

**THE USE OF A MODIFIED STRATEGY-BASED MODULE IN DEVELOPING  
CREATIVE THINKING AND SELF-CONCEPT OF LOW ACHIEVERS IN  
JORDAN**

**by**

**SHADI KHALED ABDULLAH AL-BADAREEN**

**Thesis Submitted in Fulfillment of the Requirements for the Degree of Doctor of  
Philosophy**

**July 2013**

**THE USE OF A MODIFIED STRATEGY-BASED MODULE IN DEVELOPING  
CREATIVE THINKING AND SELF-CONCEPT OF LOW ACHIEVERS IN  
JORDAN**

**SHADI KHALED ABDULLAH AL-BADAREEN**

**UNIVERSITI SAINS MALAYSIA**

**July 2013**

## **Dedication**

*They say that behind every good man is a magnificent woman.*

*Then, I must be a good man because my mother is absolutely outstanding. To my mother and my father who fills my life with joy.*

*Special Dedication for My Uncle Khalaf ALMaddan and Dr.Suad*

*Dahman and Dr.Saher AL Sabbah.and*

*To every person who gave me support.*

## **ACKNOWLEDGEMENTS**

### **The name of Allah, the Most Gracious and Most Merciful**

I thank Allah for everything, especially, for enabling me to complete this doctoral thesis. I am deeply indebted to all those who provided me with enlightenment, support and encouragement. First and foremost, I would like to express my thanks to my main-supervisor supervisor, Prof. Dato' Susie See Ching Mey, the Deputy Vice-Chancellor of for her remarkable supervision, guidance and invaluable advice throughout the research and I am greatly indebted to her for making this research effort a wonderful learning experience a wonderful learning experience. I appreciate her invaluable advice and guidance. I would also like to thank my co-supervisor, Dr. Mohd Zuri Bin Ghani for his comments, suggestions and support. My special thanks to the Dean, deputy dean and the staff of the School of Educational Studies.

In addition, I would like to express my special thanks to the staff of the graduate studies and libraries, Universiti Sains Malaysia for their cooperation and assistance. Special thanks to Salina Hassan the secretary of the office of the Deputy Vice-Chancellor for her kindness and cooperation. I appreciate the Jordanian Ministry of Education, for allowing me to collect the data for this study. I wish also to thank the cooperation of the teachers and students at the Al-Mafareq governorate in Jordan who accepted to act as informants for the study. My special thanks to my friends at the Universiti Sains Malaysia. Last not least, to my parents, all my brothers and sisters for their motivation, prayers and moral support during this journey. Especial thanks to my uncle for his support. All the mercy from Allah and God bless you all.

## TABLE OF CONTENTS

<b>Title</b>	<b>page</b>
ACKNOWLEDGEMENTS	i
TABLE OF CONTENTS	ii
LIST OF TABLES	vii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
LIST OF APPENDIXS	xi
ABSTRAK	xii
ABSTRACT	xiii
<b>CHAPTER ONE: INTRODUCTION</b>	
1.1 Introduction	1
1.2 Background of Study	5
1.2.1 General Education in Jordan	5
1.2.2 Resource Room Program	6
1.2.3 Resource Room Program in Jordan	14
1.3 Statement of the Problem	18
1.4 Objectives of the Study	21
1.5 Research Questions	23
1.6 Hypotheses	24
1.7 Rationale of the Study	25
1.8 Significance of the Study	25
1.9 Definitions of Terms	26
1.10 Conceptual Framework	28
1.11 Limitations of the study	33
1.12 Conclusion	33

## **CHAPTER TWO: LITERATURE REVIEW**

2.1	Introduction	34
2.2	Theoretical Framework	34
2.2.1	Low Achievers	35
2.3	Creative Thinking	38
2.3.1	Approaches of Creative Development	41
2.3.2	Skills of Creative Thinking	42
2.4	Low Achievers and Creative Thinking	46
2.4.1	Studies Related to Creative Thinking and Low Achievers	51
2.5	Self Concept	56
2.5.1	Self-Concept and Low Achievers	61
2.5.2	Studies Related to Self-Concept and Low Achievers	62
2.5.3	The Relationship between of Self-Concept and Creative Thinking	66
2.6	CoRT Program	73
2.6.1	Characteristics of CoRT Program	74
2.6.2	CoRT Program Description and Components	76
2.6.2.1	Steps of Lesson Applications (CoRT)	78
2.6.3	Studies related to CoRT Program	79
2.7	SCAMPER Program	82
2.7.1	Strategies of SCAMPER Program	83
2.7.1.1	Steps of Lesson Applications ( SAMPER)	84
2.7.2	Studies related to a Strategy Based Program for idea Generating (SCAMPER)	84
2.8	Conclusion	87

## **CHAPTER THREE: METHODOLOGY**

3.1	Introduction	89
3.2	Population and Context	89
3.2.1	Selection of Student Sample	90
3.2.2	Selection of Teacher Sample	90
3.3	Research Design	91
3.4	Variables	93

3.5	Instruments	93
3.5.1.	Torrance Test of Creative Thinking	94
3.5.1.1	Content Torrance Test of Creative Thinking	95
3.5.1.2	The Translated Torrance Test of Creative Thinking	96
3.5.1.3	Validity of Torrance Test of Creative Thinking	96
3.5.1.4	Scoring of Torrance Test of Creative Thinking	98
3.5.2	Piers -Harris 2 Self-Concept Scale	100
3.5.2.1.	Content of Piers - Harris 2 Scale	100
3.5.2.2	The Translated of Piers - Harris 2 Scale	104
3.5.2.3	Validity of Piers - Harris 2 Scale	105
3.5.2.4	Scoring of Piers - Harris 2 Scale	105
3.5.3	Classroom Observation	108
3.5.3.1	Validity of Classroom Observation	108
3.5.3.2	Reliability of Classroom Observation	109
3.6	Reliability of the Instruments	109
3.6.1	Reliability of Torrance Test of Creative Thinking	111
3.6.2	Reliability of Piers & Harris 2Scale	112
3.7	Teaching Materials	113
3.7.1	The Modified Strategy-Based Module	113
3.7.1.1	Validity of the Modified Strategy-Based Module	115
3.7.1	Currently Used Strategy-Based Module	117
3.8	Pilot Study	117
3.8.1.	Sample of Pilot Study	118
3.9	Data Collection in the Pilot Study	119
3.9.1	Phase One	119
3.9.2	Phase Two	119
3.9.3	Phase Three	120
3.10	Training for the Teachers	120
3.11	The Procedure of Research	120

