Do Public Schools in UAE foster critical thinking as one of the main objectives of education?

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ABSTRACT

The goal of incorporating critical thinking process in students is to develop individuals who value knowledge and learning, who can think for themselves, evaluate every piece of information, and to contribute in building a thoughtful society. Modern education has focused on fostering critical thinking and cognitive thinking in students, believing that thinking is the key and the core of education to develop intellectual and insightful people that can contribute positively in their life and their society.

Applying critical and cognitive thinking techniques is a complicated process. Students can not acquire them by themselves; on the contrary they should be taught in schools, step by step, in order eventually to become part of their own life style.

A study was conducted in one Public Model School. Different types of research methodologies were used such as questionnaires, interviews and observations in order to gather data related to the research question, as to whether Public Schools are applying critical thinking strategies in teaching.

Results obtained from the study, concentrated on the teachers actual teaching practices in the classrooms and analyzed students reactions and their point of views in regard to those practices.

This dissertation is not intended to criticize teachers and school practices. It is intended to serve the enhancement of intelligent behavior as a legitimate goal of education and to invite critical assessment of existing school practices to the contribution to students' instinctual growth and to foster critical and cognitive thinking in teaching strategies.

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CHAPTER 1

1.1 Introduction

Many people believe that critical thinking skills are not an academic subject in schools about which students should worry and be tested, because they cannot be seen within a specific framework that has a start and an end. Also, because they are not an easy task or a skill that can be learned or acquired overnight nor can they be taught only in one right way.

However, many educators and researchers consider teaching critical thinking the core of the education system and the true essence of learning. It is the engine of learning and understanding. It is the reason behind invention and discoveries. Students should learn thinking skills in order to live successfully now and in the future. The rapid change of today's society requires that people have a high level of critical thinking in order to evaluate claims, analyze what happens around them and decide to take the right path according to their thinking.

"Critical thinking is considered to be centre to high levels of education or a fundamental goal of learning" (Kuhn 1999, qtd. in Moon 2008). Therefore, many educators and researchers over the 20 years until today have defined it and developed different types of techniques that lead to its success (Costa 1991, Rehner 1994, Marzano 1988, Idol 1991, Schafersman 1991, Moon 2008, Barenet 2008).

The purpose of teaching critical thinking through academic subjects in schools is to prepare students to succeed in the world and to be responsible for their own continuous learning and progress. Schools are the first place (even before the home) where students/children are exposed to critical thinking strategy in a systematic way. They might start practicing it at their homes informally, before they start schools, but soon they will loose this skill if it is not practiced in a strategic framework. Once they are on track and have learned the basic principles of using critical thinking in schools, they can carry

these skills for the rest of their lives and apply them in their real life outside school. As a result, if teachers and educators in schools were aware of their vital role in preparing the students to become thoughtful and creative people in the future; they would act accordingly and would take responsibility to make sure that this goal is achieved.

Critical thinking typically involves both a set of activities and particular attitudes towards thinking and learning. The practical activities include, for example, various strategies of asking questions, testing assumptions, discussions, and generating ideas. Teachers facilitate or foster critical thinking through the task set, the habits formed by the learners and the careful provision of feedback and explanation because critical thinking skills should be taught in a clear manner so that students can comprehend and adopt it. Schafersma (1991) notes that children are not born with the power to think critically, nor do they develop this ability naturally beyond survival- level thinking. Critical thinking is a learned ability that must be taught by trained and knowledgeable instructors.

Another general principle about fostering of critical thinking is the need to recognize the significance of the atmosphere of the class. The reasoning that explains this principle is covered generally in Chapter two. Meyers (1986) says: "students must be led gently into the active roles of discussing, dialoguing and problem solving. They will watch carefully to see how respectfully teachers field comments and will quickly pick up non – verbal cues that show how open teachers really are to students questions and contributions" (Moon 2008. p. 132).

The skill of critical thinking develops more quickly when both students and teachers engage in the learning process and are willing to experiment and take risks. Therefore, teachers need to model the process of planning, monitoring, evaluating, and revising and then gradually give students responsibility for these tasks. Students should be asked to focus on the metacognitive competent of tasks, instead of memorizing and recalling. The exposure to the multiple perspectives that can occur within a group of students can facilitate the shift from absolutist thinking. The classroom should feel as if it is a place that will accept risk – taking. It is a place for the exploration of ideas, rather than the

simple transmission of knowledge. Learning to think and express oneself critically involves the taking of risk.

Another principle is that we should encourage students to engage in thinking. In order to facilitate critical thinking, we need to encourage the students to ask questions and wonder about everything. After several attempts by the teacher to ask critical questions (which is explained in chapter two), students should learn the patterns, and eventually this will become their thinking process automatically.

A very important aspect of nurturing thinking in a classroom is to ensure that teachers model critical thinking through the manner in which they teach. There are two types of teaching. One is lecturing or presenting and the other is an interacting method. The lecturing method is considered a traditional type of teaching. Even the vocabulary and the sentences used by the teacher are driven from the textbook without any change or further similar terms. The thoughts and ideas are delivered to students as they are mentioned in the textbooks without any additional comments or discussion of point of views whether to accept them or not.

The interaction method evaluates the material, discusses it and links it to the previous knowledge. This method develops students' critical thinking skills, and teaches them to believe that their ideas and thoughts are valued. Hence students will feel that they are responsible for their own learning and progress.

Staff knowledge and development have a key crucial role in fostering critical thinking. If critical thinking is closely related to students thinking process, then it is logic to assume that teachers who facilitate and train the learning of students, should be guided, trained, supported and assisted constantly through extensive non - stopping programs in regard to teaching critical thinking and enhancing their own thinking as well.

1.2 The need for a framework to teach critical thinking

Many programs designed specially for teaching thinking are available. Costa (1991) *Developing minds: A Resource Book for Teaching Thinking* includes description of many programs or approaches, different definitions of thinking and observation checklists, assessment measurements and thinking methodologies. In fact framework was needed to identify the various aspects or dimensions of thoughts and to relate this study with general elements of critical thinking framework. Further details are provided in chapter two.

Therefore, this research includes the most important principles and frameworks to foster critical thinking in classrooms as well as other educators' frameworks. The general objectives of all those frameworks are similar as a whole and differ only slightly in their approaches. However, they all agree that critical thinking is the most complex task and the most important one at the same time. It is essential in students learning.

1.3 Relevance of the study

The United Arab Emirates (UAE) consists of seven emirates, Dubai, Sharja, Ajman, Fujeirah, Ras Al Khaimah, Um Al Quwain and Abu Dhabi is the capital. The national education system was available for free in public schools for the local Emirates. After 2006, expatriates (under certain conditions) were allowed to join the Public School with a nominal school fee. In the UAE, Public Schools are widely perceived as out of step with the times and are being abandoned by growing numbers of Emiratis in favour of private schools with modern international curricula (Emirates Today newspaper, date 25th of November 2007) (appendix 25). Moreover, there are many local universities and colleges in UAE that are supported and funded by the government such as Higher Colleges of Technology and Zayed University also accept local Emiratis to study for their higher education for free. Yet, many students who graduate from those public schools fail to fulfill the basic requirements for entrance into college education. As a result, those

universities spend large sums to prepare the entering students for (one to two years) to meet the requirements before choosing their majors that requires high standards of critical thinking skills. It is called the (Foundation level appendix 24).

For example the objectives of the Bachelor Degree Program in the Higher Colleges of Technology prepare students to model as well as teach the best international academic practices and develop intellectual independence, preparing them for the professional teaching environment in public or private schools.

Although public schools are accessible for free to all local Emiratis, most of them prefer to join the private schools accepting to pay high fees. School fees range from five thousand Dirhams to fifty thousand Dirhams per year.   Parents believe that private schools provide higher levels of educational achievement through new teaching strategies and more exposure to the English language. Therefore, they feel that these schools will prepare their children to be accepted in international universities.

A major question is why most of the students who have graduated from public schools must spend a year or two in special training in order to become prepared to study using international academic practices? Why should the government pay extra money every year to fund those programs in the universities? Where is the missing key?

The answer to this question is as follows:

In July 2, 2007, The Ministry of Education launched a new program called MADARES AL GHAD (Schools of Tomorrow). Their vision is (appendix 26):

> "To become the world-class model in the Middle East for creating a Knowledge Society through public education. Including children of all abilities and interests, the Madares Al Ghad program will produce graduates who are proficient in both Arabic and English, knowledgeable about their rich heritage and culture, skilled in the use of information and communications technology, well-grounded in mathematics and science and prepared for direct entry into higher education institutions world-wide, satisfying careers, parenthood and productive citizenship in a global society".

This statement and the program suggest that the missing key is in the Public Schools which simply are not performing adequately. That is why the Ministry is attempting to work on school operations and performance starting from the beginning. It is not in the author's intention to discuss further this new program, nor to investigate its approaches, because the project is still in its beginning stage and there are no clear outcomes.

1.4 Research objectives

The purpose of this study is to investigate if teachers in Public Schools are teaching and applying critical thinking strategies in their classrooms. The results obtained from this study will be used to suggest how to develop and enhance the educational level in public schools in order to prepare the students to meet the highest levels of thinking and to be able to study not only in local universities but in international ones, acquiring the highest standards of creativity and thoughtfulness.

Therefore, this paper includes a literature review (in chapter two) to present background information about the definition of critical thinking, its general objectives and its effects on students learning.

This paper also discusses the importance of the teachers' role in developing critical thinking skills in students and discussed many different strategies to apply the thinking framework as many researchers and educators recommended. Moreover, this paper emphasizes the importance of providing teacher training in regard to learning critical thinking approaches and methodologies so they can become learning facilitators rather than simply lecturers.

This study identifies and illustrates a number of specific problem–solving strategies as well as encourages students to become more aware of their own patterns of thinking to develop strategies for applying critical thinking systematically and creatively to the world around them.

The third Chapter presents the methodology through which the data were collected and the purposes of using each method for this research. The fourth chapter discusses the data, the interviews, the charts and the questionnaires. The data has been analyzed critically to reach to the findings. In the last chapter, overall conclusions are included and discussed. Furthermore, recommendations are presented in order to develop and enhance the teaching strategies in regard to acquiring critical thinking skills in public schools generally.

There has been no intention to criticize or blame the schools or any parties in the educational system because in order to improve any program, there is a need to investigate and find out the reasons behind the current findings.

Research questions

2. **Do Public Schools foster critical thinking as one of the main objectives of education?**
3. **Do teachers use strategies to stimulate critical thinking in teaching?**
4. **Do teachers create and develop an atmosphere to foster critical thinking in the classroom?**
5. **What teaching strategies and methods are used by the teachers?**
6. **Do Public Schools prepare students to gain admittance to International Universities without any obstacles?**

1.6 Literature Review

Definitions of Essential Thinking Skills

"One of the major tasks of improving or installing a thinking skills program is deciding what thinking is" (Costa.L 1991).

The Critical Thinking Education Movement is now more than 20 years old, and after reviewing much literature and research it appears to have as many definitions as researchers who have developed different types of elements, categories, frameworks and cognitive models in various fields of education (Eric. J., 2005, Ehrenberg, S. 1978, De Bono. E. 1998, Sekaran, 2003, Gough, D., 1991, Paul, R., 2004) etc.

Therefore, this paper summarizes the research that has direct relation to the use of critical thinking strategies in school which is basically a high level of thinking that starts by processing information then transforming it to concepts to derive conclusions and to think consciously after wards.

Russell's equation is:

Attitude + Knowledge + Thinking skills = Intelligent Thinking

(Cited in Halpern, 1996)

Schafersman. S (1991) explains that "critical thinking is the ability to think for ones' self and reliably and responsibly make decisions." He adds that "A person who thinks critically can ask appropriate questions, efficiently and creatively sort through this information".

Likewise, Paul.R (2004) notes that "Critical thinking is a process by which the thinker improves the quality of his or her thinking by skillfully taking charge of the structure".

Robert J. and Ronald S. (1988) explain that the term critical and creative thinking are ways of describing how we go about thinking. The two are not opposites but are complementary. Thinking skills are relatively specific cognitive operations that can be considered the "building blocks" of thinking.

Whereas the working definition of the National Council for Excellence in Critical Thinking (as they published it in their website www.criticalthinking.org), in 2007 is the "intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action".

Most of the definitions are similar in their main objectives of adopting critical thinking skills which is a combination of both theory and practice. Those two elements are essential in teaching critical thinking to students by processing the information and that the knowledge which students encounter in schools must not be presented solely as isolated or discrete element, but rather should be explored as part of a meaningful knowledge as a whole. On the other hand, many researchers admit that the critical thinking task is not an easy one. It is a complex and complicated process to be achieved by both teachers and students. Both parties are in constant struggle to fulfill its requirement. It is an everlasting process that never stops at one station.

Rehner.J, (1994) explains that thinking in general is a complex activity that people engage in, whenever they question, analyze or try to make sense of a situation, a set of behavior or a piece of information. Likewise, Andrews (1991) notes that teaching thinking is not easy; it requires preparation, deep commitment and dogged perseverance.

The reasons for the complexity of teaching critical thinking in schools are because many elements interfere when one wants to adopt it effectively and many parties should be part of its implementation in order to succeed. Grant (1988) conducted a study in a Secondary School and documented the complexity associated with teaching critical thinking by focusing on the many important elements that contribute directly in its teaching. She discussed the complicated process of teacher requirements, methodology, background knowledge of the teachers and the students, classroom environment and organization.

1.7 The school as a home for critical thinking

Since students spend most of their time in schools and interact with teachers on a daily basis it is obvious that school is a place that can shape students thinking skills. Hence, if thinking in school does not transfer to thinking outside of school, what goal has the school achieved?

Schools shape and develop students' mindset and personality in terms of self esteem and confidence from Kindergarten to High School. They pass through a calculated process to prepare them for each next stage. Each step in a student's life in a school counts and has consequences on the development of their thinking skills in the future. Schools represent the first opportunity for students to develop their way of thinking, their problem solving processes and their lifetime learning and seeking to make a difference in each step they encounter. Furthermore, schools play a vital role in preparing the students to be creative, thoughtful future citizens who will participate effectively in the progress of their communities. Thus, if they are not fully prepared to face the real challenges in life when they are ten years old at school, what will make them better thinkers at age thirty?

Florio, further endorsed this view by stating "Schooling involves more than life in a single classroom. During their educational careers, students will be members of a wide variety of classrooms each with its own norms and expectations and relationships for participating". She calls these schools as "mini" society (in Idol, L. 1991).

1.8 Why teach thinking?

The goal of helping students become more effective thinkers is considered fundamental to many educators of the 21st century (Idol, 1991, Andrews, 1991, Paul, 2004, Costa, 1991, Paul, 2004). In the past education may have had different objectives, i. e., reading and writing. A person would be considered illiterate if he/she was not able to perform those two tasks. However, the education path has changed in this century; education is supposed to create a knowledge society.

An intellectual person nowadays is not one who can read or write, but one, who can think critically and creatively, can analyze and conclude, can participate in logical arguments and acquire higher order problem -solving skills. These are the hidden attributes human beings should discover, channel, and value. "The potential to think well has a lot to do with what it means to be human" (Andrews, 1991).

The National Council of Teachers of English (1982) emphasize that critical thinking is the ability to analyze, classify and compare conclusions and is essential to the reasoning process of all people. The capacity to solve problems is a way to help students, cope successfully with experience of learning within the school setting and outside (qtd. in Costa 1991, p. 4).

Eric (2005. p.116) explains that it is critical to understand that healthy brains are born with the capacity to learn these skills [critical and creative thinking], but there is nothing built-in or automatic about a student having them. They have to be taught at schools. Grant (1988) further argues that "if higher order of thinking is not promoted in the course of learning to read, compose, calculate and analyze; a student may never have an opportunity to move beyond the literal interpretation of information". She is very concerned about the negative outcomes if schools do not adopt this concept for the students. If students learn to think critically they can use good thinking as the guide by which they conduct their lives. Their brains will be programmed to practice this skill and apply it in all aspects of their life.

Many authors and educators have developed different approaches to learning critical thinking regardless of the student's age, often to provide people chances to catch up what they have missed in schools to develop their thinking process in areas such as, reading, writing, business, and other fields (Idol, 1991, Paul, 2004, Andrews, 1991, Bassham, 2008, Moon, 2008).

These educators believe that a human being is always capable of learning this concept and can develop it at any age (for example, De Bono, 1982). He became a pioneer in a new thinking program that encourages thinking out of context. He believes that at school

and in later life most people have to think all the time and their thinking skills will change in order to meet the new changes around them. So he developed new strategies for thinking that are applicable to all ages, from age six to sixty. He has made a distinction between vertical thinking and lateral thinking. Vertical thinking is logical and straight forward, whereas lateral thinking is a creative way to think around a problem.

The bottom line is that most educators emphasize the importance of acquiring thinking skills in order to be a successful human being in this modern world, regardless of the ways, instruments, methodologies and techniques used. Students will feel more confident in their thinking and become skilled when their thinking is valued and taken seriously and when their thinking makes a difference by improving their own lives. For these reasons, the teaching of thinking should be a high priority objective of education. As mentioned before, these skills should be taught in schools by the people who have a direct influence on students and thinking: the teachers.

1.8.1 Teachers' role and strategies in developing critical thinking

"Teachers are the ones who interact with students. They are the ones who implement educational policy and curriculum content, scope and sequence. And most important they are the ones who establish the educational climate. In short, they have almost complete power over the process that takes place in the classroom". (Foley, quoted in Costa 1991, p. 193).

1.8.2 Creating an environment to develop critical thinking

The manner in which a classroom is structured is a vital issue in regard to the teaching of critical thinking and its transfer to other domains. An integral part of teaching methodologies designed to foster critical thinking is the type of classroom environment the teacher helps to create. There is a close relationship between the development of classroom climate conductive to good thinking and student success. Students cannot think well in a harsh, threatening environment. Teachers can make their classroom a

more thoughtful place by accepting all different types of opinions and by embracing students' participations constantly, as long as they follow the basic rules of logical thinking.

Many researchers have discussed the importance of applying different types of techniques to foster critical thinking atmosphere in schools, however, they all, agree on the following general strategies that teacher's generally should embrace and practice.

1. Discussion

Discussion involves group interaction in which students' discuss what they know and don't know. The teacher is the discussion leader, whose role is to promote discussion by creating an atmosphere of freedom and clarity. Discussion is often suggested as a preferred method by many educators and researchers (Richard, 1992, Costa, 1991, Paul, 1985, Bonnie, 1994, Andrews, 1991). Paul (1985) points out that the analysis of major problems and instructional strategies intended to enhance thinking, creativity, cooperation and positive self worth stress the need for this dialectic discussion" (qtd. in Costa (1991). Teachers should believe in the potential benefits to students and become increasingly reflective about their own practice through discussion. Students should feel that their opinions are valued and appreciated, because of these discussions in the classrooms that is called' mini society'. The students will learn how to discuss, respect other points of view, think critically before sharing their views and reach to conclusions by themselves.

Just as we need to teach students how to think independently, we need to teach them how to think collaboratively through group discussions. The teacher has a major role in applying a successful discussion by encouraging students to participate and to acquire the required skills for proper discussions. Shinzato, (1999) further endorses this point by explaining that teachers should be facilitators who motivate students to learn creatively and independently. The teacher should acknowledge that learning is a life long process. In addition to that, Dillon (1984) distinguishes between recitation and discussion, with discussion calling for higher cognitive skills than recitation (qut. in Idol, 1991). Through

discussions students can find ways to relate and link classroom knowledge to their own lives and develop creative approaches to think.

2. Questioning

"We kill the child's curiosity and desire to question deeply, by superficial didactic instruction. Young children continuously ask why question, but we soon shut that curiosity down with glib answers" (Richard 1992).

Teachers should stimulate the students' minds with questions that call for reasons and evidence, questions that lead them to examine, interpret and test their ideas. Once students have developed skills for questioning, they will continue learning by them. Barell (1988) mentions that once someone asked the Nobel Laureate Rabi why he became a physicist, rather than a doctor or a lawyer. Rabi explained that his mother made him a scientist without ever intending it. Every mother would ask her child, so what did you learn in school today? But my mother always asked what good questions did you ask in school today (qut. in Costa (1991). That implies the effective role of questions for students.

However, not all types of questions have the same effect in developing critical thinking skills in students. Good questions must stimulate students' interests and motivate them to think from different perspectives.

De Bono (1982) explains that the "why" technique as a tool of lateral thinking can be used to create discomfort with any expiation. He says the purpose of this strategy is not to arrive at a correct explanation, nor to defend a point, but to explore it.

Many series of studies on the effective types of questions that stimulate thinking skills in students have been carried out by many researchers (Richard, 1992, Costa, 1991, Marzano, 1988, Shinzato, 1999, Moon, 2008). Therefore, we will present a summary that covers the common findings of their studies.

Types of Critical Questions

These types of questions may be more the responsibility of the teacher in the beginning of the school year; however, with consistent modeling and encouragement students should take responsibility for asking these questions of themselves and their peers.

To steer students through these stages, the teacher should provide guided practice rather than monitoring students' performance to make sure they are doing it right. Teachers should ask probing questions to help student's decisions as they learn a particular process or step. This strategy will remind the teachers to teach the questions rather than the answer. Allowing students questions to guide instruction is another powerful tool for teaching them how to ask good questions. Furthermore, teachers should always ask students to explain as to how their answers follow from their evidence and encourage them to justify ideas.

3. Problem solving skills

1. Questions of clarification:

   Example: - Could you give me an example?
   - Is your basic point --- or ----?

2. Questions that probe assumptions:

   Example: - You seem to be assuming.
   - How would you justify taking this for granted?
   - Is this always the case?

3. Questions that probe reasons and evidence:

Example: - How could we go about finding out whether that is true?

- Is there reason to doubt that evidence?

4. Questions about viewpoints and perspectives:

Example: - How would other groups or types of people respond?

- How would people who disagree with this point argue their case?

5. Questions that probe implications and consequences:

Example: - What effect would that have?

- If this and this are the case, then what else also can be true?

6. Questions about the questions:

Example: - To answer this question, what questions would we have to answer first?

- Is this the same issue as?

One of the most important practical thinking skills one can acquire is to know how to identify a problem. In addition to that, problem solving is an excellent group activity; as each student has the benefit of exposure to several ways of solving the problem. Problem finding and solving strategy is a way of framing tasks so that students use skills similar to those needed for further problems they will encounter in life. It will prepare and empower them to face the most complicated challenges in their career and other aspects of life. Cromley (2000, p. 160) explains that one study showed how students' thinking actually changed during a problem–based learning meeting as they discussed the evidence for two different explanations. She also, included in her book another study, about problem-based learning finding that students used better thinking than non-problem based learning students. She demonstrates her theory by including many published studies about the benefits of applying problem–based learning with students, such as its effect on the memory by remembering up to five times as many facts as non-problem–based learning

students and becoming much better at planning and much better at looking at a messy situation and identifying the main problem that needs to be solved. As a result students become more aware of their own thinking. They understand what they read, and analyze it and try to identify the main elements that might disagree with their views.

	Problem-Based Learning	Traditional learning
Active vs. passive learning	Almost all active learning. Practice on materials related to problem.	Most passively listening to lectures.
Who gives explanation	Students come up with and justify their own explanations. Teacher may help by providing information or sources.	Generally teacher gives all explanations
Complex problems	Problems are real-life and complex; there is not "one right answer". Students have to ask questions and search out for information.	Problems are simple and usually all of the information is given.
Transfer	Problems bring the real world into the classroom and explicitly apply classroom learning to outside problem.	Material is usually abstract and disconnected from applications.
Independent learning skills	Students learn how to ask questions, research, and solve problems.	Students usually depended on grades to know if they are right. Often does not develop independent learning.
Self-awareness of own learning	Because students have to explain their reasoning, their ability to monitor their thinking increases.	Students may never be asked to justify their thinking in lectures.

Table No One

Contrasting problem–based learning and traditional classroom learning (Cromely.J 2000).

4. Performance versus/effort

"If learning is what we value, then we ought to value the process of learning as much as we value the results of it" (Idol, 1991).

Teachers should help students focus on the role of effort and strategy in learning rather than only on performance that depend on fast outcomes to indicate success. Dweck (1988) argues that students with high performance goals react to difficult challenges tasks with learned helplessness, while students with high learning goals react to the same tasks with excitement and better cognitive strategy use. Helping students focus on effort is

much harder than to focus on high performance, since it involves hard work from the teacher to encourage the students to concentrate on problem solving, defining facts and clarifying tasks that generate means to solutions. The process includes helping students to note down their improvements and to recall the specific strategies that led to their success, rather than their outcomes isolated from their effort.

Lorna (Idol, 1991) further endorses this point by stressing the importance of using an evaluation system that encourages risk–taking, for example, trying strategies on new or difficult problems, making errors and encouraging students to try again. This process should be appreciated and encouraged by the teacher, because it is the core of learning. It eventually leads to self independent learning that focus on effort that leads to high performance, rather than high performance leading to temporary outcomes.

Idol (1991) calls them "mastery and performance" strategies. She defines the mastery strategy as learning in which individuals strive to acquire new skills and expand and develop their competence. The performance strategy is the ego in which individuals strive to obtain positive judgments of their ability. Its goal orientation reflects a valuing of ability and doing better than others. However, with the mastery goal, the process of learning itself is valued and the attainment of mastery goal, the process of learning itself is valued. Idol continues to explain in details the different responses of the two categories.
Mastery response: "…. Problems that I will learn something from, even if they are so hard, I'll get a lot wrong."
Performance respond: "… problems that aren't too hard, so don't get any wrong. Problems that are hard enough to show I am smart. (Dweck, 1985).

As a result, we can appreciate how hard this process is to apply to students, because most schools do basically the opposite. However, there should a balance between those two strategies, and teachers can take advantage of both of them wisely by relating them together. Teachers can focus primarily on students' effort (mastery) as the main objective of learning and achieving, then relate it to performance as the result of it,

without giving much attention to the final outcomes otherwise the purpose of learning will be distorted.

Some researchers have conducted studies to support this strategy as an effective way to develop critical thinking without worrying of the final outcomes of performance. Ames and Archer (1988) have found that when students perceive their classroom as emphasizing mastery, rather than performance goals, they are more likely to use effective learning strategies. In fact this work has shown that when students are pursuing mastery goals they are likely to attribute their performance to effort and have a higher sense of efficacy (i.e., believe they know how to use a strategy to complete the tasks successfully) (Cited in Idol 1991).

1.9 Teachers as critical thinker

Marzano (1988. p. 134) explains that Model teachers are also expert learners. Like model students, expert teachers' spend a lot of time planning, recognizing quickly many patterns related to the content subject and change strategies when students are not meeting goals. As this paper discussed earlier, the process of fostering critical thinking strategies in students is a very complex one. It is not an easy task that anyone can acquire overnight nor can we say that there is an end to it. Critical thinking skills means life long learning that not only the students have to continue working on their cognitive skills, but also, it is primarily the teachers' job to update, train, and exercises their skills towards critical thinking. If teachers did not understand this concept, its importance, its effects, and its various techniques, how will they be able to transfer it to their students? They play a vital role in first acquiring the cognitive skills, when teaching it to the students.

Teachers should analyze their own thinking process and classroom practice. They should be open-minded, encouraging students to follow their own thinking and not simply repeat what the teacher has said. Marzano (1988, p. 5) adds that teachers in every subject area have a dual agenda. They need to develop in all students a rich knowledge base, and they need to provide students with a repertoire of cognitive and metacognitive skills and strategies that will enable them to use the knowledge efficiently in meaningful context.

While Thomas J. notes that "How you teach is what you get" (qtd. in Costa 1991). He indicated that what the teacher says and does in the classroom greatly affect student learning. Therefore, in order for teachers to foster a critical thinking climate in the classroom, they must first start with themselves, in many ways:

1. Believing that critical thinking skills are for everyone and not only for students.
2. Updating themselves with the latest thinking strategies/techniques in their subjects.
3. Analyzing their thinking process in a cognitive way.
4. Being aware of the students' background knowledge in order to relate the new information to what they know.
5. Being aware of the differences between the short and the term memory in order to analyze and decide which strategy to apply.
6. Participating in teaching training that demonstrates the different methods of acquiring critical thinking skills not only for students but also, for teachers as a whole.

1.9.1 Teachers' behavior

Perhaps the most important aspect in developing a critical thinking climate is teachers' behavior in the classroom. It depends totally on whether they encourage and support students to be engaged in different types of critical thinking practices or kill (intentionally or unintentionally) their desire even to think on their own. Students, especially in their early years, are very sensitive to the behavior of elders or their words, specially their teachers. A single word can dampen their spirit and put them down or encourage them at the same time. They are empowered by teachers' behavior, attitudes and encouragements and vice versa. Therefore, what the teacher says and does in the classroom greatly affects students learning.

1.9.2 Response behavior that creates a climate of thinking

Response behaviors are the actions teachers take after a student answers a question or follows directions (Costa, 1991). The teacher initiates a behavior through questioning or structuring, the students to perform the behavior, and then the teacher responds to the

students' performance. Lowery and Marshall (1980) found that how the teacher responds influence students' behavior more than what the teacher asks the students to do. This is because students are constantly anticipating how the teacher responds to their action (in Costa. 1991).

Likewise, Flanders (1965) found that teacher responses greatly influence the development of students' self–concept, their attitude towards learning, their achievement, and their classroom rapport. He classified six behaviors that influence students learning:

1. Criticism and other put-downs
2. Praise
3. Using silence (wait time)
4. Accepting passively, actively, or empathetically
5. Clarifying of both concepts and process
6. Facilitating data acquisition

In conclusion, the reason for including all these response behaviors described in this chapter was to indicate the importance of creating a warm, appreciative and encouraging climate for learning by listening to students thought, replies and answers actively. The use of accepting behavior demands that teachers be sensitive to and understand students thoughts and ideas. Also, they should avoid criticizing students. This is a very important aspect in the learning process. Criticism could be defined as a negative response to students' performance, e.g., using negative words such as "you are wrong," "can't you think?", "why don't you concentrate?", may stop students from thinking. Definitely they would give up thinking when their thoughts or responses were criticized. Obviously, it is logical to conclude that making students experience failure does not enhance or develop their thinking. Students need their thoughts and their response to be appreciated and valued. Flanders (1970) found that greater criticism was related to less positive pupil attitudes and lower pupil achievement.

1.10 Effective teacher development practices

As we mentioned previously, the process of teaching critical thinking skill to students requires first that teachers foster it for themselves. After that they can transfer and apply it to students. Both processes need extensive training and attention in order to have continuous and constant practice in schools. Many schools prepare short term workshops and limited teaching training in regard to teaching critical thinking skills, in their school, and they announce that they do have these programs; therefore, they expect their teachers and students to acquire these skills effectively.

Fullan (1982) argues that long experiences showed that traditional one and two- day workshops of presenting materials about critical thinking skill have little substantial impact. Instead research indicates that if fundamental change is to occur, teachers require more intense, ongoing technical, assistance (qtd. in Stevenson/Costa 1991). Further explanations and suggestions regarding teacher training programs are discussed in the last chapter (recommendations).

Conclusions

"I think I can, I know I can". (Pier,W, 1930, qtd. in Cromley 2000).
The purposes of teaching students critical thinking is to transfer them from saying 'I think I can,' to' I know I can'. To enhance their self esteem and confidence to discuss, share their thoughts and think critically. Meaningful learning requires that students go beyond rote memorization and become intellectually engaged with their curriculum subjects and outside topics. They should actively think and wonder about them in order to develop a personal understanding. Richard (1992) points out that "if we are trying to foster quality thinking, we do not want student simply to assert things, we want them to reason things out on the basis of evidence and good reasons". Students should learn for understanding not just for getting the question right, making the teacher happy, or getting a good test score. Clearly good thinking involves more than doing school homework and memorizes the book content.

CHAPTER 2

Research Methods

2.1 Data Collection

For the purpose of this study, and as predetermined by the research questions and hypothesis, the research primarily focused upon visiting a Public School in the UAE - Dubai. This school was chosen because it is considered one of the best public schools in the UAE and has won many national prizes in teaching strategies and student care. Since this research is investigating whether public schools apply critical thinking strategies in teaching, this school was the right choice.

An informal letter was delivered to the school principal who welcomed the researcher to investigate freely. Further description of the school is mentioned later in this chapter. As a researcher, I could not assume or predict the answer the research question: "Do public schools apply critical thinking in teaching?" without observing the teachers and the classrooms. Therefore, qualitative data were collected through a series of class observations, which the researcher did as a silent observer, by sitting at the back of the class, in order not to distract the students' attention to the teacher. The researcher entered the classrooms, without any prior perception or judgment to the findings of the research questions. On the contrary, since the researcher had heard that the school had won certain prizes in this field, there was little hope to reach to positive findings.

Since detailed instructions on how to teach students using critical thinking techniques were provided in the teachers guide book for teaching of Arabic, History, and Science these subjects were chosen to see if they were taught using critical thinking strategies.

The targeted students were from grade five and four, because these two grades are expected to be able to express their thoughts through activities and discussions. At these ages students should be able to develop their own point of views, think and react to the teachers' instructions thoughtfully if they were trained to do that.

The reason for not choosing higher grades is because this particular school offers education starting from KG 1 to grade 5. Therefore, four different classes were observed, two grade fives and two grade fours.

The three teachers that teach Arabic, History, and Science were observed on a regular basis. Each one of them was observed four times teaching grade four and five (all those teachers had to teach grade four and five) in order to record their teaching methods and compare it to the research topic.

Apart from that, the Art class for grade four was observed once due to the principal's request to witness the teachers' creativity in teaching art to students in order to add this experience in my report. Therefore, this particular class was observed along with the principal (appendix 3), and the findings were discussed and explained in chapter four.

A total of twelve lessons were observed on a regular basis. In each classroom, field notes were taken listened to teachers and students conversations carefully, noted down teachers demonstration methods and recorded the whiteboard notes. My notes attempted to give a complete account, recording as many details as could be remembered. Moreover, the researcher read the students text books in each lesson to follow up with the teachers and to be aware of the content of the lesson. Pages from the teachers teaching guides were copied after their approval and were attached to this research in order to compare the theory part to the practical part. The intention was to investigate if there were instructional materials available for teachers that would guide them to teach critical thinking through curriculum and if they were available were the teachers using them in their classrooms?

Prior to visiting the teachers' classes, the researcher was introduced to them by the principal and the purpose of this research was explained to them. In addition to that, before starting observing the classes, I tried to break the ice with the teachers and create a rapport and an understanding relationship by stressing that the purpose of my observation was to collect data for my research without mentioning their names in it or to any party because they were assuming that the researcher would inspect them and write reports on them. This strategy was successful and the teachers were comfortable with me observing their classes everyday, and in a way they were very cooperative (appendix 12, Q.2).

This approach led spontaneously to many informal conversation interviews, in which they were asked about the years of experiences and their teaching strategy in the class.

Since those interviews were informal, and were conducted in the teachers' breaks, the conversations were not recorded, but notes were made in the notebook and then later on transcribed the details. The purpose of those interviews with the teachers were to record their teaching strategies and their behaviour using their own words, and not by only depending on my observation notes, and also to check if they were fully aware of the critical thinking strategy and its importance in the enhancement of students learning. An operational definition of critical thinking was conveyed to them many times prior and during the interviews using the Arabic term "Al Tafkeer Al Naqed," that is approved by the Ministry of Education and is used in all the text books, and teacher's guides.

In addition to that, more qualitative data were collected through formal interviews with the school Principal, an inspector, and two American advisors that recently joined the school for the (Schools of Tomorrow) programme (appendix 26). Those interviews were important to view the perceptions of the other involved parties and discuss their roles in fostering critical thinking strategy in the school. The questions were focused more on the school objectives and the training programs for staff development. The interviews were recorded in the notebook, and then transcribed the same day (appendix 8).

The researcher has attached copies of the school mission and its yearly plan objectives (after their approval) and the inspector's assessment reports of the observed teachers in order to compare again the theoretical part and the practical/ real practices in the school (appendix 16). Detail analysis, discussions and findings were presented in chapter four.

All the documents were originally written in Arabic, therefore, the researcher translated them to English hence they are considered informal translation.

Less formal interviews were held with twenty students randomly from grade four and five, in their breaks, in order not to take the teachers' time during the lessons. The

interview questions were very simple, brief and short.   The reasons for asking simple and short questions to the students were because of their age and their short period of break time (two breaks each15 minutes). The conversation with the students was held in their local Arabic dialect, using simple descriptions that suit their mentality (appendix 7). My intention of using the chatting strategy with the students was to create a loving relationship with them and to make them feel secure to express their thoughts without any pressure or fear.   The students' interviews were crucial to this research, to view their perceptions, their feelings, and their feedback about the teachers' attitudes and teaching strategies in regard to the fostering of critical thinking atmosphere in the classes. Again the interviews were transcribed on the same day without mentioning the students' names as promised previously to them.

Though the students' opened up and talked freely, the researcher wanted to have quantitative evidence of their point of views to the teaching and learning strategies. Hence, a questionnaire was distributed to them which were also done during the break, in order not to waste the teachers' time. The questionnaire questions were direct and brief, for the same previous reasons of lack of time, and the students' age. The questionnaire was written in Arabic because the students' first language is Arabic, and then it was translated into English (appendix 6).

A statistical analysis of the gathered data from the questionnaire and the class observations was used to analyze the results in an attempt to reveal areas of improvement and areas of weakness in teaching critical thinking.

The observation checklist that was used in the classes was developed by Winocure (1983) published in *Developing Minds book: a Resource Book for Teaching Thinking* in Costa, 1991. This check list tool (appendix 1) has been adopted by many researchers and educators and was used as a general framework for teaching critical thinking particularly in schools (Costa 1991, Grant, 1988, Rehner, 1994, Halpern, 1996, Cromley, 1999, Tisa, 2002, Moon, 2008, Barenet 2008),

The bulk of data come from the classroom observations and interviews. Qualitative methods were employed to tap multiple sources of data. This led to rich contextual evidence of the types of current teaching strategies used by teachers.

On the whole, four teachers were observed for twelve lessons with eighty four students, six interviews were conducted and one questionnaire was prepared.

Total Students	84
No. of teachers	4
Classes	4
Time	45 minutes each lesson
Lessons	12
Subjects	History- Arabic- Science – Art
Grade	4 – 5
No of class observation per teacher	4 times

Table No Two

 Qualitative and Quantitative methods used in this research

In brief, the reasons of using a variety of qualitative and quantitative methods in collecting the data such as interviews, questionnaire and observations was to present and bring to light different views, opinions and perceptions in this research and to compare them to the research questions and its findings. Therefore, the researcher has honestly presented the teachers' perception of the students, the Principal, the Adevisor and finally the Iinspector's point of view.

2.2 The Background of the School

The observed school was established twenty years ago and had many cosmetic changes in the building and extreme developments in its facilities. The school has 400 students and thirty teachers. The education system starts from KG 1 to grade five, and later on the students are transferred to another public high school. The entire administration members including the principal are local Emirates. Also 99% of the teachers and students are locals. The students were only girls. The school is supported by the Mministry of

Eeducation and, as mentioned before, is considered one of the best schools in terms of the quality of education they offer and its teaching skills (as it is posted on their awards).

Recently, a new program was launched in UAE in order to enhance and develop the education system in schools. In the current year 2007, only fifty schools from all over the UAE were selected to join this program and later on in 2008 the number will be increased (appendix 26). This particular school was one of the chosen to be part of this program.

2.3 University Students

Apart from collecting extensive data from the Public School, and hoping to get more from students who had graduated from Public Schools, a Questionnaire was distributed to small sample of University students. About 20 students from a Government University in Dubai answered the Questionnaire. All the students were girls studying at the Foundation Level. They were local Emiratis who had graduated from Public Schools from different parts of UAE.

The questionnaire was distributed in the Arabic language and then was translated and analyzed in English (appendix 14). The reason for questioning students from a Government University was because those students had graduated from Public Schools, and hence I wanted briefly to link the results of the research question to the findings of the students' comments and opinions at the higher educational level.

The researcher wanted to present and open another avenue or window in regard to the research question. The University students were the extension of the School students, and at that age, they were expected to be able to compare and express their thoughts about their educational level and experiences. Therefore, it was important to view the results and outcomes of the current teaching strategies in schools on future students who joined universities and colleges. The outcomes were presented from the students' point of view regarding their thoughts about the way their teachers taught them, and if they have prepared them to enroll properly in universities.

To achieve that goal, an open end question was added in the questionnaire (appendix 14), "What are your comments regarding teaching strategies in Public Schools and what are your suggestions for further improvements?" in order to view the students' opinions, and comments using their own words and expressions about the teaching strategy in their schools.

The data from the questionnaire was analyzed and the students' comments were transcribed in points on another sheet (appendix 16) for further discussion about them in chapter three.

CHAPTER 3

RESULTS

3.1 Introduction

"The level of the development of a country is determined, in considerable part, by the level of development of its people's intelligence". (Luis Alberto Machado)

Our rationale is based on several aspects that point to the need for the teaching of thinking skills in schools. They are as follows:

- The role of the teacher in developing a warm climate in which critical thinking is encouraged,
- the teacher's attitude and behavior in the classroom,
- types of questions practiced by the teacher to evoke students' thinking skills, and the
- Types of training provided for them to enhance and develop their and the students critical thinking skills.

In this chapter, we will discuss the current teaching practices in the observed school, analyze the students' the teachers', the Principal and other school administrators' opinions as expressed in the interview, and will draw conclusions from the discussed data. In addition we will compare the collected data (questionnaire) from the Government University students who have graduated from Public Schools to previous conclusions, to reach to the general result for the research rational.

3.2 Discussing the Data (the real practice)

The heart of the data is the observation check list. As mentioned, the researcher used the checklist prepared by Wincour (1991) the critical thinking observation check list. The findings are tabulated according to the number of observations (12) and the number and percentages of occurrences of the teacher behaviors.

	Observation Checklist	No. of practice		Percentage	
		Yes	No	Yes (%)	No (%)
1	Students work in pairs or small groups.	4	8	33.33%	66.67%
2	Students respond to other students.	3	9	25.00%	75.00%
3	Students help others to analyze and solve problems.	0	12	0.00%	100.00%
4	Teacher accepts all valid students' responses.	4	8	33.33%	66.67%
5	Incorrect students respond elicit encouraging, Supportive Comments.	0	12	0.00%	100.00%
6	Teacher works from organized information.	10	2	83.33%	16.67%
7	Students take note systematically.	0	12	0.00%	100.00%
8	Teacher's presentation is logically organized.	9	3	75.00%	25.00%
9	Ideas are graphically symbolized during instruction.	2	9	16.67%	75.00%
10	Teacher acts as facilitator.	1	11	8.33%	91.67%
11	Teacher probes for correct response.	7	5	58.33%	41.67%
12	Teacher seeks evidence for stated claims.	0	12	0.00%	100.00%
13	Teacher frequently asks, "Why do you think so?"	0	12	0.00%	100.00%
14	Students relate learning to past experience or similar situations.	0	12	0.00%	100.00%
15	Teacher allows time to consider alternative/point of view.	0	12	0.00%	100.00%
16	More than one student is queried for point of view/solution.	0	12	0.00%	100.00%
17	Teacher asks students to justify and explain their thoughts.	0	12	0.00%	100.00%
18	Teacher asks open ended questions with multiple answers.	2	10	16.67%	83.33%
19	Provides visual cues for developing cognitive strategies	0	12	0.00%	100.00%
20	Teacher appropriately uses a Variety of visual media (charts, chalkboard, maps, pictures, gestures).	5	7	41.67%	58.33%
21	Teacher poses "what if" suppose that" questions.	0	12	0.00%	100.00%
22	Encourages transfer of cognitive skills to everyday life	0	12	0.00%	100.00%
23	Teacher encourages transfer at end of lesson with Comments like, "this will help you in your everyday Life in this way..."	0	12	0.00%	100.00%
24	Teacher allows at least ten seconds wait time for students answer before restating the question.	10	2	83.33%	16.67%
25	Teacher asks students to clarify and justify their response.	0	12	0.00%	100.00%
26	Teacher reinforces students for responding to open ended questions.	0	12	0.00%	100.00%
27	Encourages students to ask question	0	12	0.00%	100.00%
28	Teacher poses problematic situation.	1	11	8.33%	91.67%
29	Teacher withholds correct responses; encourages students to explore possibilities.	1	11	8.33%	91.67%
30	Teacher encourages students to answer other student's questions.	0	12	0.00%	100.00%

Table No Three

Analysis of the teachers' observation check list on teaching critical thinking in the observed school

It is clear from an examination of the checklist that the observed teachers did not encourage students to ask questions, participate in discussion and express their thoughts (100.00%). The chart presented the same negative percentage to indicate that the teachers did not seek evidence for stated claims by students. Of the thirty categories in the chart, seventeen produced a 100% failure by teachers to respond in a manner that would stimulate critical thinking, eight categories had negative scores of two-thirds or more and only four categories were above the fifty percent positive level. Of those, all were issues related to somewhat regular teacher behavior (organized presentation, probing for correct response, allows wait time for response). There were no indications of the teacher asking students "Why do you think so?" in order to ask students to clarify and justify their response (100.00%).

The teachers rarely used "if/then" language or "what if," "suppose that" questions to encourage students to think and conclude (-100.00%), nor did they encourage transfer of cognitive skills to everyday life to relate what are learning to the background knowledge or to the practices in their daily life.

However, occasionally they did use different types of teaching aids and visual media such as charts, chalkboard, maps, pictures, gestures and projectors (#20, +58.33%) which indicated that the school was trying to use updated teaching aids and make sure that they were available for the teachers. Nevertheless, those aids were often used to present pages from the text books and to repeat the textbook content by copying them and adding few graphics to attract students' attention to listen (appendix 5, No. 2).

The teachers did not encourage the students to help others to analyze and solve problems from the text book or exercises; each one was responsible to solve their own given questions. Rarely the students had the chance to discuss and try to solve problems and issues when they were divided into pairs or small groups (#1, -66.67%), other than that, were they not asked to think to discuss other students' questions or problems (from the textbook). Most of the time the teachers did not withhold correct responses; and did not encourage students to explore possibilities (#28 & 29, -91.67%). With the percentage of -

33.33% most of the teachers rarely accepted all valid students' responses, i.e., rejecting responses two-thirds of the time. It appeared that there was only one way to solve the problems or one right answer for any question.

Unfortunately, the Table No Three shows that the percentage of teaching critical thinking skills to students is very low, almost not practiced in the school.

3.3 Teaching strategy in the classrooms

"Traditional instruction assumes that the learner is an empty vessel into which the teacher must pour information. Thus, in traditional instruction, the learner is passive and meaning is somehow conveyed by teachers' words, not constructed by the learner". (Idol,L 1991).

This description applied exactly to the findings of this research. The findings are discouraging but not surprising, although it was not expected to be so extremely disappointing.

Rote memorization:

The observed teachers used similar approaches, methods and strategies in teaching, although each subject (Arabic, History, Science and Art) has its own specific instructions to teach in terms of adopting critical thinking in students and enhancing their thinking skills. The teachers focused almost entirely on memorization and rote learning.

Science Teacher

Memorization is the common practice used not only by the students, but also, by the teachers. Some teachers memorized their lessons, and recalled and repeated them word by word as it was stated in the textbooks, without changing, adding or relating information to other materials or to students' previous knowledge (appendix 5).

This approach is repeated even in the Science lesson, which was held in the laboratory surrounded by various types of instruments and scientific tools, yet the teacher used the same approach every time to explain the lesson, basically lecturing and asking students to memorize the lesson's elements. The projector was used only to present the copied pages

from the textbook so that the teacher could read from them (appendix 5, No. 2). Furthermore, scientific definitions that logically should have been derived from analyzing facts by students were read and memorized by repeating them several times. As a result, students were expected to recall them on the spot in various ways (appendix 5, No. 12), such as answering quizzes which asked them to recall the information from the lesson, or they were asked individually to answer orally the exact words of the information, event, scientific experiments or definitions. The students were asked to memorize the teachers' model answers to questions which were copied from the textbook, rather than from their own conclusions (appendix 5, No. 13)

The interesting point is that science is supposed to be the most exciting subject for students especially in the fourth and fifth grade where they start to discover, analyze, observe, practice and conclude by themselves. Instead it was taught just like other subjects (such as History and Arabic). Ironically, the teacher believed that the reason behind students' distraction or lack of enthusiasm in the Science subject was because the subject is boring and difficult for the students and there is no fun in learning it. The teacher was totally convinced that students were not capable of comprehending the subject. For example she commented:

" I don't know what the reason is, but the level of the students is very low, they do not participate, they are lazy, and not alert in the class. May be the subject science is boring for them, I don't know why their can not focus enough in the class" (appendix 12, No. 6).

Even the research topics that the students had to prepare for gaining high grades were treated as boring tasks, since they had no chance to prove to the teacher what they had collected data and information and present their research results.

History Teacher

It was obvious that the History teacher memorized all the events word by word, and in class followed the exact sequence of the textbook for example, she said: "Do you know that I have memorized all the content and I do not need my book to prepare anymore?"

(Appendix 10, No. 10). From the time the lesson started, the teacher began recalling the entire historic events one after the other constantly without pausing or giving chance to students to absorb them. The word recalling was used instead of lecturing, because sometimes lecturing indicts that the person may explain information using his/her own words, giving examples and relating information to previous knowledge.

However, the teacher was not lecturing, instead, she was recalling the information to students: no enrichment, no elaboration. Students were expected to listen carefully to the teacher not being allowed to write notes or even to distract the teacher by asking questions (appendix 4, No. 3). They not only had to memorize the lesson, but also the map. They were asked to memorize where events happened on the map without relating the information to the map and analyzing it (appendix 4, No. 8).

Basically, the teacher recalled the information and events for the entire lesson and students were expected to do the same. The students had no chance to think of new examples other than the ones provided in the textbook. The teacher used the textbook examples without considering whether they were easy or difficult for students to understand.

Arabic Teacher

The teacher focused more on recalling grammar rules and other information from the previous year and the students were expected to memorize the rules without being refreshed or given an explanation again after a lapse of a year. For example she said to her students: "you took this lesson last year, can't you remember it?" (Appendix 2, No. 3). Sometimes it is acceptable to ask students information from the previous years, to indicate that the lessons are related to each other, but not in a way that makes students feel that they are under threat to recall them and not being able to do so will be seen as a wrong behavior or being stupid (appendix 2, No. 3). The underlying assumption of this attitude is that the students are not capable of recalling information and should memorize things even if they do not understand them.

The three teachers used the same technique in memorizing information. They asked students to underline information in their textbook, sometimes paragraphs without explaining, or discussing them. Students were used to this technique as they used different types of coloring pens to highlight and underline information. For example she shouted at her students in one of the lessons, and said:" why did you not read the questions and prepare the answers. All the answers are available in the story" (appendix 2, No. 17).

All students prepared on their desks beforehand, the coloring pens that are used to highlight important information (appendix 4, No. 6). The students had to memorize the textbook questions and the model answers as well, believing that their answers are not perfect and not accurate.

Art Teacher

The subject of Art was not a planned part of this study. However the Principal insisted that I attend the Art class to observe the teacher's "creative teaching skills in Art" (as she said before entering the classroom). Surprisingly, the findings were not as expected at all, and they added extra evidence to the basic point of this paper (appendix 3). Since Art represents creativity, imagination, exploration, discovering children's abilities, therefore, this subject was not intended to be observed, having faith that it is the only subject that needs no guidance and it is fulfilling the world's known objectives.

The teacher spent thirty minutes of the lesson asking questions to students about basic information, such as what is in the desert and students were expected to sit still and quiet to listen to the Art teacher explaining the topic orally (appendix 3, No. 2). The students had to memorize the information in the class, because they would be asked again in the future as indicated by the teacher.

Memorization had a different approach in this class. The students had to draw the exact same sample of the teacher's drawing (a mountain) on their sketch paper. For example, she told on of the students: "Teacher shouted at another student and said: "I told you to draw the mountain in the middle not on the left" (appendix 3, No. 8). They even had to use the same colors used by the teacher (appendix 3, No. 5). How, under these

circumstances, can we expect these students to be critical thinkers, with self esteem, able to discuss, to test and conclude? Furthermore, the students were punished for not following the teacher's patterns and they had to draw them again (appendix 3, No. 7).

This type of memorization is called imitating. The students had to imitate and follow others, and did not have the confidence to show their own work. The reason being, if they tried to use their own thinking they were criticized and mocked by the teacher either by calling them names, or by saying they were wrong or by shouting at them. They also, were asked to recall and memorize only model answers. For example, the teacher shouted at one student because she used the red color in the mountain and said: "you never listen to me, I said only brown" (appendix 3, No. 6).

None of the observed teachers encouraged the students to think on their own and by themselves, as best as they could to reach to conclusions or learn from their mistakes.

Great emphasis on grades and tests (performance rather than effort)
"Lecture is good for transferring information but the goal of education is creating independent thinkers". (Cromley.J p: 147) Students are bored by teachers and do not perform as well.

All of the teachers emphasized the importance of high grades and performance instead of effort. In every lesson that was observed the teachers mentioned grades, sometimes as a tool to attract students' attention and focus or to remind them to memorize important information in the textbook (appendix 4, No. 8). Furthermore, all students were alert and ready to note down anything related to grades or exams (appendix 5, No. 8).

We do not suggest that it is not acceptable to reward students with grades, but when grades become the reason for students to perform instead of effort, then, the real goal of learning will be changed to grades solely. The teachers encourage the students to study, memorize the answers to questions, and prepare a research for the subjects, only for the purpose of getting good grades, not for the inherent value of learning. The teachers

literally emphasized "perform to get high grades". The underlying assumption is to get the job done to get grades, by any means, either to copy and paste researches from the internet, or to memorize model answers or the textbook sentences, or to listen carefully to the teacher's lecture to use her exact words (appendix 5, No13).

3.3.3 Shouting/yelling at students and using discouraging words

This was a common strategy used by all the observed teachers; to yell and shout at students who did not know the answers, did not do the homework did not prepare answers for the exercise beforehand and who could not recall the last year's lesson (appendix 2, No. 3). This teaching strategy discourages students to practice critical thinking not only in the school, but also, in real life at that age, because of the fear of being wrong all the time. Hence following others' opinions will become a regular habit for them. The question here is how can we expect students to think critically when they are subject to being degraded by the teacher for any mistake committed or by thinking independently?

The reason that this method is mentioned as part of teachers' teaching strategy (although it was not part of the academic techniques) is because it has a direct inverse relation to encouraging critical thinking in students. From my point of view shouting at students is the most important method for discouraging students to think critically and it typically prevents them from trying to think, due to fear or being yelled at or being belittled in front of the class (appendix 3, No. 8). Many researchers in the critical thinking field emphasize (Idol,L 1991, Paul.R 2004, Andrews,J 1991, Bassham,G 2008, Moon,J 2008) on the important role of the teacher to create an environment conductive to critical thinking reflection because teachers play a very important role in supporting students during active learning.

3.4 Teachers' teaching strategies

"Developing the mind set to critically question learning will increase students learning abilities and creativity throughout their lives" (Wiggins, 1989) (developing the minds P:19 Shinzato)

The following chart, describes teachers' teaching strategies and students learning methods. These descriptions were derived from class observations and field notes. The aim of this chart is to summarize basic and common practices by students and teachers in the public school in order to focus more on the educational practices in public schools as a whole.

Teacher strategy	Students
1. Rote memorization	1. Students used model answers to exercises and textbook questions.
2. Underline the information in the text book.	2. Listen only to teachers lectures.
3. Answers should be from the textbook using the same exact words.	3. Students focus on recall of isolated facts.
4. Teachers shout at students and use discouraging words such as: not focusing, getting low grades, not remembering, not listening etc.	4. Lack of confidence and self esteem.
5. The teachers prepare answers to the textbook questions.	5. Students do not get a chance to talk in the classroom and express their thoughts.
6. The teachers read from the textbooks to explain the lesson.	6. Student are bored .and never ask questions.
7. Great emphasize on grades and tests (performance rather than effort).	7. Students do not get a chance to talk in the classroom and express their thoughts.
8. The teachers use short quizzes at the end of each lesson to recall information	8. Students perform only for grades.
9. Teachers also memorize their lessons and do not add, analyze, or comment.	9. Students are afraid to ask questions about the lessons.

Table No Four

Description of teacher's teaching strategies and students learning methods

3.5 Discussing the interviews

Interviews were a crucial part of data gathering to describe the context of the school and to identify the attitudes and ideas of the teachers and administrator.

3.5.1 The teachers

The observed teachers were very clear about losing interest in teaching after spending many years in the school. For example the history teacher commented on the researcher's question concerning if she enjoys teaching, "Actually, before I did, but now I have lost interest as it has become a routine" (appendix 10, No. 2). While the science teacher said: "Actually after 10 years, No. I am really tired of teaching, I am even thinking of changing to another career" (appendix 12, No. 2).

It seemed that they lacked the interest and joy in teaching which affected their performance and their enthusiasm in delivering their subjects to students. As a result of these feelings, the teachers were using the same teaching methodology which was used ten years ago. They did not appear to have any clue (neither the Principal) about how to adopt critical thinking strategies in their classroom teaching. For example, the History teacher asked the following question when she was asked about using Critical Thinking strategy in teaching: "What is critical thinking strategy?" (appendix 10, No. 4).

And the Principal said: "Can you explain more about (critical thinking)? What do you mean?" appendix 13, No. 2).

All of them asked for further clarification about the meaning of the term Critical Thinking when they were asked in the interview, even though the researcher used the recognized Arabic term for it (Al Tafkeer Al Naqed) which is mentioned in all of the teacher's guide books and the school objectives yearly plan which and is the term used by the Ministry of Education in all their official documents (appendix 21). When asked about student performance the teachers were convinced that the reason behind the students' low grades is because of their distraction and lack of concentration in the

classroom not because of any aspect of the teaching strategy. As a result they were reminding students with their low grades and misbehaving. For example the science teachers said in her class to one of her students: ""your grades are low; you don't concentrate in the class, please focus more" (appendix 5, No. 9).

That attitude explains the reason behind teachers providing students with model answers to memorize, asking them to underline important information and preparing quizzes at the end of each session. They agree that students have a very low level in education, and are not capable of achieving by themselves.

Teachers hurry to finish the curriculum as they consider delivery to be their main priority in teaching. Therefore they neglect the importance of stimulating critical thinking and students' active participation in the class. For example, the Arabic Teacher asked the students to play the role of (two friends whispering) as part of the textbook exercise to act and the students were laughing, acting, and writing the description on their notebooks (appendix 2, No 14). This, notwithstanding that teachers had seen that students performed well when a chance was given to them to discuss in groups for a short period of time and to be engaged in different activity works in the class.

(The students did report in their interview the main reason of preferring one subject (English) was because they had the chance to participate, discuss and share ideas. For example some students said: "we like to discuss together and talk with the teacher about the lesson. Because it's boring to sit and listen all the time and really we do not concentrate with her. We also think its fun to share our ideas and talk freely" (appendix 7, No. 5).
However, it seems that teachers did not know this preference in students, because the students as they mentioned never had the opportunity to provide feedback to their teacher or talk about their thoughts. See below)

3.5.2 The Principal and the Inspector

The Principal tried to portray an image of her school as a perfectly successful school to the outside viewer. She is proud of the prizes that the school has won (a national prize for Distinguished Teaching strategies and Student Care) and of the best teaching support that the school had.

The surprising part was that the Principal said that she had observed all her teachers many times and she agreed that her teachers need more training regarding teaching skills and class management. For example, she commented on the researchers' question whether her teachers apply Critical Thinking method is teaching: "I feel that you are in doubt about this, so please don't judge them from one observation, they may have been tired on that day or not in a good mood. Try to observe them at least two times to check this out" (appendix 13, No. 6).
She was confident of her teachers' performance, and praised them. She showed me excellent assessment reports for the observed teachers (appendix 17), even though those observed teachers had different assessment report done by the researcher which was basically the opposite (Table Three).

The question is why the Principal placed emphasis on having the best teachers with the best teaching skills and best assessment reports even though she agreed that they need more training on teaching skills? It seems that all the blame was thrown on the students for their low level of education and low grades.

The Principal has drawn a perfect picture of the school with its unique facilities and equipments. Providing excellent reports for teachers and indicating that they apply critical thinking strategies in teaching as it is stated in the school's main objectives made us wonder about the relationship of winning prizes for Distinguished Teaching Strategies and the reality in the classrooms. She said: "I think we have and we are trying to apply it. For example, students are encouraged to prepare projects during the year and participate

in the national students awards, also our school won the (a national prize for distinguished Teaching strategies and Student Care)" (appendix 13, No. 3).

However, the inspector (appendix 11) agreed that most teacher's lack professional teaching techniques and are dependent on the instructions given by the Ministry of Education. For example she said, "last year and in the middle of the semester we had to distribute new edition of Social Studies book and there was no time to attach the lesson plan (teacher's guide book), since it was obvious that they could apply the same previous methods of the earlier edition."

From their part they constantly provided special trainings to train teachers to use critical thinking strategies in their classrooms (appendix 11, No. 5).Yet it seemed that the process is in slow progress. On the contrary, the observed teachers had an excellent assessment report by the inspectors (appendix 17). Which indicated how on the one hand they lack good teaching skills agreed by all of them and on the other hand having excellent reports?

Teachers' assessment reports

The teachers' assessment report was exactly the opposite from the researcher's analysis of teachers' performance in regard to applying critical thinking strategies in the classroom (Table no three).

The attached assessment reports of the three teachers are for the same teachers who were observed by the researcher (appendixes 16, 17, 18). Those assessments were prepared by the subject inspectors from the Ministry of Education. The science and Arabic Teachers had Excellent performance by the inspectors. They received (Excellent) scores for their performance in preparation, knowledge, teaching methods, students' participation, class management and assessment categories.

The History/social studies Teacher (appendix 18) was graded as (Excellent) for Knowledge in the performance category and very good in preparation and class management. None of the three teachers had (Unsatisfied) performance in any category. This indicates the contradictory results of the inspectors and the researcher's performance assessment.

Furthermore, the science inspector commented on the teacher's assessment report as follows: "all appreciation for the teacher's interesting presentation of the lesson and her students' excellent level".

There could be two logical explanations for this comment; either the teacher prepared an extraordinary lesson and applied all the required teaching methodologies in terms of using critical thinking strategies with her students, or the inspector didn't concentrate on the critical thinking aspects in the teacher's lesson and concentrated more on the teachers' presentation of the lesson.

The researcher will not discuss further the reasons behind having excellent assessment reports for teachers because only one interview was conducted with the Ministry's inspector and there was no chance to listen to other inspectors' point of view in regard to those reports.

The only reason behind revealing the assessment reports was to demonstrate the contradictory analysis of the teachers' performance in terms of applying critical thinking approach in teaching and to interpret the reason behind the Principal's perception on her teacher's excellent performance.

3.5.3 Al- Ghad Team Leader and the Advisor to the Principal (Schools of Tomorrow)

The Ministry of Education has recently (2007) prepared a new program for public schools to change and enhance the education system from scratch (appendix 26). They set up plans for principals, teachers, students, curriculum, trainings, and inspectors. Each school should have a team leader and an Advisor to the Principal.

The Al- Ghad Team leader (School of Tomorrow) is responsible from the Ministry of Education (as part of AL- Ghad) program to train the teachers how to prepare their lessons, how to use activities in the class, how to adopt critical thinking in teaching and how to develop students' skills and thinking.

She works on the first 2 grades and develops teaching materials for English teachers to engage their students more in activities and adopt critical thinking strategies.

As for The Advisor to the Principal; she assists the principle to manage the school daily tasks, to be able to assess her teacher and mange the budget, and to apply the highest standards of education in UAE public school, since they will become decentralized schools. The plan duration is for three years starting form September 2007.

Both the team leader and the Principal's advisor agreed that the teachers are not applying any kind of critical think strategy in teaching (appendix 9, No. 4) and (appendix 8, No 2). They have observed many classes in different levels as well. They were also concerned about the teachers using the very classical method in teaching such as lecturing and memorizations, while students had to listen all the time instead of having a vital role in activity in the class discussions (appendix 8). Since they joined the school recently (three months), these Advisors have not had opportunities to suggest changes or provide us with further details about their proposed plan for the school. As the scope of this paper was about critical thinking in schools, I asked if they had plans for the school to adopt this strategy.

They have started with the first two grades (grade 1 and 2) to prepare teaching skills materials   mainly for the English teachers to develop students thinking skills and participation in activities through student –centered materials (appendix 8, No. 2).   Due to the language issue (as they were not familiar with the Arabic language), they were not able to communicate and observe other lessons where Arabic language is spoken (appendix 8, No. 2).

Therefore, we did not discuss the team's role and their plans any further in this report, because the program was in the experiment period and there were no further documents available to discuss except the published one, about the new educational policy in the UAE (appendix 26).

3.6. Discussing students questionnaire and interview

Questions	Number of student	Percentage
1. Which teaching strategy you prefer		
The teacher to lecture and you to listen	3	10.00%
To participate in discussion and have activates	27	90.00%
2. Does the teacher encourage you to ask questions		
Yes	5	16.67%
No	24	80.00%
Sometimes	1	3.33%
3. How do you study for the exams		
Memorize all the textbook contents, questions and answers	20	66.67%
Understand the lessons/textbook to write using your own words	10	33.33%
Other	0	0
4. Do you share your point of view with your teacher		
Yes	3	10.00%
No	25	83.33%
Sometimes	2	6.67%
5. If you have a problem to understand a point in the lesson would you		
Ask the teachers questions to explain it for you	6	20.00%
Memorize it as it is	10	33.33%
Ask your friend/someone later to explain it for you	14	46.67%
Other	0	0

Table No Five
Summary of the School's Students Responses

It seemed that this interview was the first time these students had an opportunity

to talk and express their thoughts about their teachers and the school as a whole

(appendix 7).

The most interesting finding was that all of (the interviewed ones) agreed and supported

each other's reply. They were very annoyed with the regular school teachers' attitude

towards them regarding the shouting and the punishment attitudes. They were very upset

for not being able to defend themselves, believing that they do not have the right to talk

in any situation apart from answering their teacher's questions about the subject.

For example one student said: "Another student said: No I will never ask them any

questions, because they would make me look like a stupid girl and the students will laugh

at me". Another student said: "I would rather memorize all the information even the ones that I did not understand, than to ask them because they will definitely shout at me" (appendix 7, No. 8).

 In addition to that, the students were aware that they did not get opportunities to express their thoughts in class for many reasons, the most disappointing one being the fear of being yelled at or laughed at or being called names or stupid. They were convinced that it was their fault for not being able to comprehend some subjects', of the lack of ability to memorize properly and all of them agreed that their preferred teaching strategy would be the critical thinking lesson, indicating that the students although rarely they were exposed to this technique (appendix 7, No. 2), yet were excited to experience it daily in all the subjects.

They all stated that memorization is the only way they are encouraged to study and prepare for the exams. They said that writing the exact same words, getting high grades, using model answers in the test and memorizing the textbook content without analyzing it whether the information they learned was part of their previous knowledge, were their main objectives of learning in the school. One student said: "many times I lost grades for not writing exactly like the answer in the book and I hate to get low grades, but I don't understand why I always forget what I memorize?" (appendix 7, No. 10).

This method was not created by the students themselves, rather they were asked to do so and their grades were at stake if they did not apply the memorization technique. The students were convinced that this was the only right way to become a successful student with high grades. Therefore, students with low ability to memorize felt left behind and blamed themselves for low achievement.

3.7 University Students

This questionnaire was designed and distributed to university students studying foundation level. They all are locals who graduated from public schools from different emirates in UAE. The reasons for the questionnaire were to compare their answers to the school students and to discover if there is any impact of current teaching strategies in school on students' learning ability in higher education

University students' questionnaire

Number of students = 20
Foundation level

Question	Answer	Number of Students
1. Did your teacher encourage you to ask questions and participate in discussions?	Yes	0
	No	18
	Sometimes	2
2. Did your teacher asked you to study for the exam	To get high grades	20
	To enhance your critical thinking skills	0
	Other	0
3. The teachers in your school depended on	Memorization and recall information strategy	20
	- Critical thinking and problem solving strategy	0
	Other	0
4. Did your school prepare you to study in the university	Yes	
	No	20
	Sort of	0
5. Your teachers used the following teaching strategy	Lecturing and talking	20
	Discussing and facilitating	0
	others	0

Table No Six
University Students Questionnaire and Results

The data show that all the questioned students agree that their high school teachers did not use critical thinking strategy in teaching nor did they encourage them to (18 students.) participate in class discussion. The findings are very interesting, because all the twenty students agreed and gave the same answers although they were from different parts

(emirates) of UAE. This indicates that the teaching practices discussed earlier as seen in the observed school apparently are applied in most of the Public schools in the country. As the chart shows; there also was a great emphasis on high grades and memorizing the textbook content, and. the percentage of students' participation in discussion was (0%).

All the twenty students' agreed that their pre-university schools did not prepare them well enough to study in universities and colleges. They also stated that Lecturing was the only teaching strategy applied in their schools. In brief, all the data collected from the University students' questionnaire fully confirmed the data from the students from the observed school.

3.8 Discussing the comments of the University students:

Surprisingly again, most of the students used the same terms and words to comment about the teaching strategies in their schools (appendix 16). They were depressed by the surprising university environment in which they have to start a new way of learning and for the first time have to depend on their own thinking (appendix 16, No. 1). The students were fully aware of the meaning of the term "critical thinking", and they used it many times in expressing their opinions. Most of them blamed their previous schools for not having used the right teaching strategy, which has caused them to face obstacles and challenges in studying at the University.

The irony was that, all the students understood the term "critical thinking" and wished they had been taught to learn to use that strategy. On the contrary, the school teachers (the observed ones), were not fully aware of the importance to foster it and apply it and in some cases they had not even came across this term. As it appeared from their comments, there was a major gap between University and School teaching/learning strategies, and as a result they were at a loss and were struggling to cope with the new requirements of learning, which mainly concentrated on critical and analytical thinking (appendix 16, No. 5).

Furthermore, the students emphasized the teachers' behavior in terms of having discouraged their attempts to share their opinions in the class, and were disappointed because after several years they have concluded that their teachers' attitude has affected their self confidence and self esteem.

The students complained that their teachers did not give them any opportunities to speak out and that the teachers' negative comments and discouraging words as they responded to the students opinions led them to close their thoughts (appendix 16, No. 3). Further more, there had been great focus on studying to get high grades rather than to learn and to take risks in thinking and using their own analytical approach in answering the test questions.

3.9 Presenting samples of statements drawn from the collected documents (The theory)

The following are the general objectives as represented from the collected documents drawn from official Ministry of Education laws and policies.

3.9.1 The school (2004)

The school's general objective of the yearly plan for the years 2004/2005 was as follows:

> "The general strategic goal is to establish a new fundamental change in the concept of teaching and classical strategies from quantity to quality, and furthermore, to encourage students imagination and creativity through adopting critical thinking strategy instead of rote memorization. This goal will be achieved through conducting intensive trainings for mentors and teachers to change their classic roles that support their social ambitions to work more on developing students' creativity". (Appendix 21)

3.9.2 UAE Educational Policy UNICEF (2004)

- Preparing human beings for the future (initiation, creativity, planning and organization) (appendix 27).
- Developing methodical, critical and rational thinking.
- Emphasizing that education is a lifelong process.
- Future prospects for curricula aim at changing the quality of education by concentrating on skills and values, as well as inference and discovery methods, and by bridging the gap between subject matter, life and abstract knowledge–instead of isolated information, repetition and traditional education.
- The school activities project aims to help learners develop their powers of creation and increase their achievements in science

3.9.3 Teacher's guides

The main objects of teaching all the subjects are as follows:

- To develop students thinking skills and prepare for the lifelong process.
- To enhance students abilities to participate critically in public discussions about different topics.
- To relate the information learned in school with the background knowledge and apply it in different fields.
- To think creatively, with originality, reflecting rigorously and critically according to their possibilities.

3.10 Discussing the documents

   Further details about the goals mentioned above are attached in the (appendix 27) in addition to the Ministry's assessment categories which included the similar objectives.

The purpose of discussing those documents is to ascertain if the general objective of the education (teaching critical thinking in school) was part of the educational strategy applied by all schools. As the documents appeared, all of them emphasized this goal from some time ago in the general policy and included it in the teacher's guide in order to be

adopted. The Ministry of Education prepared special materials (teacher's guide) for each subject, explaining in detail how to introduce each lesson from the text book using a critical thinking strategy.

The materials also mentioned the word (critical thinking) in the textbooks' introduction, explaining the purpose for adopting this strategy and its importance for the future of the students as fruitful citizens (appendix 20). Even the observed school adopted this goal since the year 2004, and it was published in the school so everyone would be aware of the teaching purpose in the school. In addition to that, the teachers were expected to be assessed according to the teacher's guide and the Ministry's assessment objectives. Yet, as this paper indicated, there were no real practice of teaching critical thinking in the observed classes, no real assessment for teachers to compare their teaching strategy with the general objectives of the school and the subjects. Although, there was considerable exposure of the importance of adopting critical thinking strategy everywhere around the school, curriculum, assessment reports, and teachers' guides, yet the teachers were not fully aware of its meaning and its purpose in the core of education.

3.11 Teachers' training programs

To apply the general objectives of education published by the Ministry of Education, much training was conducted for teachers for different subjects and topics in 2005.Training were provided as follows:

- New strategies in planning
- Teaching methodologies for grade four and five
- Enhancing students thinking skills
- Reviewing and discussing the concepts and the objectives of textbook.

Further details about teacher training programs are attached in the (appendix 22). Obviously the Ministry conducted much training since 2004 for teachers for different subjects in order to be updated with the general objectives of UAE Educational Policy, but still the teachers lack the skills or the awareness of teaching critical thinking in their classrooms.

However, the purpose of discussing the documents and comparing them to the real teaching strategy in the school, was not to criticize the teachers and the teaching methodologies, but to assist in enhancing the teaching system in schools and to investigate the reasons behind graduating students that were not prepared for higher education in universities and colleges (appendix 25).   Since most international universities use critical thinking skills in their education system, they will face many obstacles to achieve and lack of self esteem to continue if students were not prepared and trained to use this methodology. The question here is are the schools preparing their students to join world known universities and provide them with all the required skills to face the educational challenges?

For example Cambridge Assessment (UCLES 2003) has been providing research-led and evidence based solutions for major higher education institutions for over 20 years. One of these admissions tests is the Thinking Skills Assessment (TSA), a multiple-choice test consisting of 50 questions and assesses two kinds of thinking which are considered to be important in Higher Education: Problem Solving and reasoning using numerical and spatial skills. Many of the problems encountered in academic and professional work are novel. There are no ready 'off the peg solutions' available to draw on. The task is to find or create a solution to a unique problem.

 The university also, stated that the reason for using (TSA) is because "Critical thinking - reasoning is using everyday written language. The skill of Critical Thinking is basic to any academic study and often involves considering an argument put forward to promote or defend a particular point of view. The TSA is being used by two universities: the University of Cambridge and the University of Oxford".

The questions are organized so that as candidates proceed through the test they are presented with both Critical Thinking and Problem Solving questions in a mix that reflects the overall test design. Here are the main categories of the test (appendix 28).

- Problem Solving.
- Identifying Similarity.
- -The Mathematical Knowledge and Skill Needed.

- Critical Thinking (argument and assumptions).
- Drawing a Conclusion.
- Identifying an Assumption.
- Assessing the Impact of Additional Evidence.

If schools as a whole and specifically teachers were aware of the big challenges that would face the students after graduation in order to continue high level of education; they would have acted and responded immediately to develop students critical thinking skills as the core of the teaching process.

CHAPTER 4

SUMMARY

4. Overall conclusion

4.1 Research questions

1. Do Public Schools foster critical thinking as the main objective for education?

As per the University and the school students' interviews, they all answered the research question whether critical thinking strategy is adopted in their schools or not? The answer is No.

There was no direct indication that the public schools are applying critical thinking strategies in teaching neither are they aware of this fact, although this approach has been recommended to them a long time ago by the Ministry of Education.

2. Do teachers apply critical thinking strategies in teaching?
The answer is No.

3. Do teachers create and develop an atmosphere to foster critical thinking in the classroom?
The answer is No

4. What teaching strategies and methods are used by the teachers?
The answer is Memorization.

5. Do Public Schools prepare students to gain admittance in International Universities without any obstacles?
The answer is No.

As a result of this recommendation, all the textbooks, the teacher guides, school vision and assessment reports focused totally on the general goal of the education which is to enhance students thinking and depend on critical thinking strategy in teaching in all schools.

Yet, this policy was not applied fully in the public schools. The answer to the research question was not derived from the author's personal opinion or assumption, but from the class observations, teacher, Principal, inspector, University and students' interview and statistics from the distributed questionnaires.

The ultimate aim is to propose that schools should continue to learn, educate and update themselves to use the latest methods in applying critical thinking in schools as a fundamental element, to bring about a change in the minds of the students and to help them to achieve a positive personality and behavior and get them well equipped to face the real challenges in the progressive world where its concepts, facts, and beliefs are moving forward..

Teachers and Principals should be aware of the importance of their role in developing creative thinkers in the future by adopting the critical thinking technique in teaching.

4.2 Recommendations

As mentioned previously, that the purpose of this research was not to criticize any school strategy approaches, but to participate in developing and enhancing the education system in the UAE. Therefore, some recommendations are suggested to indicate different approaches to enhance applying critical thinking strategy in schools. In chapter one, we discussed about the importance of conducting constant and regular teacher training programs on adopting critical thinking skills for teachers and students. The research discussed also, that the most effective programs are the ones that are conducted on a long term basis and not only for a day or two. Also, the teachers should be part of this program in terms of sharing their opinions, approaches, and feedbacks.

Stevenson (in Costa 1991) developed five strategies for promoting high order thinking on teachers' constant development program:

1. Help teacher analyze and develop a conceptualization of thinking.

Teachers can be stimulated to reconsider their instructional goals. For example an understanding of the characteristics of good thinkers can move teachers from rigid emphasis on content acquisition to thinking process and skills.

2. Mode specific instructional strategies for promoting students thinking.

It enables teachers to see specific alternatives to traditional methods with students, teachers gain confidence not only in the specific strategies used, but also, in their students' ability to encourage in higher order thinking.

3. Provide opportunities for teachers to practice and discuss instructional strategies.

Demonstrating and discussing lesson presentations among peers allow teachers to receive constructive feedback and recognition. Demonstrations can take place in teachers' own classroom or in workshops.

4. Provide time for teachers to discuss workshop ideas and techniques and to formulate classroom applications.

Discussion time enables participants to review newly introduced ideas and techniques and later share their experiences in trying out the strategies in their own classrooms.

5. Engage teachers in high- order thinking, such as authentic problem solving, in their subject area.

Encourage teachers to reflect on and analyze their own thinking in trying to solve a challenging problem, either individually or in small groups. The intent is to stimulate teachers' enthusiasm for thinking as an instructional goal and help them become more conscious of the kinds of thinking they wish to promote.

6. Finally, in every subject, students should be taught to think logically, analyze and compare, question and evaluate

At each educational level, thinking must be practiced in each content field. This means extra hard work for teachers. It's much easier to teach students to memorize facts and then assess them by recalling them. Teachers should emphasize thinking, objectives must include application and analysis, and opportunities to organize ideas and support value judgments.

I think a major recommendation is required at the system level. There is a major divergence between what the system says it is doing and what, in fact, it is doing in the area of teaching critical thinking. The Ministry, or the Education Councils at the Emirates level, should thoroughly investigate the degree of the discrepancy and design put into effect programs to correct the problem. As we pointed out, the Ministry has put critical thinking into its goals, its handbooks, and its assessment documents. But Critical Thinking is not getting done in the classroom. What can the Ministry do?

Probably, the first step is by starting intensive and continuous class observations for different subjects and different levels. There is a need to observe classes on a regular basis for a short or a long term, for example every teacher should be observed every day for three weeks or every other day for a longer period. As appeared from the collected data, some teachers (not generalizing) tend to prepare their lessons perfectly, involve students in class activities and stop using discouraging words. However, after few days, they return to their old teaching ways and function normally as if there is no one observing their classes. That's when the true teaching practices evolve.

The second approach which in my point of view is considered very important, is students' feedback. According to this research, I was able to uncover many teaching practices through students' feedback. Yet, this element is very tricky and cannot be fully accurate, because students might feel threatened to tell the truth unless they trust the other party. Therefore, a friendly approach should be used in order to collect accurate information.

Finally, is conducting practical, intensive, and continued development programs and workshops for teachers, where the main theme of these programs should be teaching through critical thinking. There should be more emphasis on the importance of applying creative and critical thinking techniques in teaching and its effect on students' learning ability in future. Further discussion about teacher development program is the recommendation chapter.

4.3 Limitations

In terms of limitations imposed in this study, the first was the limited number of observed classes. Four classes (grade four and five) and four teachers were observed. Although the results of the collected data were quite consistent, a higher number of observations of a wider range of levels might reveal more details and more nuances concerning the teaching of critical thinking.

The second limitation was the lack of time provided for students' interview and the distribution of the questionnaire in the school. As all of us know, school timings are fixed and are programmed according the school schedule. There is no extra or spare time for students apart from the breaks. Hence all the interviews and questionnaire were held in the short period of the break; as a result, brief interviews were conducted not only with the students, but also, with the teachers. The teachers were always running form class to class, preparing and correcting exams and controlling their classes, therefore, they had a very limited time to talk, which was in their short breaks.

The third limitation of concern was the number of observed schools. One school was observed, although this particular school was selected because of its educational status as regard to having won a number of National awards, yet, there was a need to investigate more than one school, in order to collect data and conduct further comparison for research. However, in order to be fair and not to misjudge the observed school, a questionnaire was distributed to twenty students from a Government University. Those students graduated from different Public Schools in the UAE, and not only from Dubai.

Therefore, the findings were collected and put together, in order to reach to a general conclusion to answer the research question, not depending only on one school data.

However, there was another area of concern, which was gaining access to the Government University as they had very strict rules and concerns about the research questions. I had to go through formal procedures and much paperwork in order to be able to distribute the questionnaire to the students. On the contrary the students were very helpful and willingly participated in the questionnaire. Because of the concern of the University regards this study (probably all studies not just this one); only twenty students were provided to participate in the interview and the questionnaire, although the authors intention was to review the opinion of many more students (more than twenty) at different levels in the university and not only at the Foundation Level. However, after reviewing all the collected data, the results were similar; and probably there was no further need to question the higher levels at the University.

The last aspect of concern was the teacher training programs. During the research period, there was no ongoing teacher training program to attend and to investigate in order to link the results to the research question. Therefore, no direct conclusion can be derived from the quality of those trainings and its effects to the current teaching practices in schools in regard to adopting critical thinking skills in teaching.

4.4 Future Research

It is recommended that future research should be conducted in the Public Schools after three years from now, since the new educational program that is adopted by the Ministry of Education (The Schools of Tomorrow) is concerned about fostering critical thinking strategy in schools. A lot of effort is being put in now to train and enhance teachers' skills, in order to enable them to prepare the students to meet the National and International University requirements.

Also, it is recommended to conduct further research in the field of teacher assessment and evaluation reports, in order to investigate if they are up to the required standards or whether they need further improvements.

The author's wish is to involve the society as a whole and the parents in particular to participate in the development of the school system towards the adoption of the critical thinking approach. Further research is recommended to be conducted with the parents and the society, in order to explain to them the direct role they play in this program, because, parent's attitudes, beliefs and values about children and academic and problem – solving skills has a direct effect on the performance of the children.

In brief, we cannot determine that the author's questions and checklist models were the ideal methodology to start with; however, the intention was to use the existing sample model that was developed by pioneers in the education field, in order to reach to a conclusion that will help in the development of educational approaches in the UAE.

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APPENDIX

Appendix 1

Classroom Observation Checklist

Developed by S. Lee Wincour in Costa (1991)

Teacher ----------------------------------- School ---------------------------- City

Subject ----------------------------------- Date --------------------------------

1. Encourage student interaction/Cooperation

- Students work in pairs or small groups.

- Students respond to other students.

Students help others to analyze and solve problems.

2. Demonstrates attitude of acceptance

- Teacher accepts all valid students' responses.

- Incorrect students respond elicit encouraging, supportive Comments.

3. Encourages students to organize information

- Teacher works from organized information.

- Students take note systematically.

- Teacher's presentation is logical organized.

- Ideas are graphically symbolized during instruction.

4. Encourages students to gather information

- Teacher acts as facilitator.

5. Encourages students to justify ideas

- Teacher probes for correct response.

- Teacher seeks evidence for stated claims.

- Teacher frequently asks, "Why do you think so?"

- Students relate learning to past experience or similar situations.

6. E**ncourages students to explore alternatives and other point of view**

- Teacher allows time to consider alternative/point of view.

- More than one student is queried for point of view/solution.

- Teacher asks students to justify and explain their thoughts.

7. Asks open ended questions

- Teacher asks open ended questions with multiple answers.

8. Provides visual cues for developing cognitive strategies

- Teacher appropriately uses a Varity of visual media
(Charts, chalkboard, maps, pictures, gestures).

9.   Models reasoning strategies

- Teacher uses "if/then" language.

- Teacher poses "what if" suppose that" questions.

10. Encourages transfer of cognitive skills to everyday life

- Teacher encourages transfer at end of lesson with
 Comments like, "this will help you in your everyday
Life in this way..."

11. Elicits Verbalization of student Reasoning

- Teacher allows at least ten seconds wait time for students answer before restating the question.

- Teacher asks students to clarify and justify their response.

- Teacher reinforces students for responding to open- Ended questions.

12. Encourages students to ask question

- Teacher poses problematic situation.

- Teacher withholds correct responses; encourages students to explore possibilities.

- Teacher encourages students to answer other student's questions

Appendix 2

Class observation

Grade: 4 and 5   Number of students: 20/22   Subject: Arabic
Number of observations: 4   Number of classes: 4

What does the teacher do:	What do the students do:
1. Teacher wrote a sentence (grammar lesson) from the textbook on the white board and asked the students to read.	1. All students raised their hands to read.
2. She asked them to explain the grammar parts.	2. Only one raised her hand
3. She said: "you took this lesson last year, can't you remember it?"	3. Still the same student raised her hand.
4. Teacher shouted at them and asked some students to answer	4. Their answers were wrong, and then they looked at each other.
5. Teacher shouted and asked each student to write the answer on paper.	5. All the students except one took sometime to write something, one student started to sharpen her pencil for more than 2 minutes although her pencil was already very sharp. Others were writing and erasing what they wrote and others were looking at each others papers.
6. She then explained it on the white board and asked the students to repeat after her.	6. Students repeated.
7. She asked them to write the explanation from the white board on their notebook.	7. Students wrote.
8. Teacher wrote another sentence on the whiteboard from the textbook and asked them to apply the same steps.	8. Only one student raised her hand.
9. Explaining the 2 sentences took 40 minutes.	9. Students were listening
10. Teacher asked the students to clap for the one student who knew the answers.	10. Students clapped
11. Another lesson: teacher asked students to write instructional sentences in groups.	11. Students got busy discussing, laughing, and writing.
12. Teacher asked students to read them and said: "I will bring this question in the exam".	12. All students were listening
13. Teacher wrote on the whiteboard the model sentences.	13. All students wrote them in their textbook.
14. Teacher asked the students to play the role of (two friends whispering) as part of the textbook exercise to act.	14. Students were laughing, acting, and writing the description on their notebook (as part of the exercise).
15. She asked the meaning of the sentence.	All the students raised their hands and laughed.
16. Another lesson: she asked questions from the textbook about the story.	16. Only 3 students raised their hands
17. She shouted, and said:" why did you not read the questions and prepare the answers. All the answers are available in the story".	17. Students started to underline the answers in their textbooks.
18. She asked the students to close their books and not books to listen only.	18. They closed everything and listened

Appendix 3

Grade: 4   Number of students 22   Subject: Art
Number of observations: 1

What does the teacher do:	What students do:
1. Teacher asked students about desert. Example " What can we find in the desert"	1. Students raised hands to answer such as: camels, mountains and palm trees.
2. Teacher spent 30 minutes talking about the desert.	2. Students listened to the teacher and some started to play with their papers.
3. Teacher always said "your answer is wrong" when students used the local dialect to answer instead of the classical Arabic.	3. Students were stranded to think for the classical Arabic word and they remained silent, looking at each other.
4. Teacher drew a mountain on her paper and asked the students to watch carefully.	4. Students watched
5. She asked the students to use only the dark and brown color.	5. Some students started to draw, others did not and they were looking at others papers.
6. Teacher shouted at one student because she use the red color in the mountain and said: you never listen to me, I said only brown".	6. The Student said "sorry" then; she tore the paper and started on a new one.
7. Teacher asked to draw the exact mountain she drew on her paper and she said: "don't draw wrong, follow the details".	7. Many students went to the teacher to show her their papers; they said "is this right?"
8. Teacher shouted at another student and said: "I told you to draw the mountain in the middle not on the left".	8. The student looked at her paper and painted a dark brown color on the red color.
9. Teacher shouted and asked the students to finish quickly because the lesson has finished.	9. 8 students did not finish drawing the mountain, 5 did not draw at all, 4 were erasing what they drew, and the rest closed their painting book.
10. Teacher said: "who finishes drawing the mountain as I said, will get 10 grades".	10. One student said: "I will finish it at home and bring it next week. (The students have art lesson once in a week).

The Principal's assessment to the Art class:

The principal was very satisfied with the class and showed her assessment sheet to us. The teacher got "Excellent" in all assessment categories.

She also, praised her and said: "our art teacher is one of the best teachers in this school. She won many national prizes for art and participated in national art galleries that presented students art. Our students also, participated in many art competitions and were praised by many famous artists in UAE".

Appendix 4

- Grade: 5 and 4   - Number of students: 20/22   - Number of classes: 4

- Subject: (History/ Social Studies/Geography)   - Number of observations: 4

What the teacher does:	What students do:
1. Teacher wrote the title on the white board.	1. Students opened their text books.
2. She started to talk about the lesson for 30 minutes constantly in every lesson (History/ social studies/geography).	2. Some students listened to the teacher; others were looking around and drawing in their text books.
3. Teacher asked students to pay attention because she would give them a quiz at the end.	4. Students listened.
4. After she finished lecturing about the lesson, she started to ask questions about it, (to retrieve the information).	4. Only few students (sometimes 2) raised their hands to answer.
5. Teacher shouted at students and said: "Why don't you focus and listen carefully, how on earth will you answer in the exam".	5. Students remained silent.
6. Teacher asked students to underline the important sentences in the text book.	6. Students started to underline the sentences using coloring pens, and most of them were looking at each others book to do the same.
7. Teacher used a big map to explain the lesson.	7. Students were watching and listening
8. Teacher asked the students to pay attention to the map and to the lesson then she said: "I will bring this map in the exam".	8. Students wrote notes on their notebook and listened.
9. At the end of each lesson, the teacher gave them short quizzes about the lessons.	9. Students started solving them very quickly and asking each other.
10. She collected them and said: "I will grade them later".	10. Students were checking the answers with their peers.
11. She asked the students to close their books and not books to listen only.	11. They closed everything and listened

Appendix 5

Grade: 5 and 4   Number of students: 20/22   Subject: Science
Number of observations: 4   Number of classes: 4

What the teacher does	What students do
1. Teacher asked questions about the environment.	1. Students raised hands to answer.
2. Teacher used the projector in the lab and copied the text book page to read from it.	2. Students looked at the projector.
3. Teacher read the definition of the "Environment" form the text book using the projector.	3. Students were listening and watching.
4. Teacher asked the students to repeat after her.	4. Students repeated.
5. After repeating 3 times, teacher asked students to say it by themselves.	5. 4 students raised hands to say.
6. Teacher shouted and said: "only 4 remembered, what about the rest?"	6. The students remained silent.
7. Teacher showed pictures from the textbook and talked about them.	7. The students looked and listened at her.
8. Teacher asked the students some questions to answer and said: "I will bring theses questions in the exam".	8. The students started to write the questions in their notebook.
9. Teacher shouted at one student who could not answer and said: "your grades are low; you don't concentrate in the class, please focus more".	9. The student stood and remained silent.
10. Teacher divided the class into groups and gave them a small quiz about the lesson.	10. The students were discussing, laughing together and writing the answers.
11. Teacher said: "I will give the grade to the whole group whose answers are right".	11. The students were engaged in discussion together.

12. Teacher asked students to underline the answers in their text book and said: you need to memorize these answers, and definitions, they are very important"	12. The students underlined the definitions and the answers. Some students were looking at each others' book and did the same.
13. The teacher said: "don't waste the class time writing the answers in the book, I will prepare them for you to have a model answer. Now we will answer them orally".	13. Students stopped writing and listened to the teacher.
14. Teacher shouted at some students for not doing their homework.	14. Those students stood up and remained silent.
15. Teacher read some sentences from the book; and the following word came across "Ozone hole".	15. One student asked: what is the "Ozone hole"?
16. Teacher said: "we don't have time for this now, go and find out by yourself".	16. The student smiled and looked at her friends.
17. Teacher explained about the new lesson.	17. Some students were listening and others were drawing in their textbook and looking at their friends.
18. Teacher asked students to open their books to answer the questions.	18. One student asked about the page number.
19. Teacher shouted and said, how many times I said page 35? You were not listening.	19. Other students also, opened the same page after the teacher said it again.
20. Teacher used the white board for 1 to 2 minutes in each class to explain the lesson in the lab.	20. Some students were busy underlining what the teacher said and some were looking at the things around them.
21. She asked the students to close their books and not books to listen only.	21. They closed everything and listened

Appendix 6

School students' questionnaire

1. Which teaching strategy you prefer

   - The teacher to lecture and you to listen
   - To participate in discussion and have activates

2. Does the teacher encourage you to ask questions

   - Yes
   - No
   - Sometimes

3. How do you study for the exams

- Memorize all the textbook contents, questions and answers
- Understand the lessons/textbook to write using your own words
- Other

4. Do you share your point of view with your teacher

   - Yes
   - No
   - Sometimes

5. If you have a problem to understand a point in the lesson would you

   - Ask the teachers questions to explain it for you
   - Memorize it as it is
   - Ask your friend/someone later to explain it for you
   - Other

Appendix 7

Students' Interview

- Number of students: 20 (from 3 classes).
- Break time.

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1. What is your favorite lesson?
- All the students' answered together without thinking: English

2. Why English?
- Because the teacher explains the lesson very clearly.
- She never shouts at us.
- She plays with us lots of games in the class, we play the lesson and we laugh.
- She asks us to work in groups and we love doing that
- We have fun in the class.

3. Which lesson you like the least?
- Some students said: History and others said: Science.

4. Why don't you like history?
- Because we have to memorize a lot of information
- Sometimes we forget the information that we have memorized and it's frustrating, because no matter how much we memorize, we tend to forget and perform terribly in the exams.

5. Which strategy do you prefer more for a teacher to use: to lecture you and explain the lesson by herself or, to give you chances to talk and discuss together?
- Without any hesitation or a moment to think all of them in one voice said? Yes, to discuss together and talk with her about the lesson.

6. Why?
- Because it's boring to sit and listen all the time and really we do not concentrate with her. (The students laughed and looked at each other).
- Because also, we think its fun to share our ideas and talk freely.

7. How about the Science lesson?
- No way! We do not dare to breathe or even blink in the class. (The students laughed and pushed each other giving each other signals to talk).
- Others students said: Yes, she comes in the class and shouts at us all the time, we are really scared of her. We are not allowed to talk about our thoughts or even defend ourselves; it is not permitted to discuss or waste the lesson's time to ask her for more information.

8. Have you ever tried to ask her questions or the other teachers as well about something you did not understand in the lesson?
- All of them wanted to talk, I said one at a time, so they started to tell me the following answers:
- Of course we can do that, but then she would say:" I have explained that to you earlier you were not listening, so it is your fault".

- Another student said: No I will never ask them any questions, because they would make me look like a stupid girl and the students will laugh at me.

- Another student said, I would rather memorize all the information even the ones that I did not understand, than to ask them because they will definitely shout at me.

- Another student said, once I was asking my friend about something I did not understand in the lesson, then the teacher shouted at me and pushed me, she even took me to the principal to say that I am misbehaving and talking a lot in the class.

9. How do you study for your exams?
- We memorize all the information and the exercises in the books.

- Another student laughed and said: I memorize too, and once I got mixed up and wrote down Science information in the History exam. I don't know what is wrong with me; I cannot focus properly and think to write the right answer in the exams. I am not good at studying, my grades are very bad. (She laughed and others did too).

- Another students said, I memorize too because, I don't want to loose any grades, so I try to write in the exam exactly like the book.

10. Why don't you try and understand the content and write the answer in your own words?
- All students laughed and said: Well, I don't think that we are allowed to do that, because the teachers always tell us that our grades depend on correct answers from the book.

- We cannot do that, because many times I lost grades for not writing exactly like the answer in the book and I hate to get low grades, but I don't understand, why I always forget what I memorize? (She laughed).

The bell rang and they had to go to their classes, then some of students came to me and said: We enjoyed talking to you and it was the first time that we could tell what we think about our teachers, school, and what we think freely. Can you be our teacher?

11. I said why?
- She said because you give us the chance to talk and ask questions and you did not shout at us at all, although I think that some girls were misbehaving when they were laughing and interrupting you while talking.

Appendix 8

Interview

Al- Ghad Team leader (School of Tomorrow).

1. What is your role in the school?

- I am responsible from the Ministry of Education (as part of AL- Ghad) program to train the teachers how to prepare their lessons, how to use activities in the class, how to adopt critical thinking in teaching and how to develop students' skills and thinking.

2. Have you observed any classes?
- Yes I observed many English classes, and noticed that most of the teachers are using lecturing strategy in teaching rather than critical thinking strategy.

- I did not observe other classes yet where Arabic is spoken in the class. However, my main concern now in this first stage to work on the first 2 grades and develop teaching materials for English teachers to engage their students more in activities and adopt critical thinking strategies. I want to apply the student-centered programm in their classrooms.

They talk all the time in the class and students have to listen without experiencing any kind of self learning or challenging activities to participate in the class.

3. What is your plan for the teachers?
- At present I am observing the classes and preparing many programs about lesson preparation and involving students in the class activity and apply critical thinking strategy.

Week 2- Sunday September 9th to Thursday September 12th 2007

Name: _____

Daily Lesson Plan Grade 1 – Monday September 10th

Collaborative Year Level Team

Names:

Theme: Self-Discovery: me and my class

Learning Outcomes from curriculum document:
WK 1.1   recognise and use a range of vocabulary
1.1.1   use and consolidate active vocabulary words from KG
1.1.2   recognise, understand and use a range of high-frequency words for listening and speaking
WK 1.2   recognise words for reading and writing
1.2.1   consolidate sight recognition words from KG , read additional words from the vocab lists for KG and Grade 1 plus grammar words
WK 1.3   develop alphabetic and phonic knowledge
1.3.1   develop an awareness of distinctive rhyming and alliterative patterns and identify some initial sounds(phonemes) in words
1.3.5   identify and sound the phoneme-grapheme correspondence
LS 2.1   listen and respond to a variety of text types
2.1.1   extend, from KG, ability to participate in songs, rhymes and action games using simple repetitive language
2.1.3   respond with single-word or single-phrase answers
2.1.5   follow instructions to do something, supported by teacher demonstration and checking questions
LS 2.2   develop speaking strategies
2.2.1   extend, from KG, the ability to follow and imitate the teacher
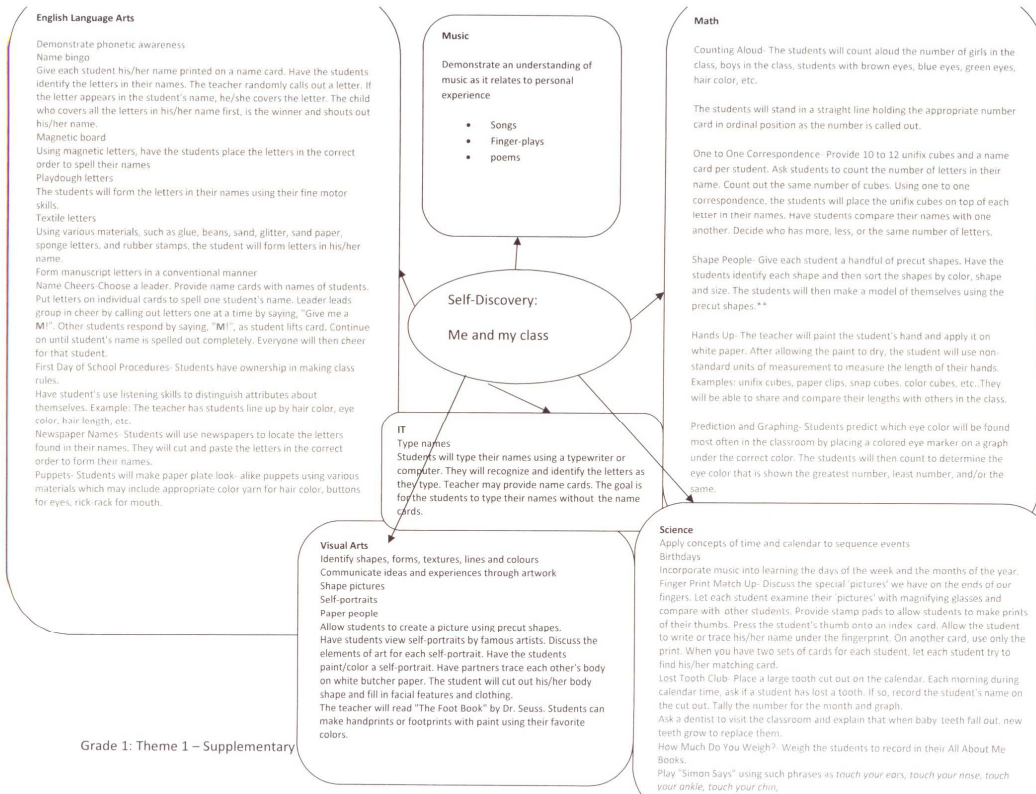**LS 2.3   speak to communicate and interact**
2.3.6   consolidate and extend simple/formulaic phrases from KG to introduce self, greet and say goodbye
RW 3.1   develop reading strategies
3.1.1   follow and actively participate in reading (distinguish print from pictures, recognize own name)
RW 3.3   develop writing strategies
3.3.2   develop control of basic handwriting patterns from KG
3.3.3.   practice correct formation of letters learned for phonics using D'Nealian manuscript

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English Language Arts

Demonstrate phonetic awareness
Name bingo
Give each student his/her name printed on a name card. Have the students identify the letters in their names. The teacher randomly calls out a letter. If the letter appears in the student's name, he/she covers the letter. The child who covers all the letters in his/her name first, is the winner and shouts out his/her name.
Magnetic board
Using magnetic letters, have the students place the letters in the correct order to spell their names
Playdough letters
The students will form the letters in their names using their fine motor skills.
Textile letters
Using various materials, such as glue, beans, sand, glitter, sand paper, sponge letters, and rubber stamps, the student will form letters in his/her name.
Form manuscript letters in a conventional manner
Name Cheers-Choose a leader. Provide name cards with names of students. Put letters on individual cards to spell one student's name. Leader leads group in cheer by calling out letters one at a time by saying, "Give me a M!". Other students respond by saying, "M!", as student lifts card. Continue on until student's name is spelled out completely. Everyone will then cheer for that student.
First Day of School Procedures- Students have ownership in making class rules.
Have student's use listening skills to distinguish attributes about themselves. Example: The teacher has students line up by hair color, eye color, hair length, etc.
Newspaper Names- Students will use newspapers to locate the letters found in their names. They will cut and paste the letters in the correct order to form their names.
Puppets- Students will make paper plate look- alike puppets using various materials which may include appropriate color yarn for hair color, buttons for eyes, rick-rack for mouth.

Grade 1: Theme 1 – Supplementary

Music

Demonstrate an understanding of music as it relates to personal experience

- Songs
- Finger-plays
- poems

Self-Discovery:
Me and my class

IT
Type names
Students will type their names using a typewriter or computer. They will recognize and identify the letters as they type. Teacher may provide name cards. The goal is for the students to type their names without the name cards.

Visual Arts
Identify shapes, forms, textures, lines and colours
Communicate ideas and experiences through artwork
Shape pictures
Self-portraits
Paper people
Allow students to create a picture using precut shapes.
Have students view self-portraits by famous artists. Discuss the elements of art for each self-portrait. Have the students paint/color a self-portrait. Have partners trace each other's body on white butcher paper. The student will cut out his/her body shape and fill in facial features and clothing.
The teacher will read "The Foot Book" by Dr. Seuss. Students can make handprints or footprints with paint using their favorite colors.

Math

Counting Aloud- The students will count aloud the number of girls in the class, boys in the class, students with brown eyes, blue eyes, green eyes, hair color, etc.

The students will stand in a straight line holding the appropriate number card in ordinal position as the number is called out.

One to One Correspondence -Provide 10 to 12 unifix cubes and a name card per student. Ask students to count the number of letters in their name. Count out the same number of cubes. Using one to one correspondence, the students will place the unifix cubes on top of each letter in their names. Have students compare their names with one another. Decide who has more, less, or the same number of letters.

Shape People- Give each student a handful of precut shapes. Have the students identify each shape and then sort the shapes by color, shape and size. The students will then make a model of themselves using the precut shapes.**

Hands Up- The teacher will paint the student's hand and apply it on white paper. After allowing the paint to dry, the student will use non-standard units of measurement to measure the length of their hands. Examples: unifix cubes, paper clips, snap cubes, color cubes, etc.. They will be able to share and compare their lengths with others in the class.

Prediction and Graphing- Students predict which eye color will be found most often in the classroom by placing a colored eye marker on a graph under the correct color. The students will then count to determine the eye color that is shown the greatest number, least number, and/or the same.

Science
Apply concepts of time and calendar to sequence events
Birthdays
Incorporate music into learning the days of the week and the months of the year.
Finger Print Match Up- Discuss the special 'pictures' we have on the ends of our fingers. Let each student examine their 'pictures' with magnifying glasses and compare with other students. Provide stamp pads to allow students to make prints of their thumbs. Press the student's thumb onto an index card. Allow the student to write or trace his/her name under the fingerprint. On another card, use only the print. When you have two sets of cards for each student, let each student try to find his/her matching card.
Lost Tooth Club- Place a large tooth cut out on the calendar. Each morning during calendar time, ask if a student has lost a tooth. If so, record the student's name on the cut out. Tally the number for the month and graph.
Ask a dentist to visit the classroom and explain that when baby teeth fall out, new teeth grow to replace them.
How Much Do You Weigh?- Weigh the students to record in their All About Me Books.
Play "Simon Says" using such phrases as touch your ears, touch your nose, touch your ankle, touch your chin,

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Some samples of teachers' training program for grade one

Appendix 9

The Advisor to the Principal

1. What are your tasks in this school?

- To assist the principle to manage the school daily tasks, to be able to assess her teacher and mange the budget, and to apply the highest standards of education in UAE public school, since they will become decentralized schools. The plan duration is for three years starting form September 2007.

2. Have you observed some classes in the school?
- Yes, everyday, I visit two to three classes.

3. From your observations, what have you noticed the most?
- I have noticed that the teachers speak in a very loud tone in the class, and lecture and talk all the time during the lesson.

- They do not act as facilitators, but only lecture the lesson and students have to sit and listen all the time.

- I have also, observed that teachers speak in Arabic (which is difficult for me to follow as I don't understand the language), and noticed that it seems it's common for teachers to stand and talk about the lesson without giving any chance for students to share or talk? I never saw any type of discussion among the students in the class with their teachers.

4. Have you noticed if any teacher applies critical thinking in teaching?
- Not really. I have never seen any teacher in this school apply any kind of critical thinking; in fact I am sure they even don't know what it means.

- I am planning with the help of the Principle to prepare many training sessions for them on adopting critical thinking strategy and develop their thinking skills.

Appendix 10

The History Teacher

1. For how many years have you been teaching?

- For ten years now.

2. Do you enjoy teaching?

- Actually, before I did, but now I have lost interest as it has become a routine. Every

year there is a repetition of the lessons and the information. Do you know that I have memorized all the content and I do not need my book to prepare anymore? (She laughed).

3. What type of strategy do you use in teaching?

- Nothing special, I prepare the lesson by telling the students all the events, and bring the map to show them where the events occurred. Also, at the end of every lesson I give them short quizzes about what I said during the lesson, to check if they have understood.

- Also, I tell them to highlight and underline important information in their textbook to memorize it later for the exam.

- I also, ask them to search and get more information from the internet about some topics in history and for this I give them grades.

3. Do you ever ask them to give a Presentation to the class about the information they have collected?

- Well there is no time to do that, I only collect them and if I have time I read them myself to give grades.

4. Do use any kind of critical thinking strategy in teaching? (I used the Arabic translation word that is mentioned in the teachers' teaching guide and approved by the Ministry of Education in the UAE).

- What is critical thinking strategy?

5. Briefly, it is about developing students thinking skill, by encouraging them to ask questions, participate in discussions and relate what they learn to the their other knowledge etc..

- Well, actually there is no time for all that, but, yes sometimes I ask them to search for information from the internet. Also, the students' level is very   low, so I have to help them and prepare them for the exams.

6. I have noticed during my observation that you have covered many events and delivered lots of information in one lesson? Why?

- Because the material is very heavy and I have to finish it before the mid term exam. If I do no so, I will never finish on time.

7. How many training workshops does the school provide for you?
- I have been to many teachers training workshops, maybe three to four times a year. Some of them are one day workshops, others guests speaker.

8. What are the trainings about?
- Most of them about teaching strategies, how to prepare lessons, how to use technology in teaching and many other topics.

9. Did you have any program about teaching critical thinking to students?
- I am not sure what is exactly critical thinking, but may be we took it and I don't remember now.

Appendix 11

Inspector/Mentor from the Ministry of Education

1. Since how many years are you working as an inspector/mentor with the Ministry of Education?

- For five years.

2. Which subjects do you monitor?

- History, Geography and Social Studies.

3. How do you assess the teachers and monitor them?

- Primarily, I visit each teacher and observe her lesson twice a year, and compile my report on her. Also, I talk to her about her weak points and make sure to visit her again to check if she has made an improvement.

- Then according to each teacher's need I organize workshops, training and seminars to improve their skills.

4. From your observation, what is you overall perception about teachers teaching skills?

- Well, they have definitely improved a lot compared to 10 years ago. Before, teachers used to come to the class, read from their books, ask students to repeat after them and make the students memorize all the information from the book.

- They did not have a clue of how to apply critical thinking strategy, let the students think and analyze events and relate it to other information, but now and after providing regular training specially in this area, they have improved a little bit.

5. So, do you think that even now they are not applying this strategy as it should be, in their classes?

- To be honest with you, we (inspectors) suffer from this issue. We have provided many programs and trainings for them.

I have even written many notes to teachers explaining to them how a lesson should be taught to develop students thinking, but still, when I visit them again; I see the same result, but with slight improvements in terms of using different types of aids, such as the power point, maps and different tools.

- I am not talking only about this school; I mean all the schools that I am responsible to visit during the year.

- Personally I have undertaken a number of trainings in relation to teaching critical thinking in the classroom and develop students thinking skills, because the Ministry of Education is really concerned about this issue.

- I will give you an example: this year we released a new copy of Social Studies book for grade 6, with slight changes. Therefore, we did not print another teacher's guide, bearing in mind that they will use the same concepts of the previous teacher's guide, which includes, thinking, analyzing, and driving to conclusions.

After a week, we received hundreds of phone calls from teachers every day, complaining that they do not know how to teach this new book. They want every thing ready and they don't want to make efforts to search and relate to the previous book.

So we had to make one for them and distribute it as soon as possible. Teachers even do not try to be creative and develop some strategies on their own, they follow the guide word by word, they even memorize it as it is, they don try to make changes or even suggest new methods.

Please make sure that I am not generalizing what I have said, there are professional teachers that work hard, but most of them need more training in teaching skills.

6. What are your plans to improve teachers' performance in terms of adopting critical thinking strategy in the class?

- It is my main priority to do that, so I still try to prepare professional trainings and organize field trip for them to observe different schools where teachers apply advanced teaching skills.

Appendix 12

The Science Teacher

1. Since how many years are you teaching?

   - I am teaching for 10 years.

2. Do you like teaching science?

   - Actually after 10 years, No. I am really tired of teaching, I am even thinking of changing to another career. (She laughed).

3. What type of strategy do you use in teaching science?

   - Well, as you have seen, I always bring the students to the school lab and use its facilities.
   - Also, I don't waste the students' time by making them write the answers in the book, but after we have answered the questions of the exercises, I write them on a paper later on and distribute them to the students, so they have the correct answers when they study for the exams.

4. Are you using critical thinking in teaching the students?

   - What is critical thinking? Can you explain more?

5. After I explained briefly what is critical thinking in education, she said: Yes, sometimes I do, for example from time to time I ask them to prepare a research about certain topics from the internet, then I give them grades. However, this strategy makes me so tired because I have to spend a lot of time reading their researches which I am sure they only just copy and print..

6. Have you every asked them to give a Presentation of their research and talk about it in front of the class?

   - She thought for a moment and said: actually No; I haven't done that. Also, I think that there is no time to do it in the class.
   - I don't know what the reason is, but the level of the students is very low, they do not participate, they are lazy, and not alert in the class. May be the subject science is boring for them, I don't know why their can not focus enough in the class.

7. Do you encourage your students to ask questions and discuss the lesson in the class?

   - She thought for a moment and said: Yes, but I explain everything to them first, then if they did not understand certain points, they may ask.

8. Have you participated in teachers training Workshops?

   Yes, we have had much training about teaching strategy, curriculum, and various other topics.

Appendix 13

The School's Principle

1. How do you assess your teachers in the school?

    - Before, teachers were assessed by the Ministry of Education. Mentors and inspectors used to come two to three times every year and assess the teachers.

    - I used to go along with the inspectors to attend the teacher's lesson period in class and assess them by myself. This year we have been told that the Ministry will not send inspectors and we have to do that ourselves with the Consultant Assistant in order to be independent. They are training us now to act independently to become decentralized schools. Therefore, she provided me with new assessment sheet to assess the teachers.

2. Does your school adopt critical thinking in teaching? What is your strategy in applying it in your school?
    - Can you explain more about (critical thinking)? What do you mean?

3. After I have explained to her what critical thinking in education is, she replied: Yes, I think we have and we are trying to apply it. For example, students are encouraged to prepare projects during the year and participate in the national students awards, also our school won the (a national prize for distinguished Teaching strategies and Student Care.) that is why it is call a Model School (Al –madrassa Al- Namothegeia).

    - We have built a new center called: "multiple intelligence center" to asses
    Students' potentials and develop their thinking.

    - Also, we have a professional lab with various equipments and tools for science students.

4. Do you provide trainings for teachers?

Until last year, the Ministry of Education was responsible to conduct trainings for teachers. They used to send us brochures to inform us that certain trainings were available for teachers in different subjects, and I encouraged my teachers to attend those trainings.

5. From your observation, what do you think that teachers need more to increase their performance?

- I think that they need more training in teaching strategies and class management. Although they are very good teachers and they are hard workers, but I think they need more teaching skills.

6. From your observation, have you noticed if teachers are adopting critical thinking strategy in teaching?
- Yes, they are. I feel that you are in doubt about this, so please don't judge them from one observation, they may have been tired on that day or not in a good mood. Try to observe them at least two times to check this out.

Appendix 14

University students' questionnaire

1. Did your teacher encourage you to ask questions and participate in discussions?

 Yes
- No
- Sometimes

2. Did your teacher asked you to study for the exam

- To get high grades
 -To enhance your critical thinking skills
- Other

3. The teachers in your school depended on

- Memorization and recall information strategy
- Critical thinking and problem solving strategy
- Other

4. Did your school prepare you to study in the university?

- Yes
- No
- Sort of

5. Your teachers used the following teaching strategy

- Lecturing and talking
- Discussing and facilitating
- Others

6. What are your comments regarding teaching strategies in Public Schools and what are your suggestions for further improvements?

Appendix 15

استبيان

عزيزتي الطالبة هذا الاستبيان يتحدث عن اساليب التدريس في المدارس الحكومية اذا كانت تعتمد على الحفظ و التلقين ام على تطوير تفكير الطالب و تشجيعه عل طرح الاسألة و تشجيعهم على التعلم الذاتي و التفكير الناقد التحليلي. الهدف من هذا البحث هو تطوير اساليب التدريس و اعداد اجيال مفكرة تستطيع التأقلم مع اساليب التدريس الحديثة و الدراسة في الجامعات العالمية. ولهذا اشكر تعاونكم و صراحتكم لانهما مهمان جدا ليكون هذا البحث دقيقا. ولا داعي لذكر اسمائكم او اسماء مدارسكم.

1. هل كانت المعلمات تشجعكن على السؤال في الحصة و المناقشة و التعبير عن افكاركم؟

- نعم
- لا
- احيانا

2. اختاري: هل كانت المعلمات يركزن عليكم على الدراسة:

- للحصول على درجات عالية
- للتطوير ادائكم التعليمي و التفكير الناقد و التحليلي و التعلم الذاتي
- اخرى...

3. أختاري: هل كانت الدراسة في مدرستك تعتمد على:

- التلقين و الحفظ و استرجاع المعلومات
- على التفكير و التحليل و تطوير التفكير الاستنتاجي من قبل الطالب
- اخرى

4. هل هيأتك طريقة التدريس في المدرسة عل الدخول الى الجامعة و التكيف مع اساليب التدرسي الحديثة؟

- نعم
- لا
- نوعا ما

5. ما هي تعليقاتك عن اساليب التدريس في مدرستك و ما اقتراحاتك لتطويرها؟

Appendix 16

University students' comments

Number of students: 20
Level: Foundation

Comments

1. Most students used the term "depressed" when they explained their thoughts and feeling about the questionnaire question:' if your school prepared you to study in the University?' They said that' we were shocked of the different styles in teaching and studying. We felt way behind the new learning techniques such as critical and thinking strategy.'

2. The teachers depended on memorization and lectures only. Therefore, we did not develop any creative thinking skills and I blame them for my low level at the University and, I feel that I am striving and doing everything from scratch. The schools could have prevented that, if they had prepared us better to cope at the University level. All what we did was to memorize and recall without thinking.

3. Not only the teachers did not encourage us to question and think, they even did not bother to listen to our opinions. Some of them used to lecture and leave the class as soon they had finished talking.

4. The teachers did not care for our educational development; they only focused on excellent students who had excellent grades.

5. Teaching strategies in our school was the worst. The teachers did not listen to use, neither encouraged any type of discussion about the subject or any other topic. Not only that, they were depressing us with their bad comments and their discouraging words. They did not develop a good environment for thinking and definitely did not introduce us to the outside real world.

6. All the students suggested that the teachers needed to get trained more in Critical Thinking Skills so as to be able to prepare the students for the University level.

7. To train the teachers to focus on critical thinking strategies in teaching and to engage the students in activities that evoke their thinking and analytical skills rather than memorizing.

Appendix 16

Teacher Assessment Report

Subject: Arabic

Performance categories	Performance level			
	Excellent	Very good	Good	Unsatisfied
1.Preparation: - Prepare material and sociological learning climate. - Present purposeful motivation to learners. - Explains the lessons goals to students.	✓			
2. Knowledge: - Present appropriate and correct information equivalent to students' level. - Relate the lesson to current/local events, and environment. - Apply the information into the real life.	✓			
3. Teaching/learning methods: - Teacher works from organized/logical information. - Teacher appropriately uses a variety of teaching aids.	✓			
4. Students' Participation: - Students are encouraged to discuss and share their thoughts. - Students are encouraged to reach to conclusions and explore possibilities. - Students are encouraged to ask questions and self learning. - Students are encouraged for positive competition.	✓			
5. Class Management: - Students are motivated to concentrate and focus. - Teachers use a very good behavioral attitude/ treatment with students. - Good use of academic time in class.	✓			
6. Assessment: - Varies in assessment methods (verbal, written, performance). - Train the students for self evaluation. - Provide immediate feedback to students. - follow up students' written work.	✓			

- Teacher's positive points:

Inspector: all the appreciation for the teacher's creativity and excellence.

- Areas that the teacher needs for further improvements:

Inspector:…………………………………………………………………………………

- Suggested methods/tools to enhance the teacher's performance:

Inspector:…………………………………………………………………………………

- Teacher's opinion about the visit:

Teacher:…………………………………………………………………………………

نموذج رقم (4)

الحصة	الصف والشعبة	عدد الطلاب	المادة	موضوع الدرس	اليوم	التاريخ	منفذ الزيارة	
							الموجهة	المديرة
الرابعة	٣١١	٢٠	لغة عربية	تجريد حرف (ث)	الأحد	٢٠١٤/١٢/١٥	✓	✓

الكفاية	مؤشـــــرات الأداء		مستوى الأداء				
		الوزن النسبي	ممتاز	جيد جداً	جيد	غيرمرض

		الوزن النسبي	ممتاز	جيد جداً	جيد	غيرمرض
الكفاية المعرفية	**الكفاية العلمية والتربوية :-** - يقدم مادة علمية صحيحة ومناسبة لمستوى الطلاب. - يربط المادة بالأحداث الجارية والبيئة المحلية. - يستخدم اللغة المناسبة الصحيحة لمستوى الطلاب.	$\frac{80}{80}$	✓			
كفايات الموقف التعليمي	**التهيئة :** - يهيئ البيئة المادية والنفسية للتعلم. - يقدم تهيئة حافزة هادفة شائقة ومناسبة لزمن الحصة ومستوى المتعلمين. - يوضح أهداف الدرس للطلاب. **عرض المادة وأساليب التعليم والتعلم :** - يراعي الترتيب والتسلسل المنطقي والتدرج في عرض المادة والخبرات التعليمية. - ينوع في أساليب التعليم والتعلم. - الأنشطة التعليمية. **الوسائط التعليمية والتقنيات :-** - يوظف الكتاب المدرسي والسبورة بفاعلية. - يوظف الوسائط التعليمية الأخرى المناسبة للموقف التعليمي.	$\frac{95}{100}$	✓			
	التفاعل الصفي : - يثير دافعية الطلاب للمشاركة وطرح الأفكار. - يشرك الطلاب في بناء المفاهيم واستقصاء المعرفة. - يطرح أسئلة واضحة متنوعة وهادفة ومثيرة للتفكير مراعياً الفروق الفردية. - يشجع الطلاب على طرح الأسئلة والتعلم الذاتي. - يحفز الطلاب على التنافس الإيجابي فيما بينهم.	$\frac{57}{60}$	✓			
	الإدارة الصفية : - يحفز الطلاب على الانضباط والانتباه. - يعامل الطلبة معاملة حسنة. - يعزز استجابات الطلاب معنوياً ومادياً. - يحسن إدارة الوقت ويوزعه على فعاليات الموقف التعليمي.	$\frac{40}{40}$	✓			
	التقويم : - يراعي استمرارية التقويم. - ينوع في أساليب التقويم (كتابي، شفوي، أدائي). - يدرب الطلاب على التقويم الذاتي. - يقدم تغذية راجعة فورية للطلاب.	$\frac{40}{40}$	✓			

الكفاية	مؤشرات الأداء	الوزن النسبي	مستوى الأداء			
			ممتاز	جيد جداً	جيد	ضعيف
الكفاية الإنتاجية للمعلم	**أ- أثر المعلم في الطلاب :-** – يظهر الطلاب وعياً كافياً بأهداف الدرس. – يوظف الطلاب المهارات العقلية والأدائية والاجتماعية المنهجية (المرتبطة بالدرس). – يكسب الطلاب قيماً واتجاهات إيجابية ويؤثر فيهم. – ينمي ثقة الطلاب بذواتهم ويشجعهم على المبادرة وطرح الأفكار. – يراعي الطلاب الضعاف ويثري خبرات الفائقين. – يرفع المستوى التحصيلي للطلاب. **ب- الأنشطة والواجبات البيتية :** – يتابع الأعمال الكتابية لطلابه.	$\frac{80}{80}$	✓			

$\frac{39}{40}$

- أبرز جوانب التميز :-

كل الشكر والتقدير للمعلمة الفاضلة على تميزها وإبداعها

- الجوانب التي تحتاج إلى تحسين :-

- الآليات المقترحة لتحسين أداء المعلم :-

- رأي المعلم في الزيارة :

اسم المعلم :..................... اسم الموجهة :..................... اسم مدير المدرسة :.....................

التوقيع :..................... التوقيع :..................... التوقيع :.....................

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Appendix 17

Teacher Assessment Report

Subject: Science

Performance categories	Performance level			
	Excellent	Very good	Good	Unsatisfied
1.Preparation: - Prepare material and sociological learning climate. - Present purposeful motivation to learners. - Explains the lessons goals to students.	✓			
2. Knowledge: - Present appropriate and correct information equivalent to students' level. - Relate the lesson to current/local events, and environment. - Apply the information into the real life.	✓			
3. Teaching/learning methods: - Teacher works from organized/logical information. - Teacher appropriately uses a variety of teaching aids.	✓			
4. Students' Participation: - Students are encouraged to discuss and share their thoughts. - Students are encouraged to reach to conclusions and explore possibilities. - Students are encouraged to ask questions and self learning. - Students are encouraged for positive competition.	✓			
5. Class Management: - Students are motivated to concentrate and focus. - Teachers use a very good behavioral attitude/ treatment with students. - Good use of academic time in class.	✓			
6. Assessment: - Varies in assessment methods (verbal, written, performance). - Train the students for self evaluation. - Provide immediate feedback to students. - follow up students' written work.	✓			

- Teacher's positive points:

Inspector: all the appreciation for the teacher's interesting presentation of the lesson and her students' excellent level.

- Areas that the teacher needs for further improvements:

Inspector:………………………………………………………………………………………

- Suggested method/tools to enhance the teacher's performance:

Inspector: I recommend participating in more teaching trainings and workshops.

- Teacher's opinion about the visit:

Teacher: Thank you.

نموذج رقم (1)

(i) - المتابعة الصفية :-

الحصة	الصف والشعبة	عدد الطلاب	المادة	موضوع الدرس	اليوم	التاريخ	منفذ الزيارة	
							الموجه	المدير
الأولى	تاسع ١		معلم	محيط شبه منحرف حسابياً بتطبيق عملي عمادرة	الخميس	٧/٢/٨	✓	

الكفاية	مؤشرات الأداء	مستوى الأداء				
		ممتاز	جيد جداً	جيد	غير مرض	
	1.التهيئة :					
	- يهيئ البيئة المادية والنفسية للتعلم.	✓				
	- يقدم تهيئة حافزة هادفة شائقة ومناسبة لزمن الحصة ومستوى المتعلمين.	✓				
	- يوضح أهداف الدرس للطلاب.	✓				
	2.الكفاية العلمية :-					
	- يقدم مادة علمية صحيحة ومناسبة لمستوى الطلاب.	✓				
	- يربط المادة بالأحداث الجارية والبيئة المحلية.	✓				
	- يوظف المعرفة العلمية في الحياة العامة.	✓				
	3.عرض المادة وأساليب التعليم والتعلم :					
	- يراعي الترتيب والتسلسل المنطقي والتدرج في عرض المادة والخبرات التعليمية.	✓				
	- ينوع في أساليب التعليم والتعلم والأنشطة التعليمية.	✓				
	4.الوسائط التعليمية والتقنيات :-					
	- يوظف الكتاب المدرسي والسبورة بفاعلية.	✓				
	- يوظف الوسائط التعليمية الأخرى المناسبة للموقف التعليمي.	✓				
	5.التفاعل الصفي :					
	- يثير دافعية الطلاب للمشاركة وطرح الأفكار.	✓				
	- يشرك الطلاب في بناء المفاهيم واستقصاء المعرفة.	✓				
	- يطرح أسئلة واضحة متنوعة وهادفة ومثيرة للتفكير مراعياً الفروق الفردية.	✓				
	- يشجع الطلاب على طرح الأسئلة والتعلم الذاتي.	✓				
	- يحفز الطلاب على التنافس الإيجابي فيما بينهم.	✓				
	6.الإدارة الصفية :					
	- يحفز الطلاب على الانضباط والانتباه.	✓				
	- يعامل الطلبة معاملة حسنة.	✓				
	- يعزز استجابات الطلاب معنوياً ومادياً.	✓				
	- يحسن إدارة الوقت ويوزعه على فعاليات الموقف التعليمي.	✓				
	7.التقويم :					
	- يراعي استمرارية التقويم.	✓				
	- ينوع في أساليب التقويم (كتابي، شفوي، أدائي).	✓				
	- يدرب الطلاب على التقويم الذاتي.	✓				
	- يقدم تغذية فورية للطلاب.					

كفايات الموقف التعليمي

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مستوى الأداء			مؤشـرات الأداء	الكفاية
جيد	جيد جداً	ممتاز		
			أثر المعلم في الطلاب : -	
		✓	- يظهر الطلاب وعياً كافياً بأهداف الدرس.	
		✓	- يوظف الطلاب المهارات العقلية والأدائية والاجتماعية المنهجية (المرتبطة بالدرس).	
		✓	- يكسب الطلاب قيماً واتجاهات إيجابية ويؤثر فيهم.	الكفاية الإنتاجية للمعلم
		✓	- ينمي ثقة الطلاب بذواتهم ويشجعهم على المبادرة وطرح الأفكار.	
		✓	- يراعي الطلاب الضعاف ويثري خبرات الفائقين.	
		✓	- يرفع المستوى التحصيلي للطلاب.	

(ب) : المتابعة غير الصفية : -

جيد	جيد جداً	ممتاز	مؤشـرات الأداء	المجـال
		✓	- يخطط لدروسه محدداً دور المعلم والمتعلم والأنشطة العلاجية والإثرائية.	1.التخطيط
		✓	- يخطط للأنشطة المدرسية الأخرى.	
		✓	- يتعاون مع زملائه وإدارة المدرسة والتوجيه التربوي.	
		✓	- يستجيب للتوجيهات والإرشادات ويفيد منها.	2.شخصية المعلم
		✓	- يمتاز بالاتزان ويهتم بمظهره.	
		✓	- يحرص على التجديد والابتكار في العمل.	
		✓	- ينجز الأعمال الإدارية (سجلات....إلخ) المسندة إليه بكفاءة.	

- أبرز جوانب التميز :-

....

- الجوانب التي تحتاج إلى تحسين : -

....

- الآليات المقترحة لتحسين أداء المعلم :-

....

- رأي المعلم في الزيارة :

....

اسم الموجه : -.......................

التوقيع : -.......................

اسم المديرة : ....

التوقيع : -.......................

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Appendix 18

Teacher Assessment Report

Subject: History

Performance categories	Performance level			
	Excellent	Very good	Good	Unsatisfied
1.Preparation: - Prepare material and sociological learning climate. - Present purposeful motivation to learners. - Explains the lessons goals to students.		✓		
2. Knowledge: - Present appropriate and correct information equivalent to students' level. - Relate the lesson to current/local events, and environment. - Apply the information into the real life.	✓			
3. Teaching/learning methods: - Teacher works from organized/logical information. - Teacher appropriately uses a variety of teaching aids.			✓	
4. Students' Participation: - Students are encouraged to discuss and share their thoughts. - Students are encouraged to reach to conclusions and explore possibilities. - Students are encouraged to ask questions and self learning. - Students are encouraged for positive competition.			✓	
5. Class Management: - Students are motivated to concentrate and focus. - Teachers use a very good behavioral attitude/ treatment with students. - Good use of academic time in class.		✓		
6. Assessment: - Varies in assessment methods (verbal, written, performance). - Train the students for self evaluation. - Provide immediate feedback to students. - follow up students' written work.			✓	

- **Teacher's positive points:**

Inspector: the teacher used different aids and materials to explain the lesson. Also, she used interesting questions to attract students' attentions.

- Areas that the teacher needs for further improvement:

Inspector: the teacher should work more from organized/logical information and consider individual differences in understanding the lesson. Also, make sure of the clarity of the lesson to students.
- Focus more on the students' self evaluation.
- **Suggested methods/tools to enhance the teacher's performance:**

Inspector: I recommend participating in more teaching trainings and workshops, exchange class visits in order to learn more about critical thinking strategies in teaching.

- Teacher's opinion about the visit:
Teacher:
………………………………………………………………………………………………

تقرير الزيارة التشخيصية

تابعة الصفية :-

الصف والشعبة	عدد الطلاب	المادة	موضوع الدرس	اليوم	التاريخ	منفذ الزيارة	
						الموجه	المدير
٤ / ١	١٧	اجتماعيات	ظهور الإسلام و قيام الدولة الإسلامية في المدينة	الاربعاء	٢٠٠٦/١١/٨	✓	✓

غير مرض	جيد	جيد جداً	ممتاز	مؤشرات الأداء
				مستوى الأداء
		✓		**1.التهيئة :** – يهيئ البيئة المادية والنفسية للتعلم. – يقدم تهيئة حافزة هادفة شائقة ومناسبة لزمن الحصة ومستوى المتعلمين. – يوضح أهداف الدرس للطلاب.
			✓	**2.الكفاية العلمية :-** – يقدم مادة علمية صحيحة ومناسبة لمستوى الطلاب. – يربط المادة بالأحداث الجارية والبيئة المحلية. – يوظف المعرفة العلمية في الحياة العامة.
	✓			**3.عرض المادة وأساليب التعليم والتعلم :** – يراعي الترتيب والتسلسل المنطقي والتدرج في عرض المادة والخبرات التعليمية. – ينوع في أساليب التعليم والتعلم والأنشطة التعليمية.
			✓	**4.الوسائط التعليمية والتقنيات :-** – يوظف الكتاب المدرسي والسبورة بفاعلية. – يوظف الوسائط التعليمية الأخرى المناسبة للموقف التعليمي.
	✓			**5.التفاعل الصفي :** – يثير دافعية الطلاب للمشاركة وطرح الأفكار. – يشرك الطلاب في بناء المفاهيم واستقصاء المعرفة. – يطرح أسئلة واضحة متنوعة وهادفة ومثيرة للتفكير مراعياً الفروق الفردية. – يشجع الطلاب على طرح الأسئلة والتعلم الذاتي. – يحفز الطلاب على التنافس الإيجابي فيما بينهم.
		✓		**6.الإدارة الصفية :** – يحفز الطلاب على الانضباط والانتباه. – يعامل الطلبة معاملة حسنة. – يعزