Review Of Related Literature
Chapter II

REVIEW OF RELATED LITERATURE

Literature available on movement education of elementary children is very limited. However, the research scholar went through the related available literature and relevant studies found are enumerated.

Fowler\(^1\) used elementary school children from 28 schools as subjects. Two attitude scales were developed which measured children's attitude toward physical education and children's perception of teaching behaviour. Based on children's perception of teaching behaviour, two teaching methods were identified and labeled as, "Traditional Method" and "Movement Education Method" respectively. The former characterized teachers as being authorization, frequently demonstrating exercises and activities, and basing their physical education programme on games, team sports, and competition. On the other hand, teachers who used movement education were characterised as being more informal, using widened - Discovery and Problem - solving methods, and concentrating on teaching fundamental skills and movements. Scale reliabilities were derived for each scale using item analysis as the result of a pilot study.

Generally, the findings indicated that elementary school children are aware of their teacher's behaviour and have more positive attitude towards

physical education with increasing degrees of teacher's orientation to movement education. However, of interest was the finding that apparently little relationship exists between children's perceptions of teaching behaviour and how teachers actually indicated they taught.

Carlson\textsuperscript{2} investigated the personal meaning and significance of selected movement experiences of second graders as determined by self-report. The direct, open-ended inquiry method was used to assess the attitudes and feelings of children with specific reference to the categories of self-physical and emotional, and content of physical education. The technique of content analyst was used to identify common characteristics of the responses for making inferences, and for describing the content of the responses.

Movement, the content of physical education was the genesis of their growing awareness of the self. Through movement experiences in games, gymnastics, and dance the children made discoveries about themselves. They explored creatively, the actions and activities of the body, how the body moves, where the body moves and what relationship occurs.

Moyer\textsuperscript{3} compared the effects of a "prescriptive individualized programme" and a "non-prescriptive group task programme" on fundamental motor patterns and ability acquisition, self-concept, and socialization skills of

kindergarten children. Eighty-four kindergarten children were given a pre test and a post-test using Hughes basic gross motor assessment, Florida key and pictorial self-concept test, and a socialization test.

Mauser and Reynolds\(^4\) studied the effects of a developmental physical activity programme on children's body coordination and self-concept, significant increases in body coordination, little change in self-concept, and moderate, negative correlations between these variables were found after 12 children participated in an eight-week developmental physical activity programme.

'Schneider\(^5\) investigated the effect of movement exploration and mime on body image, self-concept and body coordination of seventh grade children. The sample consisted of 156 boys and 145 girls who were divided into an experimental group of 102 boys and 81 girls, and a control group of 54 boys and 64 girls. The experimental group participated in 15 lessons of a course of movement exploration and mime, twice a week, over a period of seven and one-half weeks. The control group continued with the regular physical education programme consisting of a unit of soccer and a unit of basketball for girls and a unit of soccer and a unit of flag football for boys.


Rusling\textsuperscript{a} studied the effect of a formal movement education programme on the gross motor development and the self-social concept of four-years old children. The 55 subjects were divided into an experimental group (N=21) a placebo group (N=20) and a control group (N=14). The intact classes were comparable in number of boys and girls, previous nursery school experience, age range, and socio economic status. The criterion measures were the gross motor subscale of the Qener Developmental Screening Test and selected subtests of the children's self-social constructs test. Analysis of covariance was used for data analysis. It was concluded that formal movement education programmes have no effect on the gross motor development and self-social concept of four-year old children. No correlations between the two areas of development were detected.

Joole and Arink\textsuperscript{b} studied the effects of movement education on motor skill performance. The subjects were 47 first grade students who were divided into two groups; one was taught movement principles by movement education, approach and the other by traditional approach. Johnson throws and catch test and a batting test for distance were used as pre tests. These same tests were repeated as post- test in addition to two other tests which measured performance on striking and kicking for distance and accuracy. The two groups were not significantly differed on the latter two tests, which


measured the transfer of training effect. Traditional learning was better than movement education in developing throwing, catching and batting performance. It was concluded that when the objective is to teach a specific skill within a relatively short period, a command style with demonstration is better than movement education.

Downin⁸ studied four sections of second grade students at 2 elementary schools were watched by trained observers to compare traditional teaching-learning methods with the movement exploration approach in physical education. The 2 observers watched the same S for five 10-second intervals, independently recording S’s behaviour. This was done concluded that students experienced more active on task behaviour and they were self-distracted more often in the movement exploration approach. They experienced more passive on task participation in the traditional teaching method. There was no significant difference in the 2 teaching methods when comparing the amount of time student’s distracted peers. The fifth category, waiting a turn, was not used enough time to be considered with the other categories. There was significant difference in the amount and type of activity experienced by all groups in the 2 teaching methods.

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Wang's\textsuperscript{9} purpose of this study was to investigate the effects of a creative movement program on motor creativity and gross motor skills of preschool children. Sixty children between the ages of three to five were drawn from the population of a children's center in Teaching, Taiwan for this study. An experimental pre-test, post-test control group design was utilized. The children enrolled in the experimental group were divided into three sub-groups, classified as 36-47, 48-59, and 60-71 months old, and participated in a creative movement program twice a week for 30 minutes each time. The children enrolled in the control group were also divided into three sub-groups classified as 36-47, 48-59, and 60-71 months old, and participated in unstructured free play. Data were collected from the administration of a pre-test and post-test to both the experimental and control groups to investigate the effects of a creative movement program on the scores of Torrance's Thinking creatively in Action and Movement (TCAM) and the Peabody.

LeBreck's\textsuperscript{10} purpose of this study was to develop a test of motor creativity for children from kindergarten through grade three. Subproblems included determination of an objective scoring strategy, interpreter agreement, test-retest reliability, test validity, inter-and intra-task relationship, optimal combination of tasks for selected grade levels, and differential grade and/or gender effects. The motor creativity test for


Elementary School Children (K-3), which was designed by the investigator to measure a child's ability to create divergent movement responses to problem-solving tasks, is an individually administered test consisting of five timed tasks. Objective scoring procedures allow for analysis of the child's movement responses. Each task is scored for fluency (Number of responses) and for Transformations (number of different elements the child varies within each scoring category of the test). The sum of these scores yields a total test score.

Bradshow's purpose of this study was to discover the relationship between certain motor constructs and three measures of academic achievement. Three sample groups were considered. The first group considered was the entire sample, the second was male only, and the third was females only. The total sample consisted of 274 students from a predominantly rural school district in central Illinois. These students were administered the integrated motor activity scale in the summer prior to their attendance in kindergarten. At the beginning of second grade, the same students were administered the comprehensive test of basic skills. The data were subjected to a Pearson Product - Moment correlation Procedure. Out of twenty-seven hypotheses, twenty-three of them were rejected.

Ricctey\textsuperscript{12} purpose of this study was to investigate the relationship between five-motor skill competencies and academic readiness of kindergarten and first grade children of differing socioeconomic backgrounds. The subjects were 58, five year old preschool children and 58, six year old first graders selected at random from three preschool programs and three elementary schools. The criterion variables selected to be investigated included overall academic readiness, word meaning, number recognition, and alphabet identification. The composite set of predictor variables consisted of the five motor skill areas involving upper-limb speed and dexterity, as well as the predictor variables of grade level, sex, and socioeconomic status. The instrument used in this study to assess academic readiness was the metropolitan readiness Tests. The motor skill evaluation was determined by using the Bruininks-Oseretkey test of motor proficiency. Using the statistical technique of multiple liner regression, the author compared the scores from the two assessments to determine whether any significant relationships existed between overall academic readiness and five-motor skill competencies.

Jacobsen\textsuperscript{13}children benefit in numerous ways from regular physical activity. Aside from the multiple health and psychological benefits, research is beginning to indicate that physical activity plays a significant role in


learning. The purpose of this study was to determine the effect that physical activity had on fourth-and fifth-grade students immediate mathematical performance. The population for this study consisted of 162 fourth and fifth-grade students enrolled in a single elementary school located on an Indian reservation in South Dakota for the 2000-2001 academic school year. From this population, 127 students returned their consent forms and were randomly assigned to exercise and non-exercise groups during six consecutive physical education class periods. Participation by students was strictly voluntary. Data were collected with simple addition mathematical computation tests. Tests were developed with the assistance of the student’s regular classroom teachers.