3.12	The Main Study	122
3.12.1	Data Collection Procedures in the Main Study	122
3.12.1(a)	Phase One	122
3.12.1(b)	Phase Two	122
3.12.1(c)	Phase Three	123
3.13	Statistical Analysis	123
3.13.1	Analysis of Research Questions	124
3.14	Conclusion	126
<b>CHAPTER FOUR: RESULT</b>		
4.1	Introduction	127
4.2	Sample Characteristics	128
4.3	Descriptive Statistics	128
4.3.1	Group Distributions	128
4.3.2	Students' Gender Distributions	129
4.4	Statistical Analysis for the Test Scores of the Creative Thinking	129
4.4.1	The Descriptive Statistical Analysis for the Test Scores of Creative Thinking	131
4.4.2	Descriptive Analysis based on Students' Gender	133
4.5	The Assumption two-way ANCOVA Analysis Procedure	134
4.6	Research Question One	138
4.6.1	Null Hypothesis One	138
4.7	Research Question Two	139
4.7.1	Null hypothesis Two	140
4.8	Research Question Three	141
4.8.1	Null hypothesis Three	141
4.9	Research Question Four	143
4.9.1	Null hypothesis Four	143
4.10	Statistical Analysis for the Test Scores of self-concept	144
4.10.1	The Descriptive Statistical Analysis for the Test Scores of Self-Concept	145
4.10.2	Descriptive Analysis based on Students' Gender (M, F)	147
4.11	The Assumption of two- way ANCOVA Analysis Procedure	148
4.12	Research Question Five	153
4.12.1	Null hypothesis Five	153

4.13	Research Question Six	154
4.13.1	Null hypothesis Six	155
4.14	Research Question Seven	156
4.14.1	Null hypothesis Seven	157
4.15	Research Question Eight	158
4.15.1	Null hypothesis Eight	158
4.16	Summary of the Findings of the Research Questions	160
4.16.1	Low Achievers Creative Thinking	160
4.16.2	Low Achievers Self-concept	161
4.17	Results of the Experimental and Control Groups Observations	162
4.19	Summary of the Research Results	164
4.20	Conclusion	164

## **CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

5.1	Introduction	165
5.2	Discussions	166
5.2.1	Research Question One	168
5.2.2	Research Question Two	170
5.2.3	Research Question Three	171
5.2.4	Research Question Four	173
5.2.5	Research Question Five	174
5.2.6	Research Question Six	175
5.2.7	Research Question Seven	176
5.2.8	Research Question Eight	176
5.3	Recommendations	179
5.4	Implications of the Study	180
5.5	Conclusion	180
	REFERENCES	182

## LIST OF TABLES

Table No	Title	Page
Table 3.1	Distribution of participants in resource rooms' Sample	90
Table 3.2	Distribution of Teacher participants in resource rooms'' Sample	91
Table 3.3	Design of the Study	92
Table 3.4	Reliability Coefficient of Torrance	111
Table 3.5	Reliability Coefficient of Piers & Harris2 Scale	112
Table 3.6	ParticipantsDistribution of the teaching Materials	117
Table 3.7	Analysis of Research Questions	125
Table 4.1	Distribution of the Groups based on the Teaching Methods	129
Table 4.2	Distribution of the Groups based on the Gender	129
Table 4.3	Values of the Pre-test and Post-test Scores for CT overall Students Involved in the Study (N=160)	132
Table 4.4	Values of the Pre-test and Post-test Scores for CT for Experimental groups and Control groups	132
Table 4.5	Values of the Pre-test and Post-test Scores for Students' CT according to Gender	133
Table 4.6	The Skewness and Kurtosis Value of the Pre-test and Post-test Score for Overall Students Involved in the Study	134
Table 4.7	Values of the Pre-test and Post-test Scores for Students who Followed experimental group	139
Table 4.8	The Results of t-test of both pre-test and post-test in experimentalgroup for the CT	139
Table 4.9	The Mean Score and Standard Deviation of the Pre-test and Post-test Scores for CT	140
Table 4.10	Results of tow- way ANCOVA for the CT Tests of Between- Subjects Effects	141
Table 4.11	Results of two- way ANCOVA for the CT Tests of Between- Subjects Effects	142
Table 4.12	Results of two- way ANCOVA for the CT Tests of Between- Subjects Effects	143

Table 4.13	Values of the Pre-test and Post-test Scores for SC overall Students Involved in the Study (N=160)	146
Table 4.14	Values of the Pre-test and Post-test Scores for SC Students who Followed experimental and control groups	147
Table 4.15	Mean, Standard Deviation, Minimum and Maximum Values of the Pre-test and Post-test Scores for Students who Followed SC	148
Table 4.16	The Skewness and Kurtosis Value of the Pre-test and Post-test Scores for Overall Students Involved in the Study	149
Table 4.17	Values of the Pre-test and Post-test Scores for Students who Followed experimental The group for SC	154
Table 4.18	Results of T-test of both pre-test and post-test in experimental group for the SC	154
Table 4.19	The Mean Score and Standard Deviation of the Pre-test and Post-test Scores for SC	155
Table 4.20	The Results of two- way ANCOVA for the SC	156
Table 4.21	The Results of tow- way ANCOVA for the SC	157
Table 4.22	The Results of tow- way ANCOVA for the SC	159

## LIST OF FIGURES

<b>Figure No</b>	<b>Title</b>	<b>Page</b>
Figure 1.1	Conceptual Framework	32
Figure 3.1	Research Variables	93
Figure 3.2	Method of Analysis	124
Figure 4.1	Two-Ways ANCOVA with 2 X 2 Factorial Designs	131
Figure 4.2	Q-Q Plot For the Pre-test Scores Of CT	136
Figure 4.3	Q- Q Plot For the Post-test Scores Of CT	136
Figure 4.4	Q-Q Plot For the Pre-test Scores Of CT	136
Figure 4.5	Q-Q Plot For the Post-test Scores Of CT	136
Figure 4.6	Scatter Plot of Pre-test and Post-test Score Of CT	137
Figure 4.7	Two-Way ANCOVA with 2 X 2 Factorial Designs	145
Figure 4.8	Q-Q Plot For the Pre-test Scores Of SC	150
Figure 4.9	Q-Q Plot For the Post-test Scores Of SC	150
Figure 4.10	Q-Q Plot For the Pre-test Scores Of SC	151
Figure 4.11	Q-Q Plot For the Pre-test Scores Of SC	151
Figure 4.12	Interaction Effects between the teaching materials and SC	152

## **LIST OF ABBREVIATIONS**

CT	Creative Thinking
SC	Self Concept
MSBM	Modified Strategy Based Module
CUSBM	Currently Used Strategy Based Module
DV	Dependent Variable
IV	Independent Variable
TC	Control Group Teacher

## **LIST OF APPENDIXES**

- Appendix A: Modified Strategy-Based Module
- Appendix B1: Torrance Test for thinking creatively
- Appendix B2: Average Standard Scoring of Torrance Test
- Appendix B3: Calculating the Validity Scores of Torrance Test
- Appendix C1: Piers-Harris 2 Scale Children's Self ConceptScale
- Appendix C2: Average Standard Scoring of Piers-Harris 2 Scale
- Appendix C2: Calculating the Validity Scores of Piers-Harris 2 Scale
- Appendix D: Observation of the Modified Based Module
- Appendix E: Time Table for Teaching the Modified Strategy Based Module
- Appendix F: Arabic version of Modified Strategy-Based Module

**PENGGUNAAN MODUL BERASASKAN STRATEGI YANG  
DIUBAHSUAI DALAM MEMBANGUNKAN PEMIKIRAN KREATIF DAN  
KONSEP KENDIRI PELAJAR BERPENCAPAIAN RENDAH DI JORDAN**

**ABSTRAK**

Kajian ini bertujuan menentukan keberkesanan modul berasaskan strategi yang diubah suai (MSBM) berpandukan CoRt dan SCAMPER dalam membangunkan pemikiran kreatif dan konsep sendiri dalam kalangan sampel pencapaian rendah di Jordan. Sampel kajian terdiri daripada 160 orang pelajar tahun enam (perempuan dan lelaki) pencapaian rendah, yang dipilih secara rawak daripada 8 buah bilik sumber di Bandar Al-mafareq. Sampel dibahagikan kepada empat kumpulan, Kumpulan eksperimen didedahkan dengan MSBM dan kumpulan kawalan pula didedahkan dengan modul berasaskan strategi semasa (CSBUM) selama 4 minggu, yang kemudiannya disusuli dengan pascaujian. Dapatan menunjukkan bahawa terdapat perbezaan yang signifikan di antara min pascaujian daripada prestasi dua kumpulan eksperimen dengan dua kumpulan kawalan. Suatu analisis varians berdasarkan respons yang betul daripada gred pascaujian (Piers-Harris 2 Self – Concept Scale) dan (Torrance Creative Thinking Test) menunjukkan perbezaan yang signifikan di antara kumpulan eksperimen dan kawalan dalam pemikiran kreatif dan konsep sendiri mereka. Sebagai ringkasan, dapatan kajian ini tidak hanya menyokong pendapat semasa tentang latihan yang sesuai bagi pemikiran kreatif dan konsep sendiri pelajar pencapaian rendah di Jordan. Sebaliknya, ia juga menonjolkan fakta bahawa tindakan perlu diambil untuk menangani kegagalan ahli pendidik menggunakan kaedah yang berkesan dalam usaha menambah baik tahap pemikiran kreatif dan konsep diri pelajar pencapaian rendah di Jordan. Justeru, satu daripada caranya adalah dengan memanfaatkan dapatan kajian ini untuk melihat kemungkinan melatih pelajar pencapaian rendah di bilik-bilik sumber di Jordan, dalam cara yang lebih berfaedah dan integratif. Di samping itu, kajian ini turut menyarankan beberapa cadangan.

**THE USE OF A MODIFIED STRATEGY-BASED MODULE IN  
DEVELOPING CREATIVE THINKING AND SELF-CONCEPT OF LOW  
ACHIEVERS IN JORDAN**

**ABSTRACT**

The purpose of this study was to find the effectiveness of a modified strategy-based module (MSBM) that based on CoRt and SCAMPER in the development of creative thinking and self-concept among a sample of low achievers in Jordan. The study sample comprised 160, sixth year female and male elementary low achievers randomly selected from 8 resource rooms at Al-mafareq governorate. The sample was divided into four groups. The experimental groups received the modified strategy-based module (MSBM) and the control groups received the currently strategy-based used module (CSBUM) for four weeks, after which a post-test was administered. The findings revealed that there is a significant difference between the post-test means of the two experimental groups against the two control groups' performance. An analyses of variance based on correct responses recall for the (Piers-Harris 2 Self –Concept Scale) and (Torrance Creative Thinking Test) post-tests' grades indicated significant differences between the experimental and control groups in their creative thinking and self-concept. In summary, the findings of this study not only support current opinion regarding the state of training low achievers' creative thinking and self-concept in Jordan, but more pertinently, it highlights the fact that remedial action needs to be taken to address the inherent failure of the educationists to follow effective methods to improve low achievers' creative thinking and self-concept to improve academic performance. One way of doing so would be to use the findings of this study to look into the possibility of training low achievers in the Jordanian resource rooms in a useful and integrative manner. Consequently, the study has recommended some suggestions.

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

The world educational systems were changed dramatically to be consistent with the ever-changing world. These changes have a mark on the goals of the educational systems. Mattar (2000) and Robinson (1987) state that the main goal of schools is to help students to develop necessary thinking and learning skills to be effective members in their societies and be able to cope with challenges in the world. In spite of the great efforts of educators to strive and achieve this goal, there will always be students facing learning difficulties. However, students who failed to learn effectively have been labeled as low achievers or at risk students.

Fogarty and McTighe (1993) state that creative thinking (CT) and self-concept (SC) are recognized as essential and crucial areas in the development of low achievers and a failure to learn and benefit from academic services that offered by schools do not only affect students' academic achievements, but it also affects the way students socialize at school and the way they solve their life problems and build their SC. Though SC, generally, refers to the combination of ideas, perceptions, feelings, and the attitudes of surrounding people, it is not fixed as it varies from situation to situation and from one phase of life to another. Researchers (Woolfolk, Winne & Perry, 2006) show that positive SC is related to overall school experiences both academically and socially.

Clearly there is still much controversy over the criteria used in determining eligibility for low achievers in schools and in societies of developing countries. In fact, in most developing countries the provision of educational services for low achievers is still at its initial stage. Low achievers need to be able to acquire creativity tends to be domain-specific. A few definitions were found during the research process. According to Fogarty and McTighe (1993) insights creative or innovative thinking is the kind of thinking that leads to new insights.

Bellis (2003) writes about Scott Isaksen and Donald Treffinger's creative problem solving model. According to the authors creative thinking (CT) is described as follows:

- (a) Make and communicate connections to think of many possibilities.
- (b) Think and experience in various ways and use different points of view.
- (c) Think of new and unusual possibilities.
- (d) Guide in generating and selecting alternatives.

CT skills are tools that help low achievers to make connections to think of many possibilities, experience in various ways and uses of different points of view that guide in generating and selecting alternatives. Such skills according to the author can help low achievers to gain knowledge (Bellis 2003).

Other studies on CT have listed effective teaching skills such as, the ability of problem solving, the test on deductive thinking to assess low achievers to develop their academic performance [Jarawan, (2002); Larson, (2002); Rottman & Cross, (1990).] In short, teaching low achievers CT is one of the major objectives that educationalists aim to achieve in order to make these students develop the ability to confront present and future problems interactively ( Jarawan 2002).

Self- Concept (SC) according to Dawood and Hamdi (1997) is regarded as one of the most important constituents of personality. The development of SC is closely related to the development of mental planning, and vice versa. In his theory, Piaget refers to this as self-centralization (Burns, 1982). For Granvold, (1994) environment plays an important role in the learning process. Granvold states that environment governs the directions and persistence of actions, therefore, it should be under the control of the teacher. This control of environment can actually influence the interaction of students. In short, this interaction will help the students to acquire specific directions such as self-discipline, responsibility, self-confidence, SC reinforcement, work- group cooperation styles and respecting opinions and feelings of others. Thus, SC is the image we have of ourselves. It refers to the set of characteristics or attributes we use to define ourselves as individuals and to differentiate ourselves from others. This knowledge, according to López and Schnitzler (1983) is not present at birth, but is the result of an active process of construction throughout the whole time-span of development. Guilford (1983) argues for the existence of a relationship between SC and creativity, without determining which of these variables comes before the other. This means that having a positive SC contributes to the emergence of the human being's creative potential.

There is a variety of published research in the topics of assessment, development of thinking and perception of SC in low achievers (Kattami, 2001). According to Kattami (2001), this kind of research aims at highlighting a framework to determine the usage of strategy-based-program in developing CT strategies for low achievers. Kattami added that such a program will enable them to improve their academic achievement and their perception of SC. The author added that CT strategies will motivate low achievers to generate new ideas that can be considered as different methods of solving their academic and life problems.

Thus, teachers and policy makers and curriculum planners' understanding of the programs and ways that Jordanian low achievers need, might improve their CT and SC. In this context, experts in the field of special education have recommended some educational developmental programs such as SCAMPER and CoRT to be used to help low achievers in improving their skills and academic achievement [Badareen, (2006); Kattami, (2001).] According to (Badareen, 2006) these programs will facilitate the low achievers understanding of academic knowledge as well as their SC. The SCAMPER program considers a famous method of creativity that can be used to motivate students to develop new cognitive skills. On the other hand, the CoRT program which was developed by Edward Debono in 1974 is used to develop low achievers' thinking skills.

This brief overview summarized the importance of SC and CT for low achievers. After this, this chapter moves on to describe the background of the study, which gives an overview of Jordan where the study was conducted and the educational system in Jordan. Then it highlights the statement of the problem, the objectives, the research

questions, hypotheses and significance of the study. This is followed by the rationale of the study, limitation, definition of terms. It ends by the conceptual frame work.

## **1.2 Background of Study**

Jordan is a comparatively small Arab country. It is located in the southern eastern shore of the Mediterranean, covering an area of 90,000 square kilometers, with a population of about 5 million and an area of 93,000 square kilometers. According to estimations of 1996, Jordan's population amounted to 4,530,000. About 42.7% of the population is under the age of 15 (Ministry of Education, 2009). In 1987, at the First National Conference of Educational Development, Jordanian educators made the provision for quality education for all special education learners. In Jordan, the age group under shapes about 40 percent of the population, 20 percent of these children are low achievers who have been undermined in their educational opportunities and socially marginalized (John, 2002). The population year growth rate in 2004 was estimated to be 2.8%, but the recent rate increase is 2.4% a year. Roughly, 38% of the population is less than 15 years of age. The population age group of 15-65 years is about 58.5% and the population age over 65 is approximately 3.5% (Department of Statistics, 2008). Jordan consists of a variety of historical sites, and has a very suitable climate for tourism.

