches, learning styles and learners' effectiveness significantly influenced the language skills of the students.

9. Malliga, T. (2003) conducted a study titled "Relative Effectiveness among Different Strategies of Computer Mediated Multimedia Presentation in Teaching and Learning of Chemistry at Higher Secondary Stage." The objectives of this study are: (1) To study relative effectiveness among PBL (Peer-based Learning), ILMMP (Individualised Learning supported by Multi Media Presentation), IILMMP (Interactive Individualised Learning supported by Multi Media Presentation) in terms of development of cognitive skills at different levels of knowledge, understanding and application among the students of Class IX as measured by post-test and retention test; (2) to study whether there is any significant difference among the instructional strategies, viz. PBL, ILMMP and IILMMP with regard to computer attitude and scientific attitude. In this study, Quasi experimental method was adopted. Qualitative and quantitative approaches were adopted for the study. A sample of 108 girl students from Vellalar Matriculation and Higher Secondary School, Erode district in Tamil Nadu was taken, using probability sampling technique for the study. The Tools used for the study were an achievement test (Self-made tool), Criterion Referenced Test, Scientific Attitude Test (Bhasksra Rao and Marlow Ediger), and Computer Attitude Scale (Niel Selwyn) used in the study. The 't' test and ANOVA were used for data analysis in the study. The findings

are: (1) it is concluded that Interactive Individualising Learning supported by Multi Media Presentation (IILMMP) was found to be the most effective strategy among all the three different instructional strategies, viz. PBL, ILMMP and IILMMP in term of cognitive skills such as knowledge, understanding and application in realising the instructional objectives in Chemistry at Class IX. (2) PBL was found to be coming between IILMP and ILMMP in enhancing the retention of what have already been learnt. (3) It was inferred that irrespective of the difficulty level of the content, IILMMP was to be most effective one while ILMMP was the least effective one. (4) It was found that while the subjects of all the three experimental groups were identical in terms of their scientific attitude, the same was found to be non-identical in terms of their computer attitude. (5) The results of the study indicated that the enhancement of learning Chemistry was only due to the media effectiveness. Computer Mediated Multi Media Based Instruction can be introduced in education at all level for the successful realisation of instructional objectives.

10. **Rao, C.** (2004) conducted a study titled "An Analysis of Creative Writing Skills in English among College Students and Development of Creativity Mobilisation Technology." The objective of this study is to find out: (1) to assess and analyse the creative writing skills of college students in English; (2) to find creative mobilisation technology for creative writing skills in English. Descriptive survey method has been adopted in the study. Qualitative and quantitative approaches were adopted for this study. A sample of 1440 students was selected through the probability sampling technique. The data

collected through Language Creative, Essay Paragraph Analysis Scale, Kuppusam's Socio-economic Status Scale, Creative Mobilisation tech Questionnaire, Check-list to College Teacher, and Observation to Students. The findings are that (1) Urban students had higher creative writing skill. (2) Aided students had less creative writing skills. It suggested that students tend to make better progress in the conditions highlighted in the cross case analysis.

11. **Raja, Soundara P.** (2005) conducted a study titled "Development of Communicative Strategy and its Effectiveness in Learning Communicative Skills in English at the Collegiate Level." The objectives of this study are: (1) to find out significant difference between the pre-test and post-test mean score in Communicative Skills in English; (2) to find out significance difference between pre-test and post-test in science students of control group. Total sample size 100, using probability sampling techniques in the present study. The data were collected through achievement test. It showed the effectiveness of using conversation texts to teach English Communication skills to the students at college level, using video programmes. Role play was effective to improve communicative study. The orientation aims at teaching different language function in spoken and written English. Orientation course is necessary for the teachers. It can be made to assess the attitude of teacher at collegiate level.

12. **Rastogi, Satish** (2005), conducted a research titled "Empowering School Teachers with Educational Technology by Distance Learning". The objective of the research is to find out the Capacity building

through staff development for using educational technology among school teachers of Lebanon has been an urgent need for a quality classroom in Lebanon. Teachers working in schools are simply graduates having no degree in teacher training. enhancing the level of knowledge regarding educational technology and its applications among school teachers, developing classroom communication skills by using technology in the classroom for generating an environment for easy flow of information from teacher to learner and among the learners, generating a favourable positive attitude among school teachers towards application of various technologies, techniques of teaching, classroom management skills, and new strategies of evaluating the learning outcome among the students, increasing the quality of classroom interaction by making an effective classroom communication for facilitating the learner to receive the information easily in his mind and retain the same for a longer period, as well as use the same in his life time, making them equipped with modern innovative ideas being useful for them as a support in dealing with learners, helping them for implementing the norms of quality control and total quality management during classroom communication in the schools of Lebanon. Both versions will be sent together in same booklet for all lessons. However, the audio and video CDs will be in Arabic language only. For this purpose, the script written in English will be translated in Arabic by the Project team. At the end of this contact programme, they will be given achievement test, attitude test, opinion scale followed by open discussion, in order to examine the effect of this orientation programme.

13.Subbaiah, S. (2005) conducted a study titled "Application of ICT in English Language Teacher Education." The objectives of this study are: (1) to investigate the application of information and communication technology in teacher education with reference to certain selected variables; (2) to identify the information and communication technology needs, knowledge and skills among the teacher educators; (3) to develop a user-friendly prototype multimedia course wear package as a communication technology in teacher education (i.e. learning to learn with information technology) and produce it in a CD-ROM. Pupils taught through the interactive multimedia programme in English will have high or mean achievement than that of pupils taught through conventional method of teaching. The study is an appropriate blend of positivist descriptive method with normative survey technique and experimental method of study. The sample was taken 29 District Institutes of Education and Training from Tamilnadu, 71 English teacher, educators and 200 teacher trainees, using of probability sampling method for the study. The tools were: (1) Questionnaire, (2) Attitude scale, (3) Interviews, (4) Diary analysis used for data collection. From the findings it is clear that (1) Sixty-six per cent of teacher educators do not know the basic principles of computer. (2) It is unfortunate that the ICT practices have not seen the widespread application for teacher education. (3) Attitude of teacher educators towards ICT is quite positive. (4) It reveals that the focus of computer equipment problem had both quantity problem (not enough computers) as well as quality problem.

14. **Gupta, K.R.** (2006) conducted a study titled "Effect of Experience Writing Coupled with Corrective Feedback on Syntax Usage among Children with Deficiency in Syntax." The objective of this study is to find out the usefulness of experience-writing strategies to ameliorate problems related to syntax. The study used a design of experimental and control group, both group comparison with per-test and post-test of the study. The Sample chosen was 54, who had seventh standard children from two schools from Chandigarh followed through random sampling techniques. The tools used were developmental sentence scoring (Lee, 1974), a list of ten topics generated for write ups after knowing students experience of various situations and a series of ten pictures of situations used for the study. The statistical techniques used for computed data, using mean, SD, 't' test, correlation and ANOVA to find out the result. The findings are that, the strategies improve syntax knowledge among children of seventh standard. The successful interventions always included frequent feedback to the students on the quality of their overall writing, strength and missing elements. The language experience approach is effective for reading and writing.

15. **Meenu** (2006) conducted a study titled "Utilisation and Effectiveness of Educational Television Programmes at Primary School Level." The objectives of this study are to find out: (1) to conduct a survey of the facilities for utilisation of ETV programmes in Delhi at primary school level; (2) to study the effect of ETV programmes on primary school children – Classes III and V in terms of their achievement in ETV lessons (EVS and Mathematics) and reaction towards ETV

programmes; (3) to study the effect of intervention programmes. Post-telecast discussion to be conducted by teachers along with ETV programmes in primary school children in terms of their achievement of ETV lessons (EVS and Mathematics) and reaction to the ETV programmes ; (4) to study the attitude of class-teachers towards the quality of ETV programmes; (5) to make recommendations to administrations and producers on different aspects of ETV programmes. The study approaches were employed on quasi-experimental research design, Pre-posttest control design used for the experiment which was conducted in schools without disturbing the school schedule. The purposive sample techniques selected and total number of sample was 40.The study was conducted in two phases – first comprised the status study of utilization of ETV facilities in primary schools; second aimed at investigation into effectiveness of the ETV programmes broadcasted by Doordrashan. The tools used like Questionnaire for Headmasters and Teachers, Achievement test for Class III in EVS and Mathematics, Achievement Tests for Class V in EVS and Mathematics, Teacher Attitude towards Educational Television (ETV) Programmes – A rating scale, learner reactions towards ETV programmes – An Interview Schedule. Analysis of data has been done by using ANOVA. The findings are that the ETV lessons in Mathematics and EVS (SC and SS) taught to students of both Class III and V significantly improved their learning achievement as compared to their counterparts taught through traditional method. The experiment also showed that ETV lessons developed more favourable teacher attitude and learner reactions

towards ETV programmes. The improvement in learning achievement has played an important role in developing positive social scale values and cooperation among students.

3.4 RESEARCHES DONE ABROAD

16. **Roucek, Joseph S., Ed.** (1969) conducted a research titled "The Slow Learner." This study papers on the slow learner, treats physical defects and learning abilities, social and economic background as an obstacle to learning, the causes of dropouts and lapses in study, and the limitations and potential of the ungifted. The contribution interest in the slow learner has made to education is discussed; also discussed are problems of the socially unmotivated, the slow gifted, the racially deprived, and the black. Further papers consider the slow learner and school counseling, Head Start and other preschool enrichment programmes, English, Social Studies, Science teaching, Mathematics, programmed instruction, reading, and spelling.

17. **Orvis, Pat** (1972) conducted a research titled "Slow Learners." The researcher in his study designed to instill confidence in students who have never before been given responsibility, individuals, formerly left to exist in a mental limbo, are taught that they can function as productive teachers.

18. **Shuell, Thomas J.** (1972) conducted a research titled "Individual Differences in Learning and Retention Final Report." In this investigation of potential sources of individual differences in free-recall learning and retention by children, learning ability is defined in

terms of performance on a free-recall test with the upper and lower thirds of the distribution typically being defined as fast and slow learners. Variables concerned with short-term memory, presentation rate, study time, distribution of practice, transfer of conceptual schemes, and instructions regarding potential sources of organization in the materials to be learned were investigated. Learning ability was found to be unrelated to short-term memory, although fast learner had a higher probability of recalling a word on the trial immediately following the trial on which it was first recalled, and they recalled more of the words in the pool to be learned than did slow learners; these findings were suggested to be reflections of individual differences in encoding processes. The use of the same or a somewhat different conceptual scheme in the learning of two successive lists appeared to have differential transfer effects for fast and slow learners. Also, pointing out potentially useful bases of organization in the material to be learned seemed to have differential transfer effects for fast and slow learners

19. **Charles, R. Duke** (1978), conducted a research titled "Why Our Efforts with Remedial Writers Fail." The objective of this research is that the remedial writers tend to be students who have never written very much, who come from families or neighbourhoods in which more than one language may be spoken, and who have sensed their problems but have been unable or unwilling to do much to alleviate the difficulties. Unfortunately, the environment and attitudes of many college remedial programs often represent only one more cage for many of these students. Because little stature is given to individuals

who work in remedial programmes, may tend to be staffed by unqualified personnel. This situation can lead to serious attitude problems that inhibit students' progress. Structure is another major cause of the failure of remedial writing programs: they lack flexibility, clearly defined goals, and materials that are matched with the remedial writing when they leave a basic writing program. The supportive atmosphere of such a program may lull them into thinking they will receive special treatment everywhere. They also tend to have poor reading skills, and the process of catching up is slow and painful for them. Some suggestions for improving basic writing courses include developing better teacher training, educating the public about the need for staff and materials, working with publishers to get better materials, and continuing to investigate better ways to teach remedial writing students.

20. **Painchaud-LeBlanc, Gisele** (1979) conducted a research titled "Quelques caracteristiques du comportement linguistique des apprenants lents (Some Characteristics of the Linguistic Behavior of Slow Learners)." Here the researcher in order to attempt to identify the linguistic difficulties of slow learners, errors made by two groups of English-speaking adults learning French as a second language were compared. The subjects of the two groups shared similar characteristics, with the exception of the amount of time required to cover the same linguistic material (Group 1: 17 weeks; Group 2: 30 weeks). To elicit oral utterances three techniques were used: (1) free expression; (2) translation; and (3) the oral part of an achievement test. Results showed that the number of errors made by slow learners

increased in proportion to the degree of constraint imposed by the task, that the difference between the two groups is highly significant for the total number of verb errors, and that slow learners are much more likely than others to commit some kinds of errors. The data from the two groups are compared and interpreted from three aspects: the role of the native language, use of rules, and overgeneralization. Learner strategies are hypothesized and a few tentative suggestions are made for teaching.

21. **Holmes, Glyn and Kidd, Marilyn E.** (1980) in his study, "Computer Assisted Learning: Design and Implementation." Issues related to design and implementations of Computer Assisted Learning (CAL) programmes on the university level are discussed. First three points are noted that affect the way materials are conceived: the type of user and the way of giving choices regarding exercises, the fact that the computer is primarily a medium adapted to the written word and the adaptability of the equipment to be used. Secondly, vital ingredients in the design of a CAL lesson are presented: the questions to be answered, the format that is most adaptable to the point in question, the desirability of contextulisation, user-aid features to be included and provision for error analysis and feedback. A third section deals with examples of CAL materials created at the University of Western Ontario. These range from a translation – based drill and practice review of vocabulary to a contextualised drill. Both of these were designed for teletype terminals. A second example of computer aided learning lessons is one on numbers and dates that was designed for

use with colour microcomputers. The final section of the paper deals with the place such as a system should be given in the curriculum, that is, whether it should be responsible for instruction in certain aspects of the course or whether it should have a solely adjunctive role. Finally, human factors such as faculty attitudes and the part they play are discussed.

22. **Fitzpatrick, Karen** (1980) conducted a research titled Teaching Reading to Slow Learners: A New Perspective." The researcher discusses the characteristics of slow learners, learning for mastery, commercially prepared materials for use with slow learners, grouping practices, and parental involvement.

23. **Gefen, Raphael** (1981) conducted a research titled "Teaching English to Less-Able Learners." The researcher discusses the "less-able" student via a description of the strategies used by the good language learner. Such strategies include a positive, active, and tolerant approach to learning the language, with a willingness to practice the language. The less-able needs a constant sense of achievement to continue.

24. **Borghouts-van Erp, J. W. M.** (1982) conducted a research titled "Illustration of a Learning Procedure." The paper describes evolution of an approach to teaching mathematically disabled and slow learning students through a Piagetian framework. It is explained that a step-by-step procedure is used to internalize material actions into mental actions via perception and verbalization. Formulae are introduced early, and emphasis is placed on promoting generalization. The issue of the choice of the material actions most suited for the subject to be

taught is discussed, and the balance concept is favored over the traditional part-whole relationship. A final comment on the principle of mathematical variability illustrates the need to help students examine relations from various points of view.

25. **Jenkins, Joseph R and Jenkins, Linda M.** (1982) conducted a research titled "Peer and Cross-Age Tutoring." The study is designed for use by teacher educators, and this module provides a framework for examining current practice in training preservice teachers to deal with slow learners in the regular classroom. The focus is on establishing peer and cross-age tutoring programmes. A rationale for tutoring is given by describing the relation between academic engaged time and achievement. The major differences between tutoring and group instruction and the effects of tutoring on achievement are discussed as well as the cost effectiveness of tutoring. The following components of an effective tutoring programme are discussed: (1) structured lesson format; (2) instructional content; (3) mastery learning; (4) measurement of performance; (5) tutor training; (6) frequency and duration of tutoring; and (7) supervision of tutoring. The benefits of tutoring for the tutoring are explained. A rating scale is included by which a teacher educator can assess the degree to which the knowledge and practices identified in the module are prevalent in the existing teacher training program.

26. **Garrahy, Dennis J.** (1982) conducted a research titled "Technology Theme." In this study one of a series of social studies units designed to develop the reading and writing skills of low achievers. This student activity book focuses on the theme of technology. The unit

can be used for high school classes, individual study in alternative and continuing high schools, and adult education classes. Material is divided into four sections. Section one contains a reading which describes the Industrial Revolution and the growth of modern technology. Section 2 describes the age of the steam engine. Sections 3 and 4 examine the effects of industrialization on society and on the modern world. Each section contains a reading which stresses vocabulary development and aural discrimination. Appendices contain a variety of reading and writing exercises, including a story about a job interview, and stories about the Industrial Revolution and the assembly line.

27. **Tuckman, Bruce W.** (1982) conducted a research titled "How to Successfully Teach Slow Learners: 8 Empirically-Validated Effective Nostrums of Teaching (EVENTs)." In this study the researcher in an attempt to identify effective instructional approaches, the teachers were videotaped while teaching remedial mathematics. Teacher behaviours were coded and student achievement scores analysed. Eight categories were found which distinguished between effective and ineffective teachers, including: instruction for the whole class simultaneously rather than individualised or small group work; review of seatwork with immediate feedback; use of questions rather than statements; use of questions that require students to perform rather than explain; neutral responses rather than praising or critical ones to student answers; monitoring to provide continuous feedback; and use of the majority of class time for instruction. Teachers from another

group who were taught to incorporate these guidelines were found to have students with greater Mathematics achievement.

28. **Anshel, Mark H.** (1983) conducted a research titled "The Use of Cognitive Strategies to Enhance Motor Skill Acquisition and Retention in the Elderly." In this study, it has been hypothesized that the use of techniques to enhance motor skill acquisition and retention in the elderly may retard the onset of retirement, result in the continuation of a productive professional career, allow continued participation in recreational activities, and possibly slow the decline in physiological functions that normally accompanies aging. Recently there has been extensive research on mental operations and the ways in which a person can use certain cognitive strategies to enhance learning and performing of skilled movements. This paper: (1) examines the efficacy of using cognitive strategies as a method to enhance motor skill learning; (2) analyses some of the differences between older and younger learners in their ability to learn and perform movement skills to better understand how aging affects motor skill acquisition and performance processes; and (3) suggests ways in which the elderly can learn and perform skills more effectively through the use of cognitive strategies.

29. **Ryba, Kenneth A. and Chapman, James W.** (1983) conducted a research titled "Toward Improving Learning Strategies and Personal Adjustment with Computers." The researcher here discusses improvement in self-concept, self-management of behaviour and learning, and reduction of emotional dependence for slow learners which resulted from feelings of personal control and effectiveness

when using computer-assisted instruction. Guidelines for improving instructional software and current research investigating

30. **Shuell, Thomas J.** (1983) conducted a research titled "The Effect of Instructions to Organise for Good and Poor Learners." Here two studies investigated whether instructing students to organise recall would differentially facilitate performance of "fast" and "slow learners" (defined from pretest recall performance). Instructions to employ alphabetic organization facilitated performance of both groups to the same extent, whereas categorical organisation facilitated slow learners but decreased performance of fact learners.

31. **Cross, K. Patricia** (1984) conducted a research titled "Societal Imperatives: Needs for an Educated Decomcracy." The objective of this study is that one of the perennial problems with universal education is the diversity in achievement it brings to the average classroom. Educational structures are needed that not only accept individual differences but also offer explicit recognition of their value to a democratic society. Young people growing up in the information society are going to have to know how to locate information when they need it, and how to analyse, synthesise, interpret, and apply information as it relates to their individual interests and potentials. The long-term improvement of education must be achieved by slow, complex actions built up through community support and strong leadership at the local level. Lifelong learning must be the goal for all educational systems. With this imperative, the rise of community colleges is significant. The challenge to community colleges is to prepare students for their future as lifelong learners and to instill

positive attitudes toward learning. Such colleges can demonstrate to students that they are capable of learning and that learning is a useful, satisfying skill that will serve them well throughout their lives. Community colleges can provide the cognitive skills that serve as the basic tools for lifelong learning.

32. **McVitty, Walter, Ed.** (1984) conducted a research titled "Children and Learning: Some Aspects and Issues." Here a collection of articles showing the role played by the Australian Primary English Teaching Association in contributing to the quality of educational thought, this publication is intended to stimulate and challenge discussion on a wide range of educational ideas and issues. The first part deals with half-truths about learning, learning in school, assumptions and theory underlying educational practice, the role of the arts in child development, and the education of the intellectually handicapped child. The second part covers beginning literacy learning; teacher assistance for children who are learning how to spell; infants' (children's) reading books; the teaching of punctuation, spelling, and grammar skills as part of the writing process; help in teaching the writing process; and the procedures of learning. The third part focuses on the following topics: children learning through the media, learning through databases, and learning from television.

33. **Rosenbaum, Nina J.** (1984) conducted a research titled "Problems with Current Research in Writing Using the Microcomputer." The objective of this study is to find out the limited ability students, reluctant to revise and edit written compositions, frequently produce final drafts that are below the minimum standards set by high school

English departments. The use of the microcomputer and word processing may provide a means by which students can revise and improve their finished products. Programmes are continuously being developed to add to the traditional word processing format in an attempt to help writers improve the readability of their texts. Additional benefits to using the computer include (1) multiple copies of a draft can easily be printed for use in peer editing groups, (2) final drafts can be displayed without the stigma of poor handwriting, (3) the absence of handwriting encourages large revisions, and (4) revisions can be more easily done in stages, leaving writers free to concentrate on different aspects of revising at different times. Although a number of arguments can be made against computer usage with reluctant writers, the fact remains that teachers in remedial writing courses have been unable to help their students through the use of traditional textbooks. Perhaps through the study of the effects of computers and text writers, the revising strategies of reluctant writers can be improved, even though the level of revision may only include mechanical skills, lexical and structural aspects of a text.

34. **Rothlisberg, Barbara A. and Liljestrom, Marilyn E.** (1984) conducted a research titled "Recognising the Learning Disabled Child: Which Behaviours Do Teachers Use?" In this survey, approximately 30 teachers chose from a list of 56 behaviour descriptors those they thought characterised either the learning disabled or slow-learner / low-achiever populations. Results indicated that, as a group, teachers did not distinguish between learning disabled and other under-achievers on the listed behavioral descriptors, except on the

characteristics of low intelligence. Eighty-three percent of the teachers characterized low achievers as having low intelligence, while 24% thought learning disabled students could be described in this fashion.

35. **Liedtke, Werner** (1985) conducted a research titled "Diagnosis and Remediation: The Four Operations." The paper describes teacher-made diagnostic tasks and settings for addition, subtraction, multiplication and division. Remediation techniques and strategies for common error patterns and misunderstandings are discussed for each of the major parts of the suggested diagnostic checklists. It further investigates a means for special education teachers dealing with slow learners or learning disabled students.

36. **Lundgren, Carol A.** (1985) conducted a research titled "A Comparison of the Effects of Programmed Instruction and Computer-Assisted Instruction on Achievement in English Grammar." Here the effects of programmed-test instruction and computer-assisted instruction on achievement in 11 areas of English grammar. In contrast to the findings of previous research on the subject, significant differences in achievement were found favoring the programmed-text method over the computer-assisted method.

37. **Cherkes-Julkowski, Miriam and Others** (1986) conducted a research titled "Differences in Cognitive Processes among Handicapped and Average Children: A Group Learning Approach." This study investigates the ability of learning disabled, slow learning, and average children (N=39) to adapt learning strategies to different stimulus demands in small group learning situations. Findings demonstrated distinctly different patterns of strategy usage in each

diagnostic category; all three groups were able to differentiate among stimulus demands.

38. **Clark, Margaret M.** (1986) conducted a research titled "Educational Technology and Children with Moderate Learning Difficulties." The article identifies characteristics of children with moderate learning difficulties, relates these characteristics to features of educational technology, and lists strengths and weaknesses of computer assisted learning. The need for educational technology to compliment good teaching and not merely computerize outdated practices is stressed.

39. **Jones, Edward V.** (1986) conducted a research titled "Teaching Reading Through Language Techniques." In this study the researchers is of the opinion that because reading is first and foremost a language comprehension process focusing on the visual form of spoken language, such teaching strategies as language experience and assisted reading have much to offer beginning readers. These techniques have been slow to become accepted by many adult literacy instructors; however, the two strategies, particularly when used in combination, have more to offer to adult illiterates than to children who are learning to read. In essence, the language experience approach is based on a "dictate and read" strategy in which learners dictate or record brief statements pertaining to incidents of significance to their own life. These statements are then typed as soon as possible for the student to use as reading material. Text may be transcribed as it was dictated or may be scrambled. Assisted reading, which is a process of learning by immersion, is particularly effective when used in conjunction with the language experience approach. In the first of the three stages of

assisted reading, the learner observes while an assistant moves a finger from word to word across the page while pronouncing them. In the second stage, the reader recognises and vocalises some of the words before the experienced reader supplies them. By the third stage, the beginning reader takes the initiative by pronouncing all the words he or she can while the assistant supplies the remaining words. Underlying both techniques is the assumption that reading is learned to a much greater extent than it is taught.

40. **Short, Elizabeth J. and Others** (1986) conducted a research titled "Longitudinal Stability of LD Subtypes Based on Age- and IQ-Achievement Discrepancies." In this study, normal (N=58) and learning disabled (N=52) primary grade children were classified into five groups (overachievers, target achievers, under achievers, slow learners, and disabled achievers) based on IQ-achievement and age-achievement discrepancies and followed over a 3-year period. Learning disabled students became more disabled with age in spite of remedial services.

41. **Sinatra, Richard and Venezia, Jennie F.** (1986) conducted a research titled "A Visual Approach to Improved Literacy Skills for Special Education Adolescents: An Exploratory Study." In this study "Academically disabled" adolescents (N=70) participated in a visual literacy approach to reading and writing development. The subgroup of learning disabled students significantly improved in reading comprehension and narrative and descriptive writing, while "borderline" students (intelligence quotient 70-89) improved in reading comprehension.

42.**Sturgess, Pamela A.** (1986) conducted a research titled "Visual and Performing Arts and Exceptional Students: A Study of Exemplary Programmes." The study examined exemplary programmes in Ontario in the visual and performing arts (arts, crafts, music, movement, drama) for exceptional students at every age level and among every category of exceptionality. Interviews, observations, and questionnaires were used to gather data from 204 teachers. Selected findings include the following: Teachers of slow learners favoured action-oriented dramatic arts and music programmes, as well as visual arts with tactile emphases, while teachers of gifted students designed programmes that offered highly integrated approaches to the arts. As a whole, teachers exerted significant efforts to individualise instruction. Teachers rarely had arts qualifications, and those who did acquired them subsequent to their basic training. Among recommendations are that special education teachers be trained (or retrained) to appreciate the advantages of programs which stress arts integration; that all preservice special education teacher training courses include arts training; and that arts personnel offer teacher workshops on request. Appendices include the questionnaire and lists of participating teachers, arts associations/organisations, and arts resource personnel. An extensive bibliography comprises nearly half the document. Relevant publications are listed by category (arts, visual arts, drama, music, crafts, and dance, movement and puppetry). Records, films, videotapes, and slide presentations are included.

43.**Raffini, James P.** (1986) conducted a research titled "Student Apathy: A Motivational Dilemma." The researcher in this study

observes that the norm-referenced competitive environment of schools is difficult for the below-average student. These students could achieve at higher levels if our educational system changed to one in which an individual is evaluated against identifiable standards of excellence. Below-average students would be motivated to increase their efforts and less likely to be apathetic.

44. **Younie, William J.** (1986) conducted a research titled "Instructional Approaches to Slow Learning: Practical Suggestions for Teaching Series." The study is designed for teachers; the text distinguishes types of slow learners and suggests practical approaches for their educational problems. Slow learning and its types are defined; the slow learner is characterized; stages of educational evaluation and aspects of administration are outlined. Curriculum considerations for different levels are described, and subject matter adaptations are considered for nine major subject areas. The use of audiovisual materials and other educational innovations is explained. Two appendixes annotate suggested teaching materials and a basic reference library for teachers.

45. **Graham, Dr. Tony and Cline, Dr, Paul C.** (1987) conducted a research titled "Slow Learners in the Social Studies Class." In this study the researcher identifies the characteristics of a slow learner and gives a basic philosophy and techniques for teaching the slow learners in social studies. Includes a list of 11 tips for teaching slow learners and offers a lesson format designed for their instruction.

46. **Graham, Steve and Stoddard, Barbara** (1987) conducted a research titled "Teaching Spelling to the Learning Disabled: Implications from Research." This study reviews research on teaching spelling to the learning disabled and presents instructional recommendations. Examines research on reduced unit size and distributed practice, imitation plus modelling peer tutoring strategy training, self-monitoring generalization training, and microcomputer-based remediation.

47. **Holcomb, William R and Others** (1987) conducted a research titled "WISC-R Types of Learning Disabilities: A Profile Analysis with Cross-Validation." In this study profiles (Wechsler Intelligence Scale for Children - Revised) of 119 children in five learning disability programmes were placed in six homogeneous groups using cluster analysis. One group showed superior intelligence quotient (IQ) with motor coordination deficits and severe emotional problems, while three groups represented children with low IQs consistent with their below average school performance.

48. **Liedtke, W.** (1987) conducted a research titled "Mathematics Remediation: Selecting or Designing Appropriate Practice Activities and Games." In this study suggestions and ideas are offered for special education teachers making decisions about both the quality and quantity of mathematics practice activities and games for use with slow learners or learning disabled students.

49. **Shayer, Michael and Beasley, Frances** (1987) conducted a research titled "Does Instrumental Enrichment Work?" The researcher reports results of an experimental study of the impact of instrumental

enrichment (IE) on Piagetian operations and a measure of information processing. Instrumental enrichment addresses process deficits which are presumed to underlie inadequate skill development in slow learners. Concludes the positive results found on fluid intelligence indicate IE should be absorbed into general intervention theory and remedial education efforts.

50. **Robinson, Greg and Kirby, John** (1987) conducted a research titled "Remedial Instruction in Reading: Guidelines from Information Integration Theory." Here the researcher offers an alternative to current beliefs about holistic learning and teaching. Describes task hierarchies that are closely based on children's information processing skills and that proceed in a systematic fashion from lower to higher levels.

51. **Goldberg, Lorraine F.** (1988) conducted a research titled "A Program To Increase Early Elementary Teachers' Referring Behavior for All Eligible Special Education Students through Multimedia Inservice Training." This practicum project sought to increase teachers' awareness of handicapping conditions and of the role of support service personnel, and to encourage them to make more appropriate and more timely referrals of potential special education students. The project's goals were to enable teachers in two targeted elementary schools to: understand the role of the psychologist, understand the referral procedure for special education assessment, differentiate legally handicapped children from slow learners or problem children, and make appropriate referrals to the screening committee. The project used a guessing game to clarify the role of the

school psychologist, simplified charts to visually map the referral process, cartoons to indicate distinguishing referral characteristics, a videotape showing problem behaviours, and sample screening forms. Results of a subsequent screening meeting showed that the quality and quantity of referrals were increased in both schools. However, the results of specific objectives, such as numbers of teachers making referrals and teachers' knowledge of the psychologist's role and the referral process, were somewhat equivocal. Thirteen appendices containing supporting material including the teacher questionnaire conclude this document.

52. **Horton, Steven V** (1988) conducted a research titled "Teaching Geography to High School Students with Academic Deficits: Effects of a Computerized Map Tutorial." In this study a computerized map tutorial and a more traditional atlas based instructional method to teach geographic locations were compared with 15 remedial and 12 learning disabled grade nine students. The computerized map tutorial produced significantly higher performance for both groups of students and there were no significant differences between the groups.

53. **Webster, William and Dziedzic, Robert** (1988) conducted a research titled "Motivating the Low Level Student: A Team-Teaching Approach." In this study the researched discusses a method to motivate low level students in which a reading specialist attended class regularly as a "student". By questioning the teacher, comparing notes with students, and acting as a role model, the reading specialist helped these students improve their grades, their class behavior, and increase their self-esteem.

54. Westmeyer, Paul (1988) conducted a research titled "Effective Teaching in Adult and Higher Education." In this study an overview of the field of adult education is presented, and the nature of adult learners and eight basic instructional modes are discussed. The focus is skills that make people better teachers and the intended audience is college professors, continuing education instructors outside the formal education setting, and students of higher education. Of concern are the following instructional modes: lecture, discussion, tutorial, self-instruction, programmed book, materials instruction, medium instruction, laboratory, and combinations of these. Also considered is a theoretical base for adult learning, with attention to the ideas of Malcolm Knowles. The theoretical model considers: the concept of a learner, the experience of the learner, learning readiness, orientation toward learning, and motivation to learn. Also addressed are: special groups of learners (e.g., older students, students in literacy programmes, slow learners); evaluation of student achievement; reporting and crediting performance; and programme/course/instructor evaluation.

55. Adams, Charles (1989) conducted a research titled "The Teacher Journal: A Better Way to Show Your Success." In this study a teacher relates his successful experience in using a journal to record his efforts with slow learners, efforts which were not reflected in the standard methods that school administrators used to evaluate teacher performance. Highlights from the journal were submitted along with required evaluation forms.

56. **Horton, Steven V and Others** (1989) conducted a research titled "Teaching Social Studies to High School Students with Academic Handicaps in a Mainstreamed Setting: Effects of a Computerized Study Guide." The study found that a computerized study guide was more effective than note taking in increasing textbook comprehension with 18 remedial and 13 learning disabled ninth grade students in a world geography class.

57. **Penso, Rebecca Ann** (1989) conducted a research titled "No More Scribbles and Hieroglyphics: Computer Composition with Beginners and Slow Learners." In this study the researcher discusses problems with composition writing that beginning or learning disabled students may have and highlights the use of computer programs to encourage both elementary and secondary school students. The topics discussed in this study include group lessons, sign makers such as "Print Shop", and menu driven graphics and text integration programs.

58. **Veir, Carole** (1989) conducted a research titled "Maintaining a Supportive Learning Environment: Encouraging Slow and Reluctant Students. An Inservice Training Packet Based on the Texas Teacher Appraisal System (TTAS)." The objective of this study is to create a supportive environment for the slow and reluctant learner teachers must solicit student responses, provide proximity, positively reinforce answers, provide time to respond, and give corrective feedback. This document describes inservice training designed to help teachers improve their ability to maintain a supportive learning environment. Emphasis is given to encouraging slow and reluctant students, an aspect of Criterion 9 of the Texas Teacher Appraisal System (TTAS),

an instrument that establishes expectations for teacher performance by assessing a variety of performance indicators. Following a review of existing literature and research on teacher interaction with slow students, the self-fulfilling prophecy theory, and techniques proven to increase the performance of slow students, the following aspects of the inservice are discussed: (1) alternatives for solving the problem; (2) time required; (3) costs; (4) performance goals for teachers and students; (5) organizational context; (6) delivery system and techniques; (7) governance structure; and (8) inservice evaluation.

59. **Watson, Daniel L and Rangel, Lyle** (1989) conducted a research titled "Don't Forget the Slow Learner." The objective of this research is to advocates cooperative learning as an effective tool for reaching slow learners, by bridging the gaps between the learning styles of slow learners and the teaching requirements of the classroom, resulting in improved academic performance for both slow learners and high achievers.

60. **Ediger, Marlow** (1990) conducted a research titled "Reading in the Social Studies." The objective of this study is to find out whether reading social studies content presents situations in which selected pupils have not been as successful in learning as they might have been. Fast learners may find the content exceptionally easy to read, thus learning does not become the challenge it should be. Slow learners may find the content too difficult to comprehend. There are a variety of informal and formal ways for teachers to determine the reading levels of their pupils. The classroom teacher needs to think of diverse ways to help students achieve as much as their capabilities

permit. Too frequently, teachers emphasize obtaining facts in reading content in the social studies. However, students need to move to more complex levels of cognition. For each unit in social studies, an adequate supply of books should be available for pupil choice at a reading center. Early primary grade pupils can have interesting, realistic experiences through the taking of excursions with teacher leadership. Teachers should think of various approaches that can be used to help slow learners and gifted and talented learners achieve to their optimum in the area of reading in the social studies. Many mistakes have been made in teaching by having pupils develop an excessive number of written reports using encyclopedias to obtain background information.

61. **King, Fredrick** (1990) conducted a research titled "Alternatives to the Pullout Model." The objective of this research is to study the pullout model which is the model most widely used. This model involves taking students out of their regular classroom for one or more class periods to receive instruction from a Chapter 1 teacher. Problems associated with the pullout model include lack of coordination between the pullout class and the regular classroom. This leads to a fragmentation of learning and a lack of connection between the basic skills being taught in the Chapter 1 class and the material being covered in the regular class. Pullout programs tend to be more racially and socially segregated than regular classrooms and may stigmatize students as slow learners. Alternatives are: (1) the in-class model; (2) replacement and extended pullout; (3) use of the resource room and learning laboratory; (4) extended schedule; (5) computer-

assisted learning; (6) pre-kindergarten and full-day kindergarten programsme; and (7) transition room. Advantages and disadvantages associated with each alternative are pointed out. Other alternatives, including alternative instructional strategies and program strategies, are listed. Guidelines for selecting an alternative for Chapter 1 programs are offered.

62. **Seng, Seok Hoon** (1990) conducted a research titled "Feuerstein's Instrumental Enrichment: An Exploratory Study for Activating Intellectual Potential in slow learners." Many schools have established their own remedial educational programmes to help students at relatively high risk of academic failure. Traditionally such remediation programmes have been designed to remediate knowledge of specific content or teach study skills. Such courses have been generally ineffective. This study examined the teaching of thinking to academic underachievers based on one component (Organization of Dots) of the Feuerstein Instrumental Enrichment (IE) remedial techniques. Fifteen tutors in four tuition centers were trained to work with this course of study. A total of 140 pupils from different primary school levels were split into control and experimental groups, both of which were tested before and after the experimental programme of IE. The experimental group received a combination of IE and the usual conventional academic programmes provided by the schools. The control group received only the academic programmes. The programme was administered to students in attendance at the tuition centers. The study subjects, although not formally classified as learning disabled, displayed learning characteristics of slow learners

and underachievers. The Ravens Standard Progressive Matrices, as well as Feuerstein's pre-post measures were utilised. Preliminary findings seemed to suggest that cognitive skills can be transferred to new subjects if children are exposed to IE for a longer rather than a shorter period of time. For significant changes to take place, a minimum requirement of 300 hours spread out over a 2 to 3 year period for all the 14 instruments is recommended. The training of teachers is obviously very important to the success of this programme.

63. **Smith, Carl B.** (1990) conducted a research titled "Working with Slow Readers, Slow Learners." This study examines the conditions that will help teachers improve the reading comprehension of learning disabled students: (1) allow more time; (2) build a framework for comprehension; (3) intervene in the process; (4) engage the learner; (5) match student and material; and (6) expect students to succeed.

64. **Snider, Vicki E.** (1990) conducted a research titled "What We Know about Learning Styles from Research in Special Education." The objective of this study is to find out whether learning styles represent a type of aptitude-treatment interaction suggesting that a person's distinctive characteristics (aptitudes) can be matched to a specific treatment (instructional method) yielding a more effective outcome than could otherwise have been achieved. Special education research does not support categorizing youngsters or using holistic methods with slow readers.

65. **Titus, Thomas G and Others** (1990) conducted a research titled "Adolescent Learning Styles." In this study results are reported from a study of the learning styles of 306 high school students. The study

examined learning style characteristics (abstraction, concreteness, reflection, activity); comparisons between adolescent and adult learning styles; and differences between freshmen and seniors, males and females, and slow-track and fast-track learners.

66. **Bateman, Barbara** (1991) conducted a research titled "Teaching Word Recognition to Slow-Learning Children." This article examines characteristics of low-performing readers, especially their poor word recognition skills; compares approaches to teaching word recognition to slow-learning children; identifies characteristics of successful methods of teaching word recognition; and concludes that phonics-based, thoroughly systematic, direct instruction is required.

67. **Ciscell, Robert E** (1991) conducted a research titled "The Student Grouping Preferences of Preservice Teachers." This study surveys 218 education majors, concerning their preferences for specific classroom grouping configurations. It further finds out that students (1) prefer small classes and homogeneous grouping arrangements; (2) are most concerned about class size; and (3) express limited confidence in the areas of computer use and school policy formation, and in their ability to assist slow or gifted learners.

68. **Daily, Bonnie** (1991) made studies in determining the effectiveness of computer integrated multimedia learning and environment on Engineering education. From the results it was revealed that there was no positive responses and affirmed the need for instructional technology in Engineering education.

69. **Swanson, Judy** (1991) conducted a research titled "Preliminary Evaluation of Office of Academic Achievement's Programs 1990-

1991." In this study three programmes sponsored by the Seattle (Washington) public schools' Office of Academic Achievement were evaluated: the Academic Achievement Project, Early Childhood Model (ECM) Schools, and Pilot Projects. Academic Achievement projects were designed to increase the academic achievement of at-risk learners and to decrease disproportionality. The ECM is a philosophy of early childhood education organized around a set of core characteristics. There were five pilot projects: two were building-based methods for restructuring schools; one focused on oral language and multicultural history; one was a computer-aided instruction system; and another was library based and encouraged parents reading with their children. Data were collected through interviews, observations, teacher questionnaires, and score analysis. The following were the major findings: (1) change was slow and gradual; (2) ease of implementation of the pilot projects was varied; (3) some classroom attitudes began to change; (4) there were no measurable effects on achievement gains or any reduction in disproportionality; and (5) there were substantial correlations between the level of implementation and achievement gains: as the level of implementation increased, achievement gains increased.

70. **Green, Meredith and Duerden, Sarah** (1992) conducted a research titled "Collaboration, English Composition, & the Engineering Student: Construction Knowledge in the Integrated Engineering Program." To meet the needs of today's engineering students in a global technology-based environment, programs like the freshman Integrated Program in Engineering (FIPE) must produce engineers

who can work creatively in teams. Our program must also produce students who can think critically about engineering, who can construct knowledge in teams, and who can do so both through talking and through writing. To meet this goal, we present writing as a problem-solving thereby helping students to construct knowledge about issues and ethical dilemmas in engineering through writing. Hence, English composition can enhance and reinforce the construction of knowledge that is occurring in other classes the students take. If the composition teacher ties collaborative writing tasks to engineering issues and ethical dilemmas, the students will benefit in two ways: from the practice they take more senior technical writing classes and from the ability to explore issues and ethics that other classes way raise but do not have time to thoroughly develop. One example of a collaborative writing task on which students collaborate from invention to final revision is the team research paper our students write on a technological versus a social fix to a problem they choose to study. Our paper will briefly address the composition theory behind collaborative writing and then show how students can collaborate on such a paper from invention to revision.

71. **Lehman, Helane G** (1992) conducted a research titled "Graphic Organisers Benefit Slow Learners." The paper presents a method of teaching science that employs two kinds of graphic organizers of information, the matrix and the branch-out strategies. The researchers argues that these methods are particularly relevant for slower learners and provides graphic examples.

72.**Paltyshev, N. N** (1992) conducted a research titled "Learners." The researcher addresses the problems of the slow learner, the student who does not achieve at the higher levels of the class. Discusses reasons for student failures. Suggests that all students are talented, so teachers must find ways to bring out the best in each child.

73.**Smutz, Barbara L and Fabert, Barbara V.** (1992) conducted a research titled "The Teacher Assistance Team: A Laboratory School Model." In this study the researcher examines the Teacher Assistance Team (TAT) approach in providing all students with individualized, supportive instructional alternatives in the classroom. Explains how the TAT is a cost- and time-effective approach for providing teacher support in handling "slow learners" and letting teachers have ownership and responsibility in dealing with classroom problems.

74.**Boone, Randall and Higgins, Kyle** (1993) conducted a research titled "Hypermedia Basal Readers: Three Years of School-Based Research." The researchers in their three year longitudinal use a hypermedia computer-assisted instruction (CAI) to provide individualized reading instruction for approximately 300 students in grades K-3. The software provided reading lessons in a hypermedia format designed as supplementary material for a basal reader series. The low ability subjects achieved significantly higher than did control students.

75.**Clay, Marie M** (1993) conducted a research titled "An Observation Survey of Early Literacy Achievement." This is designed to help teachers monitor their students' progress in beginning literacy; this book describes some classroom observation tasks which have been

used systematically by New Zealand teachers to guide their teaching of young children in formal school programs. The book is designed for: teachers who work individually with children having temporary difficulties with learning; administrators who want teachers to give them easy-to-read accounts of individual progress; students of emerging literacy behaviors who are training themselves to be observers of learners; and researchers probing how young children learn about literacy. Chapters in the book are: (1) Observing Change in Early Literacy Behaviors; (2) Reading and Writing: Processing the Information in Print; (3) Assisting Young Children Making Slow Progress; (4) Taking Running Records of Reading Texts; (5) Other Observation Tasks; (6) Summarizing the Observation Survey Results; and (7) The Teacher and the Observations.

76. **Deborah, Shelton** (1993), conducted a research titled, "Computerized Reading Instruction for Remediating Deficiencies of Slow Learners: Our Forgotten At-Risk Elementary Students." A practicum was designed to remediate reading skill deficiencies of four slow third-grade learners by using computerized instruction. The major goals were to increase instructional reading skill area deficiencies; and to increase collaboration among resource teachers regarding strategy planning and utilization of instructional materials with slow learners. Pre-and post tests were administered and computerized reading instruction was administered over a 10-week period three times weekly for 45 minutes using the Minnesota Educational Computing Corporation's Writer word processing programme. Parents and teachers collaborated to remediate the skill deficiencies of the four

students. Books and written checklists were provided for home documentation of daily reading with parents; journal entries were kept as well as pupil logs and checklists regarding mastery of software programmes. Analysis of the data revealed that scores were increased in post reading placement tests administered orally, mastery of basal reading unit raw test scores on specific skill areas increased in eight areas on the Level 8, Unit 3 basal reading test, and by nine skill areas on the Level 8, Unit 4 test. One out of four students increased the raw score for reading comprehension by 10 points. Collaboration increased among teachers and parents, along with motivation and self-esteem among students.

77. **Nakano, Yoshiaki and Others** (1993) conducted a research titled "Using Direct Instruction to Improve Teacher Performance, Academic Achievement, and Classroom Behaviour in a Japanese Public Junior High School." In this study a two-year professional development program in a Japanese junior high school is described. School wide training institutes and individual practice sessions focused on behavioural methods of instruction according to a direct instruction model. Observed teaching behaviours changed following the program, and most teachers indicated the direct instruction model had major benefits, especially for slow learners.

78. **Blandford, Ann and others** (1994) in their study "Computers and the Development of Design Decision Making Skills." Discussions of how to teach decision-making skills to undergraduate engineering design students highlights a computer-based decision support tool, WOMBAT (Weighted Objectives Method by Arguing with the

Tutor). Changes in WOMBAT from an earlier version are described and an example of the dialogue between a user and the system is included.

79. **Herbert, Bobble M and Murdock, Jane Y** (1994) in their study, "Comparing three Computer – Aided Instruction Output Modes to Teach Vocabulary Words to Students with Learning Disabilities", discussed the three sixth-grade students with language learning disabilities performed better on learning vocabulary words when using computer – aided instruction (CAI) with speech output then CAI without speech. Two students did better using CAI with digitized speech, and one student made greater gains using CAI with synthesized speech.

80. **McLaughlin, Barry (**1994) conducted a research titled "Aptitude from an Information Processing Perspective." In this study an information-processing approach to language learning is examined; language aptitude is factored into the approach, and the role of working memory is discussed. The process of learning includes two processes that make heavy use of working memory is: automatisation and restructuring. At first, learners must make a conscious effort to remember and apply a new concept, but later can apply the same concept without conscious effort. The initial stages of learning involve the slow development of skills and the gradual elimination of errors as the learner attempts to automatise aspects of performance. With regard to restructuring, individual language learning aptitude differences are suspected to be the result largely of the joint function of the availability of knowledge about the target language and the

speed and efficiency of working memory, which affects the extent to which the individual succeeds in generalizing and altering (restructuring) the cognitive data required at various language processing stages. It is concluded that in second language learning, working memory relates to the degree to which individuals can restructure and reconfigure linguistic representations flexibly and consistently.

81. **Nolet, Victor and Tindal, Gerald** (1994) conducted a research titled "Instruction and Learning in Middle School Science Classes: Implications for Students with Disabilities." In this a study of two-dimensional framework consisting of knowledge forms and intellectual operations was used to analyze curriculum materials, teacher-mediated instruction, and student use of information on essay and traditional criterion-referenced measures in two sixth-grade general science classes. Results suggest low-achieving students may need more exposure to information to profit from teacher modeling

82. **Snell, Martha E and Drake, George P., Jr.** (1994) conducted a research titled "Replacing Cascades with Supported Education." This paper examines the basic tenets of the 1968 blueprint for change offered by Lloyd Dunn, which outlined a progressive plan to improve special education for students labeled as slow land educable mentally retarded. Current extensions of the blueprint are offered along with a rationale for including those students with extensive support needs.

83. **Sutcliffe, Jeannie** (1994) conducted a research titled "Teaching Basic Skills to Adults with Learning Difficulties." The research is intended primarily for volunteers, tutors, and staff at Great Britain's further

education colleges, adult education centers, and training schemes, provides introductory information on teaching basic skills to adults with learning difficulties. Among the topics discussed are the following: literacy / numeracy needs, characteristics, and special needs of adults with learning difficulties; self-advocacy and "people first" groups; integration versus segregation; available sources / types of basic skills provision for adults with learning difficulties; cooperation across agencies; and tutor / teacher training, support, and resources. The aspects of programme development and implementation: planning learning programmes with students; selecting learning materials; learning in action; developing communication, literacy, and numeracy activities; developing themes and projects; and evaluation, accreditation, and progression are dealt with.

84. **Wollaston, Justine** (1994) conducted a research titled "A Hands-On History Class for Learners with Poor Skills." The researcher describes an experience teaching a world history course to a class comprised of slow learners, students with attention deficit disorders, and English-as-a-Second-Language students. He further describes student difficulties, oral presentations, and supplemental materials and offers reflections on the class.

85. **Yan, Wenfan (**1994) conducted a research titled "Learning Ability and Memory Monitoring." The objective of this study is to find out the relationship between learning ability and memory-monitoring performance was studied for 289 undergraduates in a 5-stage feeling of knowing (FOK) procedure with confidence of recognition (COR)

judgments. Results show that fast and slow learners do not differ in magnitude of FOK and COR.

86. **Gentile, J. Ronald and Others** (1995) conducted a research titled "Recall after Relearning by Fast and Slow Learners." A study with 43 fourth graders and 32 fifth graders demonstrated that once they learned a poem to the same degree, fast and slow learners recalled about the same amount after 7 days, but when they relearned the poem, fast learners recalled more after 14 and 28 days.

87. **Singleton, David** (1995) conducted a research titled "Second Languages in the Primary School: The Age Factor Dimension. Second Languages in the Primary School: The Age Factor Dimension." The objective of the research is that the role of age in second language (L2) learning, particularly at the level of primary education, is reviewed and discussed. It is concluded that evidence suggests early L2 exposure increases chances of ultimately attaining a high proficiency level in that language, but that in formal educational situations any long-term advantage will be slow to manifest itself and may not do so at all unless articulation between primary and secondary programmes is properly managed. Some L2 learners may attain native-like L2 proficiency without an early start. These findings do not resolve the question of whether primary school L2 instruction is good, but do imply some questions for curriculum planners, including: what proficiency level should be required or useful to learners in the long term; what the chances are of ensuring that input at every stage of learning is appropriately focused, abundant, and enhanced; and what degree of coordination is possible between

primary-level and secondary-level language programmes? Decisions made about primary school language learning must be made with the same planning and foresight and on the basis of broadly the same preoccupations as other aspects of language in the curriculum.

88. **Ackerman, Peggy T and Others** (1996) conducted a research titled, "A Study of Adolescent Poor Readers." Forty adolescents with reading / spelling disabilities were assigned on the basis of IQ / achievement discrepancy scores to either a dyslexic or slow learner group. Significantly more females than males were in the slow learner category. Despite having lower IQs, the slow learning group had higher achievement levels, but group differences on phonological processing variables were not impressive.

89. **Benson, Karen and others** (1996) in their research "Interactive Multimedia in Introductory Accounting: a Preliminary Analysis" describes the development and piloting of an interactive multimedia package, designed for incorporation into introductory accounting education at James Cook University (Australia). The module includes four sessions, equivalent to one semester's curriculum. The materials were tested with students, faculty and practitioners to determine their effectiveness in communicating introductory accounting concepts and enhancing the learning.

90. **Kerka, Sandra** (1996) conducted a research titled "Distance Learning, the Internet, and the World Wide Web." In this study some of the newest methods of distance learning (DL) use the Internet and the World Wide Web. DL on the Internet usually takes one of the following forms: electronic mail; bulletin boards/newsgroups;

downloading of course materials or tutorials; interactive tutorials on the Web; real-time, interactive conferencing; "intranets" (internal, limited-access websites); or informatics. Advantages of delivering DL on the Internet include the following: time and place flexibility; potential to reach a global audience; no concern about compatibility of computer equipment and operating systems; quick development time; easy updating of content; and usually lower development and operating costs. Some disadvantages are limited bandwidth and slow modems that hamper delivery of sound, video, and graphics; reliance on learner initiative; information overload; access; and social isolation. Multimedia/hypermedia contexts support constructivist approaches to learning. Computer discussion also requires and facilitates learning-how-to-learn skills. Social isolation can be a drawback, but learning communities are developing in cyberspace. Online courses often feature consensus building and group projects, through which learners can develop skills in collaborating with distant colleagues and cooperating with diverse individuals--skills increasingly needed in the global workplace. To help learners make effective use of DL methods, skilled facilitation by teachers is essential.

91. **Merrett, Frank and Thorpe, Susan** (1996) conducted a research titled "How Important Is the Praise Element in the Pause, Prompt, and Praise Tutoring Procedures for Older Low-progress Readers?" The objective of this study is that it separately examines the effectiveness of each of the elements of the pause, prompt, praise technique (the elements are usually part of a three-part process). The tutoring

technique is used to help slow learners with their reading. Praise was found to be the most significant factor in improvement.

92. **Conrad, Brenda and Nordstrom, Pam** (1997) conducted a research titled, "From On-Site to Distance Education: A High Wire Act in Innovation and Leadership." The objective of this research is that in response to demands to incorporate distance delivery and technology into education to increase access and decrease costs, Mount Royal College in Alberta, Canada, has developed a multi-modal model of distance delivery to enhance learning. The model includes eight modes of distance instruction, each with its benefits and challenges to implementation. Paper-based distance education material is flexible, inexpensive to produce, and user friendly, but dependence on surface mail for distribution can be expensive and complex. Audio and videotapes are also produced and purchased by the college, while these methods also face problems related to delayed booking by students, slow surface mail, and late returns. Audio-teleconferencing represents a highly effective method of increasing interaction among learners and instructors, but may involve high long distance charges for telephone lines, while video-conferencing also increases interaction but may also be limited by high costs. Telephone teaching involves student-teacher interaction on a one-to-one personal level, with specific instructor hours devoted to telephone contact. Digital technology eliminates surface mail and increases accessibility for some students but also requires experts and student access to the technology. In implementing these innovative programmes, college leaders have had to manage daily operations, as well as understand the

impact of innovations on programmes. Leaders have also been called upon to act as pioneers, problem-solvers, consultants, cheerleaders, role models, mentors, and coaches.

93. **Delcourt, Marcia A. B and Others** (1997) conducted a research titled, "Self-Perceptions of Low- and High-Ability Adolescents in a Caribbean Context." This study investigated the self-perceptions of 95 low-ability and 100 high-ability adolescents in a rural community of Jamaica, using a specifically designed survey that incorporated Jamaican culture. The survey examined the following categories: athletic competence, behavioral conduct, social acceptance, scholastic competence, physical appearance, global self-worth, and family relations.

94. **Ediger, Marlow** (1997) conducted a research titled, "Organizing for Reading Instruction." The objective of this research is that the classroom should be organized for optimal pupil achievement. Learners should be free to view and read diverse forms and kinds of printed work in a relaxed atmosphere. An area in the classroom should be designated for large group instruction where pupils may work together as a unit. Another area in the classroom should be used to stress committee and small group endeavours. In the area for independent work, there should be a table and chairs at a place suitable for students to read library books. Students, teachers, and community members can communicate with one another through e-mail, web pages, and discussion forums. Learning stations should be supplied with concrete (objects and items), semi-concrete (illustrations, audiovisual aids, and slides/snapshots), as well as print

materials of instruction. Each station should be explained by the teacher so that students are clear what to do at anyone of these stations. Tasks should be at different levels of complexity so that fast, average, and slow readers may benefit from choices made at the learning stations. Students can be grouped by ability, interest, peer tutoring, project, or skills. A list of things that can be done during spare time includes rereading a book, watching a video on a famous author, or preparing and giving oral reports on a favorite library book. A well prepared reading teacher will develop a unit in teaching reading, including a statement of philosophy of reading instruction, a statement of clear objectives for what students are to learn, and a statement of evaluation techniques used.

95. **Kerka, Sandra** (1997) conducted a research titled, "Popular Education: Adult Education for Social Change." The objective of this research is that popular education is a form of adult education that encourages learners to examine their lives critically and take action to change social conditions. Popular education's goal is to develop people's capacity for social change. Although it may assume diverse forms, popular education usually involves a cycle described as action/reflection/action or practice/theory/practice. Adult educators can facilitate the process by serving as democratic collaborators who ensure that learning, leadership, and self-direction occur in the group. Popular education often draws on popular culture (such as song, theater, dance, puppetry) to enhance communication among audiences, demonstrate respect for community values, enhance group spirit, and demystify the information conveyed. Because popular

education is often seen as threatening to dominant institutions, popular educators face numerous challenges, including the following: demands or constraints of funding sources; perceptions of the role of facilitators; disconnection between program goals and participant objectives; and the perception that it is too radical or revolutionary. The literature includes several examples of how adult educators have overcome these challenges and helped facilitate social transformation. The examples demonstrate that, although individual popular education programmes may appear to have failed in their immediate goals, they may represent steps in the slow, complex and cumulative process of social change.

96. **Keyvan, Shahla A, Pickard, Rodney and Song, Xlaolong** (1997) in their study, "Enhancement of Teaching and Learning of the Fundamentals of Nuclear Engineering Using Multimedia Courseware", discusses the computer-aided instruction incorporating interactive multimedia and network technologies can boost teaching effectiveness and student learning. This study describes the development and implementation of network server-based interactive multimedia courseware for a fundamental course in Nuclear Engineering. A student survey determined that 80% of the students found the courseware to be useful.

97. **Petrus, Julie A Dunavan, Annie and Thomas, Elizabeth** (1997) conducted a research titled, "Bringing the Shadow Child into the Light." In this study a first-year elementary teacher explains how she helped a slow learner work up to her potential. Two experts suggest strategies for teaching slow learners: setting up an at-risk program;

peer tutoring; adapting teaching to the learner's capabilities; and understanding individual learning styles.

98. **Taguchi, Etsuo** (1997) conducted a research titled, "The Effects of Repeated Readings on the Development of Lower Identification Skills of FL Readers." The investigator investigates the effects of repeated readings of a passage in a foreign language (English) on the ability of slow beginning readers at a Japanese university to increase their oral and silent reading rates. Results indicate that, for practice passages, silent reading rates increased significantly. This transfer of practice effects to a new passage was not significant in either oral or silent rates.

99. **Tanaka, Keiko** (1997) conducted a research titled, "Developing Pragmatic Competence: A Learners-As-Researchers Approach." The researcher argues that one method of successfully raising learners' awareness of the sociocultural rules of speaking a foreign language is to invite them to become researchers of that language. He comes to a conclusion that while the acquisition of pragmatic competence is a slow process, appropriate activities enhance the learners' chances for academic, professional, and social success.

100. **Watson, Daniel L and Rangel, Lyle** (1998) conducted a research titled "Don't Forget the slow Learner." The study advocates cooperative learning as an effective tool for reaching slow learners, by bridging the gaps between the learning styles of slow learners and the teaching requirements of the classroom, resulting in improved academic performance for both slow learners and high achievers.

101. **Bottge, Brian A.** (1999) conducted a research titled "Effects of Contextualized Math Instruction on Problem Solving of Average and Below-Average Achieving Students." This study examined effects of contextualized math instruction on problem-solving performance of 17 middle school remedial students and 49 average-achieving prealgebra students. Results showed that both remedial and average students receiving contextualized-problem instruction outperformed comparison groups receiving word-problem instruction. Transfer of learning to new situations by remedial students was also observed.

102. **Tan, Hui Mien** (1999) conducted a research titled "English Writing Program for Engineering Students." The objective of this study is to find out whether a pragmatic English writing program for engineering students of colleges and technical institutes with intermediate ESL proficiency. It can be used as a writing course, or as part of a general English course. The program covers a syllabus outline and instructional approaches on basic writing skills with particular reference to technical writing. The purposes of technical writing are to inform and persuade; the subjects are things and development; and its characters are direct, objective and specific. In short, this is a program which aims to train students in writing clear, concise and effective English.

103. **Gladys, Tang and Gu, Yang** (2000), conducted a research titled "Learning English Through Self-study by New Arrival Children." The objective of this study is to find out whether the autonomous learning as a concept guides the production of the English Self-Learning Packages (ESLPs) for New Arrival Children (NAC) It also documents

the children's reactions towards this mode of learning, in particular, how they react to the process of improving their English standard by engaging themselves in a self-study mode The production of the packages was funded by the Hong Kong Special Administrative Region with the aim to help these children bridge the gap in English language proficiency Research on autonomous learning has largely focused on adult learners who are perceived as being more receptive to training in autonomous learning routines and strategies The current study aimed to document children's reactions towards self-study as a way to achieve some form of autonomous learning.

104. **Derwing, Tracey and Munro, Murray J.** (2001) conducted a research titled "What Speaking Rates Do Non-Native Listeners Prefer?" this study reports an experiment in which two groups of English-as-a-Second-Language participants--native Mandarin listeners and a mixed group of speakers of other languages--used a 9-point scale ranging from "too slow" to "too fast" to assess the appropriateness of the speech rate of narratives read by native English speakers and Mandarin learners of English.

105. **Ebenezer, Jazlin V** (2001) in their project "A Hypermedia Environment to Explore and Negotiate Students' Conceptions: Animation of the Solution Process of Table Salt" describes the characteristics and values of hypermedia for learning Chemistry. Reports on how hypermedia environment was used to explore a group of 11th grade Chemistry students' conception of table salt dissolving in water. It indicates that a hypermedia environment can be used to

explore, negotiate and assess students' conceptions of submicroscopic aspects of solution Chemistry.

106. **Lin, Antonia Hsiu-chen** (2001) conducted a research titled "Multimedia Integration in English Poetry Teaching." The objective of this study is that, Concise English Poetry Appreciation and Recitation is an elective course for third year students at Taiwan's Wenzao Ursuline College of Languages. In order to motivate students who are beginners in literature but intermediate learners in English, the teacher presents a variety of poems using multimedia formats, including video, audio books, CD-ROMs, CDs, slides, and a teacher-made Web site, ALELA: Poetry. Multiple intelligences are integrated into this process. Teachers and students use multimedia materials in many ways to teach and learn poetry. The teacher keeps a record of teaching, student work, and poetry resources on the Internet. Students are encouraged to explore various links and choose their favorite poems. They also communicate with other readers via an online discussion board. Data from student feedback indicate that students are positive about the new experience, and they enjoy the ability to explore using multimedia materials, to hear what people read, and to work online. However, students also indicate that they would like more instruction and more time for each task, and they note that some of the process is too slow and too confusing.

107. **Pugalee, David K** (2001) conducted a research titled "Algebra for All: The Role of Technology and Constructivism in an Algebra Course for At-Risk Students." This study describes a high school introductory algebra class for 16 developmental Mathematics students

based on the use of technology in a constructivist environment. Data analysis indicated the importance of technology and of discourse in Mathematics teaching and learning. Students became active participants in their own learning and technology assisted them in their construction of Mathematical knowledge.

108. **Scott, Cathie and Plumb, Carolyn** (2001) conducted a research titled, "A Case Study of the Writing Experience of an Engineering Student as Part of a Portfolio-Based Writing Programme Evaluation." In this study the college of Engineering at the University of Washington conducted a portfolio evaluation project to better understand the nature and effects of its writing project. The project was implemented to address two needs: (1) the need expressed inside and outside the college for graduates with better communication skills; and (2) the need to demonstrate that the college has a process in place that meets new accreditation criteria for communication programmes in engineering schools. From spring 1997 through spring 2000, researchers compiled portfolios for 11 students representing selected departments in the college. The portfolios contained papers written for courses, reflection paper written for the project, and interview notes, surveys, progress logs, and other evidence of students writing experiences. The evidence collected has provided a wealth of information, as illustrated by the case study of one electrical engineering student. As this student moved through his studies, he identified his own strengths and weakness as a writer and the strengths and weaknesses of the writing programs in preparing him to write at school and work. In autumn 1999, faculty, student, and

industry representatives reviewed evidence from the portfolios for this student and other students in the project in order to develop performance-based writing outcomes for students graduating from college and the writing of students currently in the college.

109. **Weeks, Kerri** (2001) conducted a research titled**,** "Life Online: Resources for Students with an Intellectual Disability." In this study two Australian agencies planned, developed, piloted, and evaluated an online resource for teaching independent living skills to adult students with a mild intellectual disability using technological and the Internet. The resource, called Life Online, is a package of support resource materials tested in regional classrooms in Victoria, Australia. Educators working with the target population were surveyed; feedback was gathered regarding course provision, student learning styles, teaching strategies, resources used in the classroom, and student interests, motivation, expectations, and attitudes. Life Online resources were designed in a simple format that included graphic presentations to visually stimulate learners and featured simple graphically presented case studies, followed by multiple choice exercises. Units focused on nutrition, menu planning, shopping, budgeting, travel, money skills, electronic banking, and community access. The programme was designed to appeal to adults aged 18-25 and to encourage them to adopt a healthy and positive approach to life. Since students related best to real-life situations, the programme was very people-focused. "Characters" provided photographic modelling and narration. Feedback from teachers at pilot sites was generally very positive: the program provided age-appropriate

materials; instructional procedures were adequate; and students related to the characters. All students enjoyed using the programme and noted that their computer skills were the pictures, activities, and characters.

110. **Atar, Hakan Yavuz** (2002) conducted a research titled "Chemistry Students' Challenges in Using MBL's in Science Laboratories." Here understanding students' challenges about using microcomputer based laboratories (MBLs) would provide important data in understanding the appropriateness of using MBLs in high school chemistry laboratories. Identifying students' concerns about this technology will in part help educators identify the obstacles to science learning when using this technology. This study seeks to answer these two questions.

111. **Ediger, Marlow** (2002) conducted a research titled "Reading and the Slow Learner." The research advocates high school standards and expectations and usually believe that gaps in reading achievement can be eliminated with good teaching, but slow readers need a specially designed reading curriculum. First an informal reading inventory is done to determine the student's reading level. Functioning generally on a higher level than students with mental retardation but on a lower level than average students are a large number of slow learners tend to be concrete in their thinking, need help with strategies and organisation, and so to be eager for success. To sequence learning from the concrete and the semi concrete to print requires careful planning on the teacher's part. The teacher must study slow readers to realize how much background information they need before they engage in reading print. The teacher must select library books

carefully to slow readers and to notice whether students are following the content being read. Perhaps the best way to emphasise a student's becoming skilled in word recognition is to stress use of context clues. Next to context clues, phonics may be stressed to unlock unknown words. With flash cards, peers like to work together on drill and practice activities. Slow readers need much guidance from the teacher to develop sequential skills in word recognition and in comprehension. By listening to stories, read aloud and being engaged in successful reading experiences, the slow learner might make reading a lifetime endeavour.

112. **Mazzeo, Christopher** (2002), conducted a research titled "Stakes for Students: Agenda-Setting and Remedial Education." The objective of this study is to find out the enactment and early implementation of remedial education policies in Massachusetts and Oklahoma. Remediation reforms are part of a larger group of policies that seek to motivate students by raising the stakes for their academic performance. This study's findings suggest that efforts to end or restrict remediation are driven largely by status attainment concerns-- the desire by policy makers and administrators to create "competitive advantage" for certain public higher education institutions.

113. **Riemer, Marc J.** (2002) conducted a research titled "Investigation into the Development of English and Communication Skills for the modern engineer within a cultural context: a Research Scheme." The objective of this study is to find out whether the communication skills are essential for an engineer who aspires to carry out his/her professional practice on the global scene. Engineering communication

skills basically constitute several core elements such as fluency in the English language and the fundamentals of visual communication. The process of the formation of a professional engineer may vary depending on the context that the educational process takes place in, ie whether English is learnt as the first language or a second/foreign language. Further, the cultural context will influence how this is processed and the extent to which it succeeds. However, apart from the English fluency component, the basic elements of communication skills may be the same. The proposal endeavours to address several issues of concern, and propose a research programme to investigate those issues. This should provide researchers with comprehensive information concerning the status and quality of existing English and communication skills courses for engineers within a cultural context. A comparative study of courses available internationally in English and communications for engineering students will also be carried out under the project.

114. **Salvatore, J. Parlato** (2002) conducted a research titled "English as a Second Language for Teachers of other Stuff." This paper helps mainstream teachers and administrators demystify English-a-Second-Language (ESL) education, providing techniques to help immigrant students make sense of English and their new culture. Ten chapters examine the following: (1) "We're Moving to Where?" (How it feels to move to a totally alien environment); (2) "The Essence and Isn'ts of ESL" (e.g., teaching ESL is not remedial, bilingual education, or a branch of the speech discipline); (3) "On a More Positive Note" (teaching ESL is a new profession that embraces the same principles

of planning and presentation that every good teacher knows); (4) "Top Ten Teaching Tips" (e.g., preparing students for their new classmate, appoint a same-sex buddy, slow down English speech, and print rather than using cursive); (5) "An Open Letter to Learners" (with suggestions for practicing American English); (6) "Question-and-Answer Time" (e.g., Whether ESL teachers learn all the different languages, learning differences, and the importance of using both the home and school language); (7) "By the Numbers Now" (learning numbers); (8) " Wit, Wisdom, Whatever" (second language learning through the eyes of philosophers, students, parents, poets, and professors): (9) "Sources, Resources, and Centers"; and (10) "After-Words."

115. **Grant, Rachel A and Wong, Shelley D.** (2003) conducted a research titled Barriers to Literacy for Language-Minority Learners: An Argument for Change in the Literacy Education Profession. In this study the researchers argue that two barriers to literacy are the failure of teacher-education programmes to adequately prepare reading specialists to work with language-minority learners and of education researchers to engage in more substantive research on English reading development for such students. They further point out the barriers that exist within the literacy education profession that may slow or even prevent language-minority learners from becoming fully literate in English.

116. **Castro, Paloma; Sercu, Lies and Mendez Garcia, Maria del Carmen** (2004) conducted a research titled "Integrating Language-and-Culture Teaching: An Investigation of Spanish Teachers'

Perceptions of the Objectives of Foreign Language Education." In this study a recent shift has been noticeable in foreign language education theory. Previously, foreign languages were taught as a linguistic code. This then shifted to teaching that code against the sociocultural background of, primarily, one country in which the foreign language is spoken as a national language. More recently, teaching has reflected on language and culture in an integrated way with a view to preparing learners to use the foreign language in intercultural contact situations. Though in many countries national curricula for the teaching of foreign languages have been slow in the uptake of this shift in thinking, recent curricular guidelines tend to focus more explicitly on the sociocultural dimension of foreign language education, distinguishing between cognitive, attitudinal and behavioural objectives to be attained in the area of language-and-culture teaching. This change in focus in curricular guidelines entails a change in the expectations voiced towards foreign language teachers. Research on innovation in education has shown that teachers' perceptions of the innovation to a large extent determine the success of that innovation. This study reports on an investigation among Spanish secondary school EFL teachers, focusing on the extent to which teachers support the new culture-and-language teaching objectives. The findings suggest that teachers are willing to support the new objectives, but that they experience conflicts when having to prioritise language teaching and culture teaching objectives.

117. **Domangue, Thomas J.; Mathews, Robert C.; Sun, Ron; Roussel, Lewis G and Guidry, Claire E.** (2004) conducted a research titled "Effects of Model-Based and Memory-Based Processing on Speed and Accuracy of Grammar String Generation." The objective of this research is to find out that learners are able to use 2 different types of knowledge to perform a skill. One type is a conscious mental model, and the other is based on memories of instances. The authors conducted 3 experiments that manipulated training conditions designed to affect the availability of 1 or both types of knowledge about an artificial grammar. Participants were tested for both speed and accuracy of their ability to generate letter sequences. Results indicate that model-based training leads to slow accurate responding. Memory-based training leads to fast, less accurate responding and highest achievement when perfect accuracy was not required. Evidence supports participants' preference for using the memory-based mode when exposed to both types of training. Finally, the accuracy contributed by model-based training declined over a retention interval.

118. **Kaznowski, Kimberly** (2004) conducted a research titled "Slow Learners: Are Educators Leaving Them Behind?" This study compared the school performance of a sample of slow learners who qualified for special education as learning disabled with a sample of slow learners who did not qualify for special education. The intent of the study was to determine which group of slow learners was more successful in school in order to know if special education or regular education is the most beneficial educational "placement" for the slow

learner. Findings suggest that neither group of slow learners is successful in school; both are doing remarkably poorly. Given this outcome, it is imperative that educators find the courage to acknowledge the plight of slow learners. Educational alternatives are required to prevent slow learners from continuing to fall through the cracks.

119. **Gaskell, Delian and Cobb, Thomas** (2004), conducted a research titled "CAN Learners Use Concordance Feedback for Writing Errors?" The objective of this study is to find out whether the sentence-level writing errors seem immune to many of the feedback forms devised over the years, apart from the slow accumulation of examples from the environment itself, which second language (L2) learners gradually notice and use to varying degrees. A computer corpus and concordance could provide these examples in less time and more noticeable form, but until now the use of this technology has assumed roughly the degree of language awareness most learners are aiming at. We report on attempts to make concordance information accessible to lower-intermediate L2 writers. These attempts capitalise on some newly available opportunities as concordance goes online. Our report: (1) makes a case in principle for concordance information as feedback to sentence-level errors errors, (2) describes a URL-link technology that allows teachers to create and embed concordances in learners' texts, (3) describes a trial of this approach with intermediate academic learners, and (4) presents preliminary results.

120. **Yang, Suying and Huang, Yue Yuan** (2004) conducted a research titled "The Impact of the Absence of Grammatical Tense in L1 on the Acquisition of the Tense-Aspect System in L2." Many researchers have found that learners go through stages in acquiring the L2 tense system: from relying on pragmatic devices to using more lexical devices, and then to using more grammatical morphology. Chinese is a language that has no tense (a [-tense] language) and relies on pragmatic and lexical devices to indicate temporal locations. The present study investigates what impact a [-tense] L1 may have on the acquisition of the English tense system. We have found: (1) classroom instruction may force an early start of tense use; (2) the Chinese way of expressing temporality may reinforce the learners' initial tendencies of relying on pragmatic and lexical devices to indicate temporal locations; and (3) the early start of tense use and the L1 reinforcement of the learners initial tendencies result in an extended period during which the learners expression of temporality exhibits a very slow shift from depending more on pragmatic and lexical devices to depending more on grammatical devices. We have also found that the function of temporal adverbials may change from tense substitute to tense reminder as a result of special classroom training processes.

121. **August, Diane; Carlo, Maria; Dressler, Cheryl and Snow, Catherine** (2005) conducted a research titled "The Critical Role of Vocabulary Development for English Language Learners." The objective of this research is to find out whether English language learners (ELLs) who experience slow vocabulary development are less able to comprehend text at grade level than their English-only

peers. Such students are likely to perform poorly on assessments in these areas and are at risk of being diagnosed as learning disabled. In this article, we review the research on methods to develop the vocabulary knowledge of ELLs and present lessons learned from the research concerning effective instructional practices for ELLs. The review suggests that several strategies are especially valuable for ELLs, including taking advantage of students' first language if the language shares cognates with English; ensuring that ELLs know the meaning of basic words, and providing sufficient review and reinforcement. Finally, we discuss challenges in designing effective vocabulary instruction for ELLs. Important issues are determining which words to teach, taking into account the large deficits in second-language vocabulary of ELLs, and working with the limited time that is typically available for direct instruction in vocabulary.

122. **Beaman, Charles A** (2005) conducted a research titled "Diversity and Motivation in the Middle School: Reaching All Students." Here educators across America face an enormous and growing challenge: motivating a diverse student population. The growing trend toward inclusion increases diversity by including special-needs students in the same classroom with regular education students. The increase in the number of students who do not speak English puts a huge responsibility on teachers. And, the requirements of No Child Left Behind expect that all children will succeed. Educators must motivate the at-risk population as well: students labeled as the gray area, difficult-to-motivate, slow learners and children with untapped potential. In this article, the author shares some of the strategies he

recommends for motivating students to put forth an honest effort to reach their potential. He suggests that teachers see themselves as facilitators, teach by expression, change pace frequently, provide compelling and stimulating problems, make learning fun, and build and maintain a classroom community. By following these recommendations, teachers can stand behind children, see how they learn, and then support the process, rather than simply standing before the class and dispensing learning.

123. **Macedonia, Manuela** (2005) conducted a research titled "Games and Foreign Language Teaching." The objective of this research is to find out whether active spoken mastery of a foreign language all too often remains an illusive wish on the part of language learners. There is a tendency to seek the causes of non-fluency and accurate speech outside the classroom, for example, too little involvement, interest and time investment on the part of learners. The researcher asserts that the problem is attributed primarily to the type of exercises that are employed to process foreign language input. Traditional transmission of morphology and syntax by way of rules, and practising such rules via written exercises, does not lead to spoken language, for with this type of practice the retrieval of learned material is too slow and often incomplete to enable successful speech. While games in language and SEN instruction are not new, in this article their targeted usage based on cognitive neurological evidence is proposed in order to proceduralise declarative knowledge and thereby to elevate accuracy and fluency to a level that enables real-time speech.

124. Timmis, Ivor (2005) conducted a research titled, "Towards a Framework for Teaching Spoken Grammar." Since the advent of spoken corpora, descriptions of native speaker spoken grammar have become far more detailed and comprehensive. These insights, however, have been relatively slow to filter through to ELT practice. The aim of this study is to outline an approach to the teaching of native-speaker spoken grammar which is not only pedagogically sound, but which also reflects current sociolinguistic concerns about using native-speaker models in the classroom. The study proposes some principles for the selection and design of texts and tasks in the teaching of (native-speaker) spoken language. The reactions of a small group of teachers and learners who piloted materials based on these principles are discussed. The study concludes that, through the approach outlined, it is both possible and potentially useful to raise awareness of nativespeaker spoken language without detriment to what Modiano (2001: 339) terms "the cultural integrity of the non-native speaker".

125. Ariizumi, Yoshihiko (2006) conducted a research titled "Action Research as another Literacy Skill to Improve Academic Performance: A Case Study of Empowered Language Learning." In this study it was noted that even though action research has been employed in an increasing number of fields of practice including teaching, nursing, and business, application in learning has been scarcely reported. This case study is one of the first attempts to apply action research principles to help learners improve their learning performance. Purpose: This study explored the possibilities of action

research for learners to improve their learning and described the improvement process. Setting: The author facilitated one undergraduate student at a liberal art college. The learner applied action research principles to study his learning process and improve his performance. Study Sample: This case study had 1 male college student as a sample. Intervention: At the beginning of this study, bi-weekly sessions (normally 15-30 minutes) took place to facilitate the action research procedure, and the facilitation gradually faded out. This study lasted for 15 months. The author kept a log in which the facilitation process, the learner's progress, related questions and tentative solutions to those questions were recorded. Periodically the author reflected on the facilitation process by reviewing the log. The learner kept his own log in which he wrote about his daily learning activities. Findings: This study showed that the action research that is conducted by a learner on his/her own learning can be a powerful tool to improve his/her learning performance. This report identified and described the factors that improved learning and the moments that led to significant changes. Another finding was that there was a pattern in the change that action research brings about. There are stages in this pattern such as: (1) Stage of uncertainty and random trials; (2) Stage of dormant or slow change; (3) Stage of confidence; and (4) Stage of rapid growth. This study found a significant improvement in learning when an action researcher applied empowering principles to his research on learning. However, it is not certain how the findings in this study can be transferred to broader learners. The strategies, techniques, and procedure that were employed in this study must be

tested for different learners who are different in age, gender, intellectual ability, learning style, and educational background.

126. **de Guzman, Allan B and Jeric A. Albela, Emmanuel** (2006), conducted a research titled "English Language Learning Difficulty of Korean Students in a Philippine Multidisciplinary University." This qualitative study analysed the English language learning difficulties of 13 purposively chosen Korean students relative to their sociolinguistic competence, motivation in using the English language, and cultural factors. Interview responses were transcribed, categorised and thematised according to saliency, meaning and homogeneity. The findings of the study disclosed that, on the whole, while the subjects never had the opportunity to use the English language in Korea, they use it almost everywhere in the Philippines. Their difficulties exist both in daily conversation and in the academic setting. Such difficulties are attributable to both the subjects' and the Filipinos' different entry points in the learning and use of English. Despite cultural barriers in communication, however, the Koreans studying in the Philippines are instrumentally motivated to learn the English language.

127. **Khalid, Sazali; bte Alias, Maizam Razally, Wahid and bte Suradi, Zurinah** (2006) conducted a research titled "Is there enough Impact of Interaction of Lecturers, Students and Peers using CD-Interactive Algebra courseware and collaborative Learning – in a Polytechnic, Malaysia?" Currently the teaching and learning of Mathematics Engineering in Polytechnics, Malaysia (MoHEM) produces problems in 3 main areas. They are the subject itself, time

constraints and fresh engineering graduates teaching this critical subject. This paper proposes a new method called CD-interactive with Collaborative Learning (CDiCL) which merges the strength of multimedia CD and collaborative learning to be taught in a computer laboratory. Pretest, Posttest and Control method are used to collect primer data among 4 groups of certificate engineering first semester students in 2 engineering departments in a polytechnic, Malaysia. Besides, a series of interviews and video recordings support the findings that CDiCL has helped the understanding towards mathematics algebra among the users. SPSS and ATLAS are used to justify this claim.

128. **Pedaste, M and Sarapuu, T.** (2006) conducted a research titled "The Factors Influencing the Outcome of Solving Story Problems in a Web-Based Learning Environment." The aim of the present study was to investigate those factors influencing performance in solving story problems in a web-based environment. A situational simulation, "Hiking across Estonia," was explored by two samples of voluntary groups of students, comprising 65 and 50 groups, respectively. They solved 25 ecological and environmental story problems and filled in a pre-test and post-test that evaluated problem-solving skills. The groups were clustered according to their characteristics and performance into five clusters: "slow learners," "quick learners," "successful learners," "smart learners," and "ineffective." The clusters were provided with different types of supportive notes and the sequence of problems was rearranged according to the students' initial results in the first four problem-solving tasks. These treatments

demonstrated statistically significant improvements in the outcome in solving story problems in small groups. The main factors determining the effectiveness of problem solving were: (i) time spent on learning; (ii) initial skills in problem-solving; (iii) the presence of support in enhancing situation awareness; (iv) graduated problem tasks sequenced on the basis of complexity and difficulty; (v) ratio of genders in a learning group. However, the importance of these factors depended on the cluster and, therefore, it can be concluded that the design of problem-solving instruction has to be adapted according to the clusters' characteristics.

129. **Richard, Andrews; Freeman, Allison; Dan Hou, Nick McGuinn; Alison, Robinson and Zhu, Judy** (2006), conducted a research titled "The effectiveness of information and communication technology on the learning of written English for 5- to 16-year-olds." The last few years have seen an increase in research studies on the impact and effectiveness of information and communication technologies (ICTs) in the teaching and learning of English as a school subject. It is against that research background and against recent developments in policy and practice in the UK that the present systematic review of the effectiveness of different ICTs in the teaching and learning of English has been undertaken. The aim of this review was to shed light on whether ICTs are effective in the teaching and learning of English for 5- to 16-year-olds. A total of 2103 papers were found in the initial search of studies published between 1998 and 2003 on the topic of the review. An in-depth review on the effectiveness of ICT in the teaching and learning of written composition in English concentrated

on nine studies. As eight of the nine studies were judged to be of medium weight of evidence and were also different from each other in nature, it was not possible to arrive at a clear answer to our in-depth research question. Rather, we wish to report that the field is in a preparadigmatic state where definitions of English, literacy and ICT are still relatively unclear, and where the causal and/or reciprocal relationships between them have yet to be fully theorised.

130. **Silver-Pacuilla, Heidi and Fleischman, Steve** (2006) conducted a research titled "Technology to Help Struggling Students." In this study many technology features that were originally developed to help people with specific sensory impairments are now widely in use. Research is beginning to show the benefits of giving all students access to these capabilities. As such, educators should not hesitate to integrate technology features into instruction for students who struggle with academic tasks. These approaches can support learning by building literacy and language skills and independence. In this article, the author discusses how technologies such as text-to-speech, speech recognition, graphic organisers, and e-resources can be integrated into sound pedagogy to help struggling learners achieve both academic and technological success.

131. **Basharina, Olga K.** (2007) conducted a research titled "An Activity Theory Perspective on Student-Reported Contradictions in International Telecollaboration." This process-oriented study focuses on contradictions that emerged in a WebCT bulletin board collaboration among English learners from Japan, Mexico and Russia, and explains them from the perspective of activity theory. The study

identified a) two "intra-cultural" contradictions--to post or not to post, to sound formal or informal; b) three "inter-cultural" contradictions--unequal contribution, genre clash/ plagiarism, clash of topic choice; and c) three "technology-related" contradictions--message overload as hindering community formation, bulletin board as too "slow" when compared to chat, and names and gender confusion. These contradictions were catalysed by the clash of curricula versus interactive learning paradigms: the outcomes of different cultures-of-use of computer technologies, instructors' mediation, and resources available to learners within their broader socio-cultural contexts. The study concludes with a discussion of whether the learning paradigms can be bridged and cultures-of-use of computer technologies aligned.

132. **Brown, Clara Lee** (2007) conducted a research titled "Strategies for Making Social Studies Texts More Comprehensible for English-Language Learners." The objective of this study is to find out whether reading in content areas is generally difficult for English-language learners (ELLs), but reading in social studies is particularly challenging for ELLs for several reasons. First, ELLs often lack background information that textbook authors assume readers have. Second, ELLs in the process of learning a new language do not have grade-level-appropriate vocabulary that is required for content learning; social studies vocabulary can be highly technical and abstract. Third, the discourse style of social studies texts can be cumbersome for ELLs. Together, these challenges slow ELLs' comprehension. In this article, the author illustrates the difficult

nature of social studies texts and suggests concrete strategies to make social students texts more comprehensible for ELLs.

133. Campbell, Dermot F.; McDonnell, Ciaran; Meinardi, Marti; and Richardson, Bunny (2007) conducted a research titled "The Need for a Speech Corpus." This study outlines the ongoing construction of a speech corpus for use by applied linguists and advanced EFL/ESL students. In the first part, sections 1-4, the need for improvements in the teaching of listening skills and pronunciation practice for EFL/ESL students is noted. It is argued that the use of authentic native-to-native speech is imperative in the teaching/learning process so as to promote social inclusion. The arguments for authentic language learning material and the use of a speech corpus are contextualised within the literature, based mainly on the work of Swan, Brown and McCarthy. The second part, section 5, addresses features of native speech flow which cause difficulties for EFL/ESL students (Brown, Cauldwell) and establishes the need for improvements in the teaching of listening skills. Examples are given of reduced forms characteristic of relaxed native speech, and how these can be made accessible for study using the Dublin Institute of Technology's slow-down technology, which gives students more time to study native speech features, without tonal distortion. The final part, sections 6-8, introduces a novel Speech Corpus being developed at DIT. It shows the limits of traditional corpora and outlines the general requirements of a Speech Corpus. This tool--which will satisfy the needs of teachers, learners and researchers--will link digitally recorded, natural, native-to-native speech so that each

transcript segment will give access to its associated sound file. Users will be able to locate desired speech strings, play, compare and contrast them--and slow them down for more detailed study.

134. **Gömleksiz, Mehmet N.** (2007) conducted a research titled "An evaluation of engineering students' perceptions towards the English language teaching-learning environment at engineering faculties in Turkey: the case of Firat, Ataturk, Inonu and Dicle Universities." The objective of this study is to find out the engineering students' views towards learning English terms of the need for, and the effort required to, learn English and gain English qualifications, as well as the teaching strategies of their instructors. The study sample was comprised of 1,562 engineering students enrolled in four different universities in Turkey. The results revealed that engineering students accepted learning English as being necessary to be a good engineer. They also reported some problems with teaching strategies used by their instructors in English classes of engineering faculties in Turkey. Statistically significant differences were found across the groups with regard to gender, university and department of the engineering students.

135. **Kotikoski, Tuula-Harriet and Fonselius, Raija** (2007) conducted a research titled "Enhancing Collaborative Language Learning in Engineering Education with Team Portfolio." The objective of this study is to find out whether the development and implementation of learning and teaching experiment to encourage the use of e-portfolio in language learning courses and also the integration of English courses with professional studies of engineering students. This is an

ongoing project which is annually developed and improved based on student feedback the focus being on collaborative and communicative language learning. New learning environments, such as learning platforms, e.g. R5 Generation, Skype and MS Messenger, are experimented with.

136. **Yun, Chung-il** (2007) conducted a research titled "Teacher's Primary Role for Education Reform: Equalizing Learning Outcomes." When a teacher plans instruction, he has in mind some prototypical students or group: someone like himself or some group similar to his in ability. With this conception of the prototypical students or group, he teaches only one-third of students to reach a level of achievement. At the end of semester, most teachers give their grades, generally reflecting students' IQ scores, according to a normal distribution curve. There are good learners and poor learners, faster learners and slow learners in any classroom, mainly due to their inborn abilities or environment. We believe that all people are created equal, and deserve equal educational opportunity. Therefore, educational outcomes should be equal for all students' in general basic education. Equality of learning outcomes and vertical equality in the learning process are very hard to achieve. Nevertheless, it has to be an ideal goal of schooling and a long-range objective of education reform. In accordance with the goal of schooling and education reform, the principal role of teachers should be teaching all students to master their subject.

137. **Housand, Angela and Reis, Sally M.** (2008) conducted a study titled "Self-Regulated Learning in Reading: Gifted Pedagogy and

Instructional Settings." In this study the researcher observed that in personal processes, the environment, and individual behaviors of both teachers and students are factors that facilitate students' use of self-regulation learning strategies in reading. Some environmental conditions, such as organisation of materials and clear expectations, support the development and use of self-regulation learning (SRL) strategies in reading. Teachers who use explicit instruction and modelling of SRL strategies have more students who can use self-regulation to read for longer periods and respond to higher order thinking questions. However, there are highly self-regulated students (even though fewer numbers) in low self-regulation classrooms, suggesting that individual differences in SRL strategies exist among gifted students and perhaps some gifted students as early as fifth grade have already attained the individual ability to use self-regulated learning SRL strategies to read and learn. The combination of domain-specific strategy instruction in reading combined with the use of SRL strategies to support knowledge acquisition seems to help more students in the higher self-regulation classroom achieve and maintain focus during reading instruction.

138. **Kerner, Thomas** (2008) conducted a research titled "Using Video to Increase Language Performance". Video based activities that help English and any other language learners of all ages and skill levels to acquire and express integrated reading, writing, speaking and listening skills. The paper discusses the use of video to develop and elicit language with an emphasis on clarity of situation-specific communication. By learning how to supplement existing curricular

tools with readily available video materials, teachers will acquire ideas and activities that they can implement immediately in their classrooms with minimal preparation. These activities will increase both the level of engagement of students in learning tasks and their subsequent language performance and how to adapt video for assessing performance.

139. **Levine, Mel and Barringer, Mary-Dean** (2008) conducted a research titled "Getting the Lowdown on the Slowdown." The objective of this study is to find out whether a student's inability to keep pace with the demands of the classroom can produce painful feelings of inadequacy, performance anxiety, depleted motivation, and even behavioural maladjustment. Too often, schools respond to such students with well-intentioned procedures or guidelines that fail to meet the needs of the thwarted learner. However, in recent years an impressive body of research in the neurosciences, psychology, education, and related fields has provided promising answers to the frustrating quandaries schools have faced when students are unable to keep pace in reading, writing, Mathematics, and specific subject areas. The message is clear: There can be a wide range of mechanisms underlying delayed skill acquisition. To devise strategies without identifying such mechanisms represents a "shot in the dark" approach. In 1995, financier Charles Schwab and pediatrician Mel Levine founded All Kinds of Minds, a nonprofit institute whose mission has been to gather and synthesise the latest knowledge relating to learning and learning differences, and translating that information into policies and practices usable by schools, parents, and clinicians. Through

Schools Attuned, an innovative service model and professional development programme, the institute seeks to broadly disseminate this body of neurodevelopment knowledge. Using the tools and processes provided through Schools Attuned, teams of educators often work with students in the peripheral process, generating effective strategies and interventions without labelling students with attention deficit hyperactivity disorder or a learning disability. Knowing how to describe and name a particular breakdown in the learning process greatly facilitates teachers, students, and parents in understanding and managing it.

140. **Li- Li, Lin** (2008) conducted a research titled "The Role of Grammar Teaching in Writing in Second Language Acquisition." "Grammar is the sound, structure, and meaning system of language. All languages have grammar, and each language has its own grammar" (Beverly, 2007, p.1). People who speak the same language are able to communicate with each other because they all know the grammar system and structure of that language, that is, the meaningful rules of grammar. Students who are native speakers of English know English grammar, recognise the sounds of English words, the meaning of those words; and also can combine words to make meaningful sentences in different ways (Beverly, 2007). This paper will review literature related to the role of grammar teaching in writing in second language acquisition, which contains a) the role of grammar, b) current educational problems in Taiwan, c) the limitations of grammar in writing improvement, d) teachers'

perspectives toward grammar teaching in Taiwan, and e) students' perspectives toward grammar learning in Taiwan.

141. **Macdonald, Averil** (2008) conducted a research titled "Flexible Learning Packages: How to Work with Different Needs." The objective of this research is to highlight that flexible learning packages are an effective way to provide the individualized learning programmes required by the students from a wide range of backgrounds, as are often found in foundation programme classes. They have been shown to engage learners through involving them in determining their own learning schedule and providing clear evidence of progress. The experience also prepares students for undergraduate study through developing the self-reliant study skills they will need.

142. **Mahmoud, Mohammad Sayed Abdallah** (2008) conducted a research titled "New Literacies or New Challenges?" The Development of the Concept of Literacy in the Context of Information and Communication Technologies and Language Teaching. The objective of the research is to highlight the development of the concept of literacy in the context of IC technologies and English language teaching stressing the idea that literacy is no longer a stable concept which was always connected with the basic skills of reading and writing. The rapid developments of today have been changing, affecting and modifying this concept in such a way that it is difficult to say what it exactly means. The political, historical, social and cultural factors that have been influencing the development of this concept, with special focus on ICT's and how the continuous developments occurring to them gave birth to new literacies as a quite

new concept that has come to the fore to mean different things to different people. It proceeds to compare between the new concept of literacy and the traditional one.

143. **Marek, Michael** (2008) conducted a research titled "Internet Videoconferencing to Improve EFL Learning". Quantitative and qualitative evaluation indicated an increase in motivation as a result of the interactions. Abundant literature is clear that when motivation increases, ability and confidence follow. Students cited several elements of the instructional design in explaining their increased proficiency: the sessions' emphasis on subjects interesting and pertinent to young adults, including American culture and traditions; spontaneous and authentic interaction with a native speaker; and the implementation of techniques to lessen anxiety. The positive results suggest a new avenue for foreign language instruction around the world that makes use of student-centered, active learning.

144. Natasha, Anne **Rappa;** Kok Hoong **Yip,** Daniel **and** Shi, Chen **Baey** (2008) conducted a research titled "The role of teacher, student and ICT in enhancing student engagement in multi-user virtual environments." The objective of this study is to find out whether the teaching and learning practices and processes that were adopted in a study that incorporated multi-user virtual environments to support General Paper teaching and learning. The strategies that were adopted or could have been adopted to facilitate the enactment of such teacher and student roles as well as ensure effective deployment of ICT to support engaged learning.

145. **Shaw, Steven R.** (2008) conducted a research titled "An Educational Programming Framework for a Subset of Students with Diverse Learning Needs: Borderline Intellectual Functioning." The objective of this study is to find out whether the students with intelligence test scores between 70 and 85 frequently fall into the gap between general and special education. Students with borderline intellectual functioning are a large population at-risk for school failure. Recent educational trends (e.g., the use of response to intervention models of special education eligibility, implementation of inclusive education, and the accountability components of No Child Left Behind) have increased awareness and may serve as a catalyst for improving the education of students with borderline intellectual functioning. However, students currently receive few supportive educational services. An educational programming framework is developed for improving the education of students with borderline intellectual functioning in response to recent educational trends. Effective instructional practices can build academic resilience skills to ameliorate the important, but often-ignored, risk factor of borderline intellectual functioning.

146. **van Rooy, Sonja** (2008) conducted a study titled "Report on the Training Consultancy to Build Capacity of ODL Practitioners in the area of Design, Development and Management of Distance Education Study Materials in Lesotho." This study details the outcome of the "Build capacity of ODL Practitioners in the area of Design, Development and the Management of Study Materials – Lesotho" workshop undertaken by the Commonwealth of Learning (COL) from

25 August to 5 September 2005 in Maseru, Lesotho. The purpose of this training was to provide training to ODL practitioners in (i) the design and development of self-instructional materials, and (ii) the use of the ODL Template for course development. This report contains information on the following: (1) Aims of the consultancy; (2) Responsibilities of Consultant; (3) Institutions invited to workshop; (4) Training Programme; (5) Workshop methods; (6) Topics covered in the workshop; (7) Achievements of the workshop; (8) Challenges of the ODL Template; and (9) Evaluation of the workshop.

147. **Barbera, Elena** (2009) conducted a study titled "Mutual Feedback in E-Portfolio Assessment: An Approach to the Netfolio System." This study presents an alternative application of e-portfolio in a university student assessment context. A concept based on student collaboration (called netfolio) is developed, that differs from the classical e-portfolio concept. The use of a netfolio, a network of student e-portfolios, in a virtual classroom is explained through an exploratory study. A netfolio is more than a group of e-portfolios because it offers students a better understanding of learning objectives and promotes self-revision through participation in assessment of other students' learning, as indicated through their portfolios. Class student e-portfolios are interconnected in a unique netfolio such that each student assesses their peers' work and at the same time is being assessed. This process creates a chain of co-evaluators, facilitating a mutual and progressive improvement process. Results about teachers' and students' mutual feedback are presented and the benefits of the process in terms of academic achievements are analysed.

148. Chang, Chi-Cheng and Tseng, Kuo-Hung (2009) conducted a study titled "Use and Performances of Web-Based Portfolio Assessment." In this research the researcher explored the influence of a Web-based portfolio assessment system on students' performances. The methodological procedure adopted was to have the experimental group use the system, with the control group using conventional assessment. The study subjects were junior high school students of two computer classes. The experimental results revealed that the use of the system has significant positive influence on students' performances. According to estimated effect size, the most significant indicators were reflection, self-assessment, continuous improvement, goal setting, problem solving, data gathering, work and peer interaction. However, peer-assessment performance was not enhanced significantly. Therefore, one recommendation was to reduce peer-assessment and instead offer specific illustrations to the students as well as the opportunity to drill.

149. Guerra, Norma S. (2009) conducted a study titled "LIBRE Stick Figure Tool: A Graphic Organiser to Foster Self-Regulated Social Cognitive Problem Solving." In this study the researcher observed that graphic organizers are powerful visual tools. The representation provides dimension and relationship to ideas and a framework for organization and elaboration. The LIBRE Stick Figure Tool is a graphic organizer for the problem-solving application of the LIBRE Model counseling approach. It resembles a "stick person" and offers the teacher and student a problem-solving processing map. The use of the LIBRE Stick Figure Tool is presented to demonstrate its

application and illustrate potential benefits to both student and teacher.

150. **Kong, Kenneth** (2009) conducted a study titled "A Comparison of the Linguistic and Interactional Features of Language Learning Websites and Textbooks." The researcher observed in his study that self-study is playing an increasingly important role in the learning and instruction of many subjects, including second and foreign languages. With the rapid development of the internet, language websites for self-study are flourishing. While the language of print-based teaching materials has received some attention, the linguistic and interactional features of websites are largely ignored by educationists, and online learning materials are regarded as simply duplicates of their print-based counterparts. This is far from satisfactory because web-based and print-based materials are very different tools with which participants negotiate their learning activities. This study examines the linguistic and interactional features of English learning websites in terms of (1) their lexical density/clause length; (2) referential cohesion, particularly the use of personal pronouns; and (3) the presence of involvement strategies and other interactional features. These features are compared with those in textbooks to examine how websites deviate from traditional instructional texts. It is found that both clause and lexical density are greater on websites than in traditional textbooks. Websites make more use of the personal pronouns "I" and "you", whereas textbooks make more use of the authoritative "we". Websites are also more interactional in terms of their use of involvement strategies, imperative structures and modals.

These findings highlight the different contexts of textbooks and websites, particularly the different nature of the two channels and their credibility as information sources. This has practical implications for the design of appropriate online instructional resources.

151. **Lopez-Fernandez, Olatz and Rodriguez-Illera, Jose Luis** (2009) conducted a study titled "Investigating University Students, Adaptation to a Digital Learner Course Portfolio." In this study the researcher observed that digital learner portfolios are of growing importance in higher education as the sector seeks new teaching-learning-assessment methods which promote students' autonomy as managers of their own virtual learning environment. The purpose of this study was to analyse descriptively the undergraduate students' perceptions, attitudes and behaviour when using an eportfolio to support their learning and assessment in practice based courses at two traditional Spanish universities. The participants were 88 students, who were studying through a blended learning mode. Data were collected through questionnaires: a computer experience survey, another which examined the psychological, pedagogical and technological dimensions of eportfolios use. Further, an individual overall reflection was obtained from each student to help gain an understanding of their experiences of using the eportfolio. A mixed-method analysis was applied in order to study the impact of this technological innovation on students and their satisfaction. The results showed that the students had positive opinions and self-efficiency through the eportfolio as a tool to manage their learning and

assessment during a semester, especially from the second month of use. However, the expected impact on their learning was not so significant. Nevertheless, the students emphasised that the eportfolio was valuable as a personal developmental learning tool.

152. **Renkl, Alexander; Hilbert, Tatjana and Schworm, Silke** (2009) conducted a study titled "Example-Based Learning in Heuristic Domains: A Cognitive Load Theory Account." In this study, one classical instructional effect of cognitive load theory (CLT) is the worked-example effect. Although the vast majority of studies have focused on well-structured and algorithmic sub-domains of Mathematics or Physics, more recent studies have also analysed learning with examples from complex domains in which only heuristic solution strategies can be taught (e.g., troubleshooting, mathematical proving). Is learning by such examples also effective, and do the same instructional design principles apply? We discuss the main findings of an own research program and of related studies that addressed such questions. We found that CLT's basic design principles also hold true for heuristic domains: Reduce extraneous load by employing examples, maximise germane load by fostering self-explanations, prevent cognitive overload by pretraining in the case of difficult learning materials, and by focusing attention on the most relevant aspects. Other typical CLT assumptions (e.g., better provide information for novice learners) were not confirmed in its generality. The present findings extend the applicability of CLT but also identify some potentially too simplistic assumptions.

153. Gramss, Denise and Struve, Doreen (2009) conducted a research titled "Instructional Videos for Supporting Older Adults Who Use Interactive Systems." The researcher investigated the usefulness of different instructions for guiding inexperienced older adults through interactive systems. It was designed to compare different media in relation to their social as well as their motivational impact on the elderly during the learning process. Precisely, the video was compared with textual help and the impact of model age (young versus old) on knowledge acquisition was explored. As a research object, a simulated ticket-vending machine was used. Results show that video-supported knowledge acquisition is better than text, but in relation to model age, no significant differences were found.

3.5 SUMMARY OF THE REVIEW OF RELATED LITERATURE

The investigator in total, has reviewed 153 theses related to her field.

The following investigators conducted investigations on the **Slow Learners:**

Roucek, Joseph .S. Ed. (1969), Orvis, Pat (1972), Painch and Le Blanch, Gisele (1979), Fitz Pattick, Karen (1980), Gafen, Raphael (1981), Jenkins, Joseph R; Jenkins, Linda M. (1982), Shuell, Thomas J (1983), Rothisberg, Barbara A; Liljestrom, Marilyn E (1984), Cherkes - Julkowski, Miriam; and others (1986), Younie, Williams J (1986), Webster, William; Dziedzic, Robert (1988), Westmeyer, Paul (1988), Vier, Carole, (1989), Adams Charles (1989), Watson, Daniel L; Rangel, Lyle, (1989), Penso, Rebecca Ann (1989), Snider, Vicki E (1990), Smith, Carl B. (1990), Seng,

Seok Hoon (1990), Bateman, Barbara (1991), Smutz, Barbara L; Fabert, Barbara V. (1992), Paltyshev, N. N (1992), Lehman, Helane G (1992), Deborah Shelton (1993), Snell, Martha E.; Drake, George P, Jr. (1994), Gentile, J. Roland; and others (1995), Ackeman, Peggy T; and others (1996), Petrus, Julie A; Dunavan, Annie; Thomas, Elizabeth (1997), Watson, Daniel L; Rangel, Lyle (1998), Ediger, Marlow (2002), Grant, Rachel A; Wong, Shelly D (2003) and Kaznowski, Kimberly (2004).

The following investigators conducted investigations on the **Learning ability in General:**

Shuell, Thomas J (1972), Cross; K. Ptricia (1984), Sinatra, Richard; Vnezia, Jennie F (1986), Raffini, James P. (1986), Jones, Edward V (1986), Holcomb, William R.; and others (1987), Titus, Thomas G; and others (1990), King Fredrick (1990), Ciscell, Robert E (1991), Swanson, Juy (1991), Clay, Marie M (1993), Nakano, Yoshiaki; and others (1993), Mc Laughlin, Barry (1994), Yan, Wenfan (1994), Sutchiffe, Jeannie (1994), Kerka, Sandra (1996), Merret, Frank; Thorpe, Susan (1996), Taguchi, Etsuo (1997), Tanaka, Keiko (1997), Delcourt, Marcia A. B; and others (1997), Ediger, Marlow (1997), Kerka, Sandra (1997), Conrad, Brenda; Nordstrom, Pam (1997), Cathie, Scott, Carolyn Plumb (2001), Kerri Weeks (2001), Derwing, Tracey; Munro, Murray J. (2001), Salvatore J. Parlato (2002), Gaskell, Delian; Cobb; Thomas (2004), Yang, Suying; Huang, Yue Yuan (2004), Domangue, Thomas J; Mathews, Robert C; Sun, Ron; Roussel, Lewis.G; Guidry, Claire E (2004), Castro, Paloma; Sercu, Lies; Mendez Garcia, Maria del Carmen (2004), Macedonia, Manuela (2005), August, Diane; Carlo, Maria; Dressler, Cheryl; Snow, Catherine (2005), Timmis,

irov (2005), Beaman, Charles A (2005), Ariisumi, Yashihiko (2006), Richard Andrews, Allison Freeman, Dan Hou, Nick, Nick Mc Guinn, Alison Robinson and Judy Zhu (2006), Silver-Pacuilla, Heidi; Fleischman, Steve (2006), Pedaste, M; Sarapuu T (2006), Allan B. de Guzman Emmanuel Jeric A Albela (2006), Campell, Dermot F; Mc Donnel, Ciaran; Meinardi, Marti; Richardson, Bunmz (2007), Basharina, Olga K. (2007), Mehmet N. Gomlekiz (2007), Tuula - Harriet Kotikoski Raija Fonselius (2007), Mohmoud Mohammad Sayed Abdallah (2008), Marek, Michael (2008), Kerner, Thomas (2008), Li Li, Lin (2008), Shaw, Steven R (2008), Levine, Mel; Barringer, Mary-Dean (2008), Housan, Angela; Reis, Sally M (2008), Van Rooy, Sonja (2008), Kong, Kenneth (2009), Lopez-Fernandez, Olatz; Rodriguez - Illera, Jose Luis (2009), Chang, Chi-Cheng; Tseng, Kuo-Hung (2009), Barbara, Elena (2009), Guerra, Norma S (2009), Natasha Anna Rappa; Daniel, Kok Hoong Yip and Shi Chen, Beay, Marc, J. Reimer; ali Osman Engin, Mehmet Ali Seven, Hui Mien Tan, Sazali Khalid, Maizam bte Alias, Wahid Razally and Zurinah ble Suradi, Smith, Criag; Green, Meredith; Duerden, Sarah and Ortega, Maria Carmen Gil.

The following investigators conducted investigations on the **Computer Assisted Instruction:**

Anandan (1983), Shine (1998), Ryba, Kenneth. A; Chapman, James W (1983), Lundgren, Carol A (1985) and Boone, Randall; Higgins, Kyle (1993).

The following investigators conducted investigations on the **Computer Aided Learning:**

Holmes, Glyn; Kidd, Marilyn E. (1980), Rosenbaun, Nina J (1984), Mc Vitty, Walter, Ed., (1984), Clark, Margaret M. (1986), Graham, Steve; Stoddard, Barbara (1987), Blandford, Ann and others (1994) and Singleton, David (1995).

The following investigators conducted investigations on the **Remedial Instruction:**

Charles R. Duke (1978), Short, Elizabeth J; and others (1986), Shayer, Michael; Beasley, Frances (1987), Robinson, Greg; Kirby, John (1987) and Mazzeo, Christopher (2002).

Gladys Tang, Gu Yang (2000) conducted investigation on the **Self-Learning Package.**

The following investigators conducted investigations on the **Multimedia:**

Sturgess, Pamela A (1986), Goldberg, Lorrain F Daily Bonnie (1991), Benson, Karen; and others (1996), Keyan, Shahla A, Pickard, Radney; Song, Xlaolong (1997) and Lin, Antonia Hsin-Chen (2001).

The following investigators conducted investigations on the **Mathematics:**

Borghouts-van Erp, JWM (1982), Tuckman, Bruce W. (1982), Liedtke, Werner (1985), Liedtke W (1987), Bottge, Brian A (1999), Pagalee, David K (2001) and URenkl, Alexander; Hilbert, Tatjana, Schworm, Silke (2009).

Horton, Steven V (1988) conducted investigation on **Geography**.

The following investigators conducted investigations on the **Social Studies:**

Garrahy, Dennis J. (1982), Graham, Dr. Tony; Cline, Dr. Paual C. (1987), Horton, Steven V; and others (1989), Ediger, Marlow (1990), Wollaston, Justine (1994) and Brown, Clara Lee (2007).

Noleot, Victor, Tindal, Gerald (1994) conducted investigation on **Science.**

Macdonald, Averil (2008) conducted investigation on **Physics.**

Ebenezer, Jazlin V (2001) and Atar, Hakan Yavuz, (2002) conducted investigation on **Chemistry.**

3.6 INFERENCE FROM THE REVIEW OF RELATED LITERATURE

The review of related studies thus, helped the investigator to identify the research gap that no researcher has attempted to teach English grammar through multimedia for the slow learners at the engineering college level. The review of literature helped the researcher from the methodological point of view also.

On the basis of review of related research studies the investigator felt the need for this study and hence, the investigator attempted to develop a remedial self-learning package for the slow learners in written English at the engineering college level.

3.7 CONCLUSION

The review helps to avoid repetition of the study. It helps to know different views of various researches on a particular problem. It helps to identify and analyse the methodology adopted by various researchers on a particular problem.

The review of related literature helped the researcher to identify the research gap and to formulate the objectives and the hypotheses and to design the research process. In this chapter, related studies are reviewed expansively. This provides a distinct picture about the present status of multimedia in Education and its approaches and importance as a self-generating material. Through this method, the students can utilize them to their utmost benefit.

Thus, in the present study, an attempt has been made to study effectiveness of Developing a Remedial Self-Learning Package for The Slow Learners in Written English at Engineering College Level. The next chapter deals with the research methodology.