Bennett’s purpose of this study was to investigated the impact of body awareness training on Good enough-Harris Drawing Test Scores among kindergarten children. The content of elementary physical education programs has reflected a concern for body awareness training. However, there appears to be little in the research regarding empirical data on the topic of body awareness development in elementary physical education programs.

Debelon and Jane’s purpose of this study was to develop a preschool physical education curriculum. This development process encompassed not only the design, but also the implementation and evaluation of the

curriculum. In the design phase, literature was reviewed in such varied areas as motor learning, child development, research on teaching, and specific motor skills.

From the designed curricular framework, five motor skills (broad jump, overhand throw, place kick, catching, horizontal strike) were selected for further guideline development and testing. Guidelines for instructional units in these five skills were then developed and implemented in two schools. Each instructor collected data on the skill segment's implementation by recording daily lesson plans and subsequent evaluative comments in a journal. Live observations of classes were also used to gather data on the field tested skill segments. Pre-instruction and post-instruction film footage was taken for each of the five skills on participating students and later analyzed to determine if gains in form had been made. Additional quantitative measures were also taken in the broad jump, catching, and striking segments.

Maina's\textsuperscript{16} purpose of this study was to investigate the effects of an eight-week fitness curriculum on the fitness knowledge, fitness test scores, attitude and self-efficacy towards physical activity of fifth grade children. Seventy-eight (N=78) fifth grade students enrolled in four classes and their regular physical education teacher at two local elementary schools in Lowndes County, Georgia participated in this study. The children's physical

activity attitude and self-efficacy survey was used to assess the participant's attitude and self-efficacy beliefs towards physical activity participation. A modified version of the Superkids-Superfit knowledge test was used to assess student knowledge of the health-related components of physical fitness. Fitness Gram, a nationally recognized health-related activity assessment and computerized reporting system were used to conduct the physical fitness test.

Hines' purpose of this study is to examine the relationship among physical fitness and academic achievement (reading, mathematical and language arts) gender and attitudes towards physical activities, furthermore this study will compare fifth grade girls and boys with respect to their physical fitness. The data will be analyzed with multiple regression analysis to determine the best variable that explains physical fitness. Finding suggest that, those who were more physically fit tended to be better reader, do better at math computation, and do have better language skills. Additional findings will be presented and implications for elementary students will be discussed.

Rober's study examined the effects of participation in a parent involved movement instruction program, on the skill acquisition, concept formation, and movement practice behaviour of preschool children. Thirty-nine subjects were enrolled in a parent attended, preschool movement

programs or an alternative program that did not include parents. The
treatment was one forty-five minute lesson per week for nine weeks. The
dependent variables were developmental level of motor skills, movement
concept formation and movement, practice behaviour. The independent
variables were extent of participation by parents as teacher of motor skills,
extent of participation by parents as teachers of movement concepts, and
testing occasion. The result revealed that: children in the parent attended
program demonstrated a greater increase in mean gain score in of all three
motor skills as well as greater demonstration ability of movement concept
than did the children in the alternative program with out parents. Significant
gains were found for jump, and pathways.

Vickers¹⁹ purpose of this study was to determine if relationship exist in
fourth grade students between achievement in the performance of common
sports skills and mathematics and reading achievement and the influence of
selected physical and social factors on these relationship.

Richardson's²⁰ purpose of this study was to investigate the effect of a
movement education approach to gymnastics as compared to a traditional
approach, on the movement concept of college women. Two classes in
beginning gymnastics were given the Doublah O-sort test of movement
concept prior to and at the conclusion of their 11-week course. Result showed

¹⁹ Betty Jane Vickers, "A Comparative Analysis of Motor Skill Performances with Academic Achievement
²⁰ Dorothy Anne Richardson, "A Study of the Effect of Different Approaches to Gymnastics on Movement
that both classes demonstrated significant change in the self and ideal-self components of movement concept, but that only within the movement education class was that there was a significant narrowing of the discrepancy between these components.

Coleman\textsuperscript{21} the ninety-three college women who served as subjects were placed in 3 groups. (1) Delayed experimental group, which received the prerequisite unit of movement education and had a six weeks delay before beginning the unit of bowling instruction. (2) Experimental group, which received the prerequisite instruction in movement education and moved immediately into the bowling instruction unit. (3) Control group, which received no specific instruction in movement education and participated only in the unit of bowling instruction. Conclusions of the study were: the prerequisite instruction in principles of movement had no appreciable effect upon college women's to achieve a level of performance in bowling higher than that of student who did not have such instruction; the application of movement principles in the actual performance of motor patterns utilized in bowling, as rated by trained judges, was not significantly affected by a prerequisite unit of instruction in movement education and knowledge of principles of movement, expressed through a written examination over these principles, appeared to be learned through specialized skill instruction in

bowling as adequately as through prerequisite instruction in a unit of movement education in this investigation.

Loveless\(^{22}\) in the study experimental subjects participated in 31 days of selected physical activities for 30 minutes during each school day. The control subjects participated in 31 days of free play activities. Data were obtained from the administrations of the Glover physical fitness test, the California reading test, and selected items from Kephart's perceptual-motor survey rating scale. The results indicated that participation in selected physical activities was beneficial for the experimental groups on certain test items. Intercorrelations between physical fitness reading achievement, and perceptual-motor skills were presented. No consistent pattern was reported when the experimental and the control groups were compared. Each group excelled the other in various combinations. It was concluded that the younger the child is, the more potential he has for significantly improving in perceptual-motor skill activities.

Stube's\(^{23}\) study was conducted on one hundred nineteen 6 and 7 year old boys and girls who participated in a 10-week study to determine the differences between two curriculums on selected measures of physical fitness and motor skills. Scefeldt and Haubenstricker's (1979) Basic Motor Skills


Instrument and the AAHPERD Health related fitness test were administered to the students as a pretest and post-test. Analysis of covariance (ANCOVA) results indicated significant improvement in three out of four fitness components (9-min. run, sit-up, and push-up test) favoring the fitness-oriented program (FOP), but there was a decrease in motor skill performance. The motor skill data showed significant improvement favoring the skill-oriented program (SOP) in three out of five components (overhand throw, skip, and hop) with a decrease in fitness performance. The data are discussed in terms of curriculum content and curriculum goals. The result suggests that a curriculum contest is specific to its stated goals.

Miller's study examined the effect of preclass walking on student classroom behaviour and academic achievement. Three classes of fourth grade students were randomly assigned to one of three separate six week walking sessions. During their walking session, the assigned class of students walked for the first 10 min. of a 40 min. science class. Measures of classroom behaviour and academic performance were collected from all three classes during each of the three separate 6-week sessions (one walking session and two nonwalking sessions for each class). A repeated measures two-way analysis of variance (ANOVA) showed no significant interaction effect between class and session for academic performance ($p = 11$). A repeated measure of two ways ANOVA showed an interaction effect between class

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and session for classroom behaviour ($p = .000$). An aposteriori Tukey's analysis of the interaction effect showed that classroom behaviour was significantly improved during the walking session versus the other non-walking sessions for each class. Indirect support for the intervention was based on the fact that student grades were unaffected by a ten min reduction in instruction time classroom behaviour was improved and may explain the greater "rate" of learning in science class during the walking session.

Livingston\textsuperscript{25} this study was undertaken to determine the effectiveness of a developmental program for young children by measuring its impact upon first-grade academic achievement. A developmental program is a yearlong school situation, which the child participates in before entering a formal first grade program. It extends the kindergarten and first-grade program. it extends the kindergarten and first-grade curriculum over a three-year period. An additional goal of this study was to determine the academic effects upon children who were recommended for a developmental placement, but who did not participate in such a program. It was hypothesized that there would be no differences in the first-grade achievement of three matched groups of children: those who were recommended for and participated in a developmental program (Group 1), those who were recommended for but did

not participate in a developmental program (Group 2), and those who were recommended for and participated in a traditional program (Group 3).

The achievement of both group 1 and group 3 was significantly higher than the achievement of group 2 (p < .05). No statistically significant differences were noted between groups 1 and 3. Thus, findings of this study support the developmentalists' claim that students judged not ready for a regular educational program are more likely to experience academic success if provided sufficient time to mature, an adjusted curriculum, and acceptance without pressure.

Poll-Sorensen's[^26] this study was designed to compare the effectiveness of a traditional and a movement education method as they were used for physical education instruction with primary school aged children. Estimates of the method's effectiveness were determined by an analysis of descriptive evidence and by a comparison of the results from measures of motor proficiency and perceived competence.

The project was conducted in a single elementary school with the children in kindergarten through second grade. The two teaching methods to be examined were manipulated by the regular physical education teacher in collaboration with the researcher. One of two classes at each grade level was assigned to be taught by either a traditional or a movement education

approach. Five boys and five girls were randomly selected for measurement from the pool of available students in each class. The children were pretested on the pictorial scale of perceived competence for children (Harter and Pike, 1981) and the Bruininks - Oseresky Test of motor proficiency (Bruininks, 1978) in November.

Allen’s purpose of this study was to determine the effect of a two-week (ten school days) intensive dance/movement education program on the self-concept of developmentally handicapped fourth and fifth grade students as measured by the Piers-Harris Children's Self-concept Scale. The study took place in two elementary schools. The schools were located in communities that were characterized as low to lower-middle socio-economic class. The sample population consisted of twenty-eight subjects, 15 males and 13 females, in two self contained developmentally handicapped classes at each school. The ethnic origins of the subjects were African-American, Caucasian, and Cambodian. The subjects ranged in age from 9.11 years of age to 15.3 years of age. Their IQ scores ranged from 63 to 80. Two males and two females were randomly selected for observation by the researcher and the unbiased observer.

The subjects for Thomas's study were 67 children from three first and second grade classes. Each class was randomly divided into an experimental and control group. The experimental programme included 12 lessons of eye-foot co-ordinations activities taught in 20 minutes, session three day/week for four weeks. The control group received no physical education instruction during the experimental period. The Minnetonka motor ability test was administered at the pre and post-test to measure. The level of perceptual motor development. Both groups improved from the pre test to post test on four of the five sub tests.

Motor performance situations were devised by Chrietzberg in which the lower class mothers were instructed to guide and control the performances of their three year old children in four relatively different motor tasks, mother child pairs (N-20) were video-taped in the situations and interactions between mother and children were categorised. Relationship were sought between mother and child behaviour variables and between all behavioural variables and the levels of motor skill exhibited by the children, mothers were found to exhort substantial influence over their children's motor performance i.e. they were able to elicit high frequencies of performances of irrelevant motor activity. Children's level of motor skill was found to be

significantly related to their cooperation frequency of performance and to their inclination to imitate task models, provides by their mother. Significant relationships were also found between children's level of motor skill and the frequency with which mother provided information regarding the quality of motor performance attempts.

Movement program is an integral ingredient in the Division of Kinesiology and Health's teacher preparation program. It runs in conjunction with teaching lab, the first teaching practicum in a series of four experiences. Teachers in the program are physical education teacher education majors who are typically in the first semester of their junior year. The teachers spend the first eight weeks of the fall semester learning about the young child and developing their teaching and assessment skills. Then, each teacher is assigned a 4.6-year-old child. During the first day of the program, teachers assess the developmental levels of their children's locomotor, manipulative, stability (balance), and aquatic skills. Fitness levels are also determined. Based on these assessments, teachers plan lessons that are developmentally appropriate of their students. These lessons are implemented in a one-on-one student teacher environment, as well as with partners and in small groups. As the program draws to a close, teachers conduct post-tests to determine if changes have occurred in the children's movement skills and fitness levels.

"Developmental Preschool Movement Program," University of Wyoming College of Health Sciences Division of Kinesiology and Health.
Joperd 31 "To MOVE IS TO BE" the school consists only of grades kindergarten through second grade and students are involved in a unique experience in movement every day. Movement is recognized for the role it plays in positively developing a child's mind and body. Tommie Bowling teacher physical education three times per week for 30-minute sessions. The music teacher, Karen Delgado, also meets with the children for two 30-minute sessions. Together the teachers have developed a curriculum to complement and to reinforce concepts common to both physical education and music.

Ward and Lerch 32 conducted a study to identify the motor characteristics of selected groups of three and four year old children. An eight-item test battery was developed and administered to 95, three and four year olds. The battery consisted of (1) body perception (2) balance (3) locomotor ability, (4) gross agility, (5) ball throw, (6) eye-hand coordination, (7) drawing a circle and (8) laterla line. Multivariate analysis of variance revealed a significant difference at .01 levels in age with items 3, 4, 6 and 7.

Shore's 33 study aimed at constructing a test battery for assessing motor fitness for boys in the lower elementary grades. The investigator formulated the following hypothesis, what battery of valid, objective and reliable motor

31 Peter H. Werner Joperd, "Concept Teaching in Move and Music," 53 (Sept. 1982)
fitness test items best reflects the total motor fitness of boys in the lower elementary grades. On the basis of review of literature the following components were selected for use in the construction of a motor fitness test battery for boys in the lower elementary grades: (1) muscular endurance, (2) cardiovascular endurance, (3) muscular strength, (4) speed, (5) power, (6) agility, (7) flexibility and (8) balance. Thirty experimental test items were selected as valid and reliable measures of motor fitness. These test items were administered to 238 boys, enrolled in first, second and third grades. The resultant data were factor analysed according to the principal axes method with variance criterion for rotation. Seven factors were revealed and tentatively named (1) muscular strength, (2) balance, (3) muscular endurance, (4) three factors all of which were identified as flexibility and, (5) an unidentifiable factors.

Christzberg\textsuperscript{34} purpose of a study by Broadhead was to analyse from the raw score data of the original standardization sample of 765 children, descriptions of the age and sex traits of the fourteen short-form items (Bruninks Costertesky Test) contrasting them with relevant research. Chronological age trends over the age 5-15 years were linear for all eight test components, with the most marked increase occurring for the 5-10 years olds. A leveling of the curves were noted after, which was probably accounted for

by a scoring system which caused a ceiling effect on several items. Statistically significant sex differences favouring the boys were noted in two of the four gross motor components and in the components which combines five and gross motor abilities. Differences favouring the girls were noted in one of the three five motor components. Such characteristics are generally comparable with previous studies on individual tests and batteries, which measure fine and gross motor proficiency.

Cameron and Marjorie\textsuperscript{35} are investigated that the younger the child the more physical are his needs and the more necessary are opportunities for movement. Children delight in movement; we can read joy, anger, dejection and concentration through the nature of movement done by child. Our aim always must be to provide enjoyable opportunities for physical activity. For this to be so, the activities selected, their range and method of presentation must meet the need of each child, we need to hear much of posture, paise and carriage and many unnatural, boring restricted and purposeless exercises resulting from an emphasis on there, all around bodily participation helps ensure fitness and vigour so programme should be balanced and natural. Movement education contributes to the activity. The process of learning at all stages and for all subjects in infant school in through personal experience.

Vestervelt\textsuperscript{36} subjects fifteen boys and nine girls four years old enrolled in a pre-kindergarten class were divided into two groups by vestervelt and pre-tested with the Peabody picture vocabulary test to provide an estimate of verbal intelligence. Motor development was measured by balance, agility, speed, power, flexibility and accuracy. Group A was given instruction in the creative motor activities by the investigator for 20 min./day three days/week for four months. Group B had instruction in creative motor activities for 20 min/week for four months. Results indicated that a creative motor activities programme could be valuable in enhancing the motor development of four-year-old children. One hundred and twenty min. periods a week, verbal intelligence improved considerably over the experimental period, with group B making significantly greater gains than group A.

Female high school subjects were assigned to one of three groups of Douglas\textsuperscript{37} to motor ability test scores. Group a contained fourteen subjects two in motor ability who participated in the regular physical education programme. Group B had fifteen low ability objects that experienced special exercises based on (Delacato and Kephart) and Group C contained subjects with mixed levels of motor ability. Group A and B did not differ on a post


motor ability test, although both groups improved significantly when comparing the three groups on skill tests. Group A was better than the other two groups in the softball throw for distance, volley test in volleyball and half minute basket shooting test. Group A performed significantly better than group B on two of the skill tests.

Leray38 made a comparison of the physical fitness level of seventh grade boys before and after a planned physical education programme. The testing device was the AAPHER Youth Fitness test, measuring arm and shoulder girdle strength, abdominal strength, speed, agility, flexibility skill and coordination and cardio-vascular efficiency. Comparison of the initial and the final scores of the 70 students revealed an improvement in each test and each component of physical fitness. It is recommended that more emphasis be given in schools to planned programme of physical education for desirable physical development.

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38Cofield Leray, 'Comparison of the Physical Fitness Level of Seventh Grade Boys before and after the planned Physical Education Programme", Comleted Research in Health, Physical Education and Recreation, 13: 141.