### **1.2.1 General Education in Jordan**

The development of Jordan's educational system is dramatic. With the development of this system started in early 1921, Jordan has forged a comprehensive high-quality educational system to develop the human capital of its citizens. Currently, there are 3182 public schools, 2138 private schools and 178 schools in association with

the United Nations Relief and Work Agency for Refugees (UNRWA) (Ministry of Education, 2008). Furthermore, there are 43 community colleges and 23 universities (Ministry of Higher Education and Scientific Research 2008). In Jordan, access to the basic education has been emphasized in all of its development plans of the country. The government has, as a matter of policy, provided every village and community that has 10 or more children, above 6 years old, with a school. This rapid increase of facilities has enabled citizens in poor and distant areas to gain access to education (Ministry of Education, 20). The Ministry of Education in Jordan started to show concern for low achievers needs. Students who have weakness in reading, writing and mathematics are sent to the resource rooms that are arranged to fulfill the needs of the low achievers.

### **1.2.2 Resource Room Program**

A resource room is an educational alternative used by the Ministry of Education (MOE) to provide special educational services to low achievers and slow learners. Al Hassan (1992) describes a resource room in a regular school has an area that ranges between 30 square meters to 48 square meters which is equipped with appropriate furniture, appropriate teaching aids and games. Students usually spend most of their time in the regular class, but they come to the resource room for different periods of the day for individual educational programs. In other words, they come for part of the day to receive special education in arithmetic, reading, writing, and social skills. Al Hassan says that some students, however, may spend most of the day in the resource room and part of the day in the regular classroom with their peers receiving education in social drama and music.

Nabteety & Jabber (1996) said that the number of students coming to the resource room is 20-25. These students usually come from the second, third, and fourth grade. The students are divided into study groups according to the level of their performance in reading, writing, language skills, and arithmetic. The students usually taught between 20-25 periods weekly in the following subjects' i.e. Arabic language and Mathematics.

According to Alrousan (2011), a resource room is the primary source of alternative help for low achievers. For Alrousan low achievers are those children who have low academic achievement and face difficulties in reading, language learning, and writing with scheduled seating in the resource room. The study time spent in the resource room greatly varies (Kaplan, 1996), however, the least restrictive environment for certain students may require more intensive one-to-one teaching. Students with mild disabilities are normally seated in the regular classroom. Often, this type of educational requirement is delivered in the resource room. This academic responsibility makes Wiederholt, Hammill, and Brown (1983:3) define the resource room as “any instructional setting in which a person (usually the resource teacher) has the responsibility of providing supportive educational related services to students or to their teachers”. But, with regards to students, the same writers state that the ”resource room is any setting in the school to which a child comes to receive specific instruction on a regular scheduled basis, while receiving the major part of his/ her learning elsewhere, which is usually in a regular or special class program (ibid:4). Adopting the same point of view, the United States Department of Education (1990) described a resource room as a setting where students receive special education and related services for 60 percent or

less of school day and at least 21 percent. This time structure may include the time in the resource room with part-time instructors in the regular class. However, Smith, Finn, & Dowdy, (1993) believed that no one would advocate this kind of structure to determine the exact combination of student's team in the regular and in the special classes. Going beyond the limits of the ordinary classroom, Whittaker & Taylor (1995) hold that a resource room is "a setting other than the regular classroom to which students with mild disabilities take up 50% of their educational programs".

According to Friend and McNutt (1984), a resource room is "a structural arrangement in which students with disabilities receive some instructional assistance, although most of these students' educational program takes place in the general education setting". Similarly, Lerner (2000) talks about a resource room as "an educational setting that provides assessment services and remedial instruction to students with disabilities on a regular scheduled basis for a portion of the school day". Thus, a resource room is most frequently multi-categorical, and so, it can accommodate students displaying mild or moderate disabilities. According to the U.S. (Department of Education 1995), the resource room means that students spend 21 to 60 percent of their time outside the regular classroom. The resource room offers flexibility in terms of the curriculum covered, the time students spend in the program, the number of students served and the teachers' time. The time each student spends in the resources room is based on his or her needs and usually ranges from three hours per week to half of the school day (Bender, 1996). Traditionally, instruction focuses on academic areas in which students display severe skill deficiencies. However, non-academic areas can be addressed, including social skills, job finding, maintenance and appropriate use of

leisure time. Regardless of the skill being addressed, instruction will be more effective if it reflects cooperative efforts of secondary teachers and the consultant ,Schloss, Smith, & Schloss, (2001).

No doubt, the resource room is becoming a supporting element for regular education instruction as stated by Lerner (2000) and hence care must be taken in scheduling students for resource room programs. For example, if the student enjoys physical education, the teacher should avoid pre-empting this period for the resource room session. In other words, the regular classroom teacher must be consulted on the opportune time for the student to leave the classroom

A resource room should also be pleasant and should have an abundant supply of materials. It should be used by the students since the low achievers often have short attention spans, and therefore would be wise to provide a change of pace by planning several activities and using the materials during a teaching session (Kaplan, 1996). Furthermore, researchers such as Whittaket and Taylor, (1995) have found that resource room teachers have listed lack of time to fulfill role functions as a primary constrain on interaction between regular and special educators. In view of that, materials can assist in alleviating this problem. According to the authors a resource room should be located in the same building with regular classroom. As such teachers, administrators, and students can readily interact with the resource room teacher and therefore he or she may be readily accepted by them. The resource room teacher's schedule should be flexible so that he or she can collaborate with the classroom teacher. According to the authors when

establishing a resource room, consideration must be given to the following characteristics:

- (a) The resource room teachers must enable students with low achievement to benefit from specific instruction while remaining integrated with their friends and peers in the mainstream.
- (b) The resource room should be flexible and enough to fit in the learning level as required. Primary school resources programs can be very different from those of secondary school resource programs.
- (c) The resource room teachers should be a highly competent and personable individual who is able to coordinate his or her efforts with other classroom teachers. Besides, he/she should be capable of making educational behavior assessments, designing and implementing instructions and also working effectively with parents and families.
- (d) The resource room should be attractive and well organized. Since the students in the general education must learn together with the regular class student instructions in the two settings should be coordinated (Lerner, 2000, 2007; Khuzai, 2001).

Similarly, Mercer (1997) states that the role of the resource room teacher demands a highly competent, personalized individual who is able to work effectively and harmoniously with regular education teachers and ancillary staff. Wiederholt (as cited in LaMelza, 2007) divides the responsibilities of the resources room teacher into three major categories: (1) assessment, (2) teaching and (3) consulting.

McNamara (1989) indicates that the role of the resource room teacher is more complex than is often realized. However, several researchers (Voltz, Elliott, & Harriss, 1995) in their survey of 228 general education teachers' view of the resource room teacher's role, find that over 50% of the respondents rated this role as vitally of the following: (a) attend parent conferences; (b) meet informally to discuss student progress; (c) provide remedial instruction in the resource room; (d) provide information on behavioral characteristics; (e) provide academic assessment data; (f) provide material for classroom use and (g) provide written report activities and progress.

Furthermore, the success of the resource room program refers to the competency of the resource room teacher, the cooperativeness and interaction with the regular education teachers and support from the administration (Ellet 1993)

Based on a review of 20 years of research in the field of assessment and decision making for low achievers, Ysseldyke (2005) concluded that the source of problems regarding performance of special learners is the failure of assessment procedures in identifying and evaluating the disabilities of low achievers and special students. Ysseldyke presents the following:

- (a) The inconsistency of decisions made by special education teams in the field of learning disability.
- (b) The fact that most decisions are based on students' characteristics rather than data-based assessment.
- (c) The declaration of many low achieving students as learning disability students.

- (d) The absence of adequate measures for psychological assessment processes despite the availability of adequate norm-referenced tests.

Low achievers, to Pearl & Bay (1999) are students who achieve poor results in all their school subjects such as Mathematics, Arabic Language, English Language, Chemistry, Literature, and Science. These poor results are due to factors, such as lack of motivation, health problems and social problems. Moreover, there are individual differences among low achievers. Some of them can read well although they face difficulties in writing and others can fast- pace understanding but they cannot read well (ibid). Similarly, the Ministry of Education of Jordan (2009) puts forward that low achievers are those students who have low achievement in school. Their average score, ranges between 50 and 60 percent. These students are mostly transferred to the resource rooms.

Mercer and Mercer (2001) listed general features of low achievers and divided it into three specific features. They are as follows:

- (a) Low in academic achievement: This happens in one or more of the academic subjects such as in Language and Mathematical subjects. Language and reading difficulties are the most common problems among these students because there is a strong relationship between language skills and academic functions. There is also difficult to determine whether the problem is in language or in reading.
- (b) Hyperactivity and problems in attention: The low achievers usually look at unrelated allergens, so they have problems in choosing the allergens. In this case,

they are known to have attention deficit disorder, an attention deficit and hyperactive disorder.

- (c) Poor social skills: This includes problems such as appreciating others, accepting criticism, receiving feedback, greeting others and the ability to say no. These problems arise because of the lack of understanding of social traditions. These students also have difficulty in interacting with their friends and teachers.

Mercer and Mercer (2001) claimed that low achievers show negative feelings about themselves because they are faced with academic frustration. These students are sometimes weak in sports activities and in social relations. They lack motivation due to the fact that they are unsuccessful in their life skills especially in their studies. In general, students believe that success is associated with external factors such as environment and the family's economic status (FES). They have high levels of anxiety and fear, high sensitivity and feel more pressured in comparison to their friends. According to Mercer and Mercer (2001) academic achievement and social relations can influence behavior. They enable individuals to arrange their life positively and flexibly to meet life's requirement. Mercer and Mercer (2001), claim that behavior includes dealing with social problems and making friends with others. In friendship relationships, positive language will enable individuals achieve their goals. In addition, lack of social skills or academic failure and frustration may affect behavior of low achievers. In addition, such students also show negative behaviors such as aggression and beating. In fact, one of the most difficult behaviors that teachers face in low achievers is frequent absence from school.

### **1.2.3 The Resource Room Program in Jordan**

Jordan is one of the developing countries that gives considerable attention to problems of low achievers in school (Al-Natour, 2008). Al-Natour (2008) claims that over the past years, the Ministry of Education in Jordan and under the Directorate of Special Education has played a significant role in supporting low achievers by providing of remedial and special education services. These services are mainly provided through resource rooms in schools that were initially established in the early nineties. These resource rooms are located within some public schools (less than 10% of the overall no of public schools) and are supposedly equipped with the necessary equipment.

According to Al-Natour (2008), resource rooms in Jordan provide special education services to 20 low achievers in each resource room, using the pull-out model. Al-Natour claims that a student is usually pulled out from his or her regular class for a period of time, varying from one to three class periods each day. The students in the resource rooms are usually taught by teachers who are trained. Hence, these teachers (i.e., resource room teachers) are the people who provide special education services. A resource room teacher basically assesses low achievers who are referred by classroom teachers for eligibility. In addition, resource room teachers in Jordan are responsible of making eligibility decisions of low achievers as well as providing them educational services. Al-Natour (2008) commented, recently the Jordanian Ministry of Education has established centers for learning resources in all educational directorates. These centers aim at improving the students' basic academic skills such as reading, writing, and computing.

Al-Natour (2008) explains that the 2006 national reform assessment recorded that about 5% of Jordanian students are low achievers in reading and writing (Ministry of Education, 2008). In 1993, the Ministry of Education has started to find appropriate mechanism to overcome problems of low achievers in schools. This represents the initial establishment of resource rooms in public schools. According to 2007 statistics, the build-up of Jordanian schools are equipped with rooms to help low achievers. The number of the resource rooms has reached 531. The number of the students who benefited from these resource-rooms' facilities reached 1260 students. Each of these classrooms contained 25 students, and they were grouped into 3 or 4 levels according to their levels of achievement in reading, writing, and mathematics (Ministry of Education, 2008). There is one specialist teacher in each resource room to practice appropriate teaching methods and conduct educational games and to assist low achievers alongside the normal classmates in reading, writing, and mathematics (Al-Natour, 2008).

Many Jordanian researchers (Al-khateeb, 1995; Al-Srouf and Hussein, 1997) have conducted their studies using adapted programs such as SCAMPER and CoRT to achieve the Jordanian educational vision in improving the educational achievement of low achievers. Al-khateeb (1995) conducted a study that aimed at finding out the effect of CoRT program as a training program including three learning skills of low achievers; they are: cognition, extension and interaction. The results show that there is a difference in performance of low achievers in the Oral Torrance Inventory and its sub- directions before and after using CoRT program for these low achievers in Jordan.

Al-Srou and Hussein's (1997) study aimed at examining the effect of three parts of CoRT program on students' CT skills. The three parts are Cognitive Extension, Organization and Creativity, part of the CT development of the eighth grade students in Jordan. The results show that there is a significant difference between the control group and the experimental group in favor of the experimental group due to their training in the oral-fluency and oral flexibility parts. Moreover, the results reveal that there is no significant difference between the students (control and experimental groups) due to their training in oral-originality part. They added that that there is no significant difference between the students (control and experimental groups) due to their training in oral-originality part. The authors claimed that in spite of the significant role of thinking programs in the educational process which is also very closely related to the process of teaching thinking that has become an important issue in contemporary education, the educational process is still controlled by the traditional methods of teaching that are based on storing knowledge. The authors claimed that traditional methods are still considered the used standard to assess the students' levels. The authors added that less attention is paid to the creative approach of teaching. These results indicate that the process of teaching Jordanian low achievers is not adequate; therefore, a more recent method of teaching may motivate the students' thinking and may improve the educational output in Jordan.

Shibeeb (2000) aimed at discovering the effectiveness of cognition, organization and creativity in the students' CT skills in the Syrian Arabian Republic. The study revealed that there were statistical differences between the performance of students in the experimental group and students in the control group in favor of the experimental

group using Torrance's inventory. Besides, the study found that there are no statistical differences between students, based on their gender. Shibeeb's study found more statistical differences in the performance of the experimental and control groups according to their achievement levels in Torrance Inventory in favor of the experimental group.

On the other hand, Albadareen's (2006) study aimed at examining the effectiveness of idea-generating strategy (SCAMPER) in teaching thinking method, creative abilities and SC. His study involved a sample of 97 male and female students at the resource rooms in Jordan. The sample was divided into two groups: the control group which included 50 students, and the experimental group which included 47 students. The findings in his study indicated that there was no effect of gender variable on the total degree in measuring SC and the partial degrees of its different dimension. Besides, there was no significant effect of reaction between gender and the total degree of the measurement of SC and the partial degrees of its dimension. However,, Albadareen found out that there is a significant effect of the use of idea-generating strategy SCAMPER on measuring the creative abilities, both to its total or partial degrees of its different dimensions. The results revealed a significant effect of the idea-generating strategy SCAMPER for measuring the SC to its total degree and partial degrees of its different dimensions, except for the social dimension and the academic dimension.

Other studies (Blankenship, 1975; Meador, 1994; Camp (1994) have evaluated the impact of CT enrichment programs on SC and CT of students. The results have shown an improvement of CT but no significant changes related to SC. Sears (1963) also found that children of superior intellectual ability had higher SCs, as well as higher ability to think in original, CT ways, than children of lesser intellectual ability. Felker and Treffinger (1971) have found that students with high SC scored significantly higher than those with low SC on self-evaluation of CT and on creativity measures such as verbal fluency, flexibility, and originality. Studies of CT enrichment programs on SC and CT (Blankenship, 1975; Meador, 1994; Camp, 1994) have described the influence of SC and CT of students. The results have shown an improvement of creative thinking.

Based on the findings of the previous studies (Al-khateep, 1995; Al-Srouf and Hussein, 1997; Shibebe's , 2000; Albadareen,2006) that new methods and programs are needed to teach Jordanian low achievers, the researcher aims at adapting a strategy-based program to examine the effectiveness of using this program in developing CT and SC of Jordanian low achievers. Consequently, this study is concerned with students in the primary schools who learn in the Jordanian resource rooms.

### **1.3 Statement of the Problem**

The world is being more complicated because of challenges that are related with speed-up information and communication technology. Success in facing these challenges does not depend on knowledge alone, but instead it depends on applying it in the right way. Helping low achievers is one of the main challenges facing educators. In

order to improve the standard of low achievers' life and enable them to solve their problems, their thinking must be increased.

According to (Swanson and Shaujhnessy (1998), Al-Srou and Hussein, (1997); Albadareen, (2006) the presently used program (CUSBM) concentrates on certain activities. The results of the above studies show that the activities in (CUSBM) in teaching Jordanian low achievers are insufficient and not relevant. These researchers reported in their findings that the activities on developing creative thinking and self-concept in the (CUSBM) are not enough, therefore, there is a need for a program that includes more activities and clearer procedures for training low achievers. The previous studies also investigated the effect of gender variable on self-concept dimension and creative thinking. The results show that gender has no effect on low achievers' creative thinking and self-concept (Albadareen, 2006).

Consequently, this study attempts to substantiate the findings of previous studies of (Al-Srou and Hussein's, (1997) and Albadareen (2006) that ineffective training programs for teaching low achievers affect Jordanian low achievers academic performance as well as their self-concept and creative thinking. They added that teachers are still unable to instill the importance of CT to their students as well as to establish the basic theoretical foundations of the programs which can be used for teaching thinking and learning methods. They are also incapable of realizing the significance of training low achievers use certain programs that assist them to improve their CT along with developing their SC. These results indicate that training low achievers is one of the serious challenges that teachers face. Therefore it is very important to establish new

ways to help teachers to train low achievers in the Jordanian schools. Teachers should know more about the programs that can assist them to improve the low achievers' thinking strategies, SC, and CT (Sawason, et.al., 1998).

However, there are far more researchers who found that low achievers in the Jordanian schools are sourced to the teaching process as being unattractive and uninteresting (Al-Srou and Hussein's, 1997; Albadareen, 2006). These researchers also found that the activities and teaching techniques in the currently used program (CUSBM) are ineffective (Deo and Mohan, 1972; Sawason, et.al 1998). Their findings also revealed lack of pedagogical training. The question, then, is whether Jordanian low achievers in the resource rooms are affected by the kind of training they receive. The importance of creative thinking, along with, developing low achievers' SC has been confirmed by studies conducted by (Deo and Mohan, 1972; Sawason, et.al 1998, Al-Srou and Hussein's, 1997; Albadareen, 2006). Such studies also mentioned the ineffectiveness of gender variable on self-concept dimension and creative thinking Jordanian low achievers.

According to previous studies, this study, attempted to examine the level of CT and SC of Jordanian low achievers in the resource rooms. It also tried to know if there is gender variable on Jordanian low achievers' level of self-concept and creative thinking. The researcher, therefore, attempted to generate a modified a strategy-based- module (MSBM) that is based on CoRT and SCAMPER programs in order to assist teachers in training and assisting the learning of Jordanian low achievers and the effect of this MSBM on the creative thinking and self-concept of the Jordanian low achievers. The

modified a strategy-based- module tries to include differen and sufficient activities and games on developing creative thinking and self-concept of Jordanian low acheivers. It also includes procedures and techniques on how to train low achievers. These procedures and techniques motivate low achievers to acquire the required instructions to developr their creative thinking and self-concept.

Therefore, this study attempted (a) to examine if there is a significant difference between the male and female low achievers' creative thinking after being trained using the Modified Strategy-Based Module, (b) to examine if there is a significant difference between the male and female low achievers' self- concept after being trained using the Modified Strategy-Based Module (c) to examine difference between the experimental group and the control group in the creative thinking of the Jordanian low achievers (d) to examine the difference between the experimental group and the control group in the self-concept of the Jordanian low achievers ..

#### **1.4 Objectives of the Study**

This study aims at helping low achievers in resource rooms in the primary schools to develop their creative thinking and self-concepts by applying a modified strategy- based module.

1. To examine the effect of applying Modified Strategy-Based Module on the creative thinking of the Jordanian low achievers.

2. To examine if there is a significant difference between the male and female low achievers creative thinking after being trained using the Modified Strategy-Based Module.
3. To examine if there is a significant interaction effect between types of teaching modules and low achievers' gender on the post-test scores of creative thinking.
4. To examine if there is a significant difference between the experimental group and the control group in the creative thinking of the Jordanian low achievers.
5. To examine the effect of applying Modified Strategy-Based Module on the self-concept of the Jordanian low achievers.
6. To examine if there is a significant difference between the male and female low achievers' self- concept after being trained using the Modified Strategy-Based Module.
7. To examine if there is a significant interaction effect between types of teaching modules and low achievers' gender on the post-test scores of self- concept.
8. To examine if there is a significant difference between the experimental group and the control group in the self- concept of the Jordanian low achievers.

## **1.5 Research Questions**

1. What is the effect of applying Modified Strategy-Based Module on the level of creative thinking of the Jordanian low achievers?
2. Is there a significant difference between the male and female low achievers' creative thinking after being trained using the Modified Strategy-Based Module?
3. Is there a significant interaction effect between types of teaching modules and low achievers' gender post-test scores of creative thinking?
4. Is there a significant difference on creative thinking between the experimental group and control group?
5. What is the effect of applying Modified Strategy-Based Module on the level of self-concept of the Jordanian low achievers?
6. Is there a significant difference between the male and female low achievers' self-concept after being trained using the Modified Strategy-Based Module?
7. Is there a significant interaction effect between types of teaching modules and low achievers' gender on the post-test scores of self-concept?
8. Is there a significant difference on self-concept between the experimental group and control group?

## 1.6 Hypotheses

Based on these research questions, the researcher proposed to test the following hypotheses:

H<sub>01</sub>: There is no significant differences in the low achievers creative thinking mean score after being trained using the Modified Strategy-Based Module.

H<sub>02</sub>: There is no significant difference in the creative thinking mean score between the male and female low achievers' after training using the Modified Strategy-Based Module.

H<sub>03</sub>: There is no significant interaction effect between types of teaching modules and low achievers' gender on the post-test scores of creative thinking.

H<sub>04</sub>: There is no significant difference in the creative thinking mean score between the experimental group and the control group.

H<sub>05</sub>: There is no significant differences in the low achievers self-concept mean score after being trained using the Modified Strategy-Based Module.

H<sub>06</sub>: There is no significant difference in the self-concept mean score between the male and female low achievers' after training using the Modified Strategy-Based Module.

H<sub>07</sub>: There is no significant interaction effect between types of teaching modules and low achievers' gender on the post-test scores of self-concept.

H<sub>08</sub>: There is no significant difference in the self-concept mean score between the experimental group and the control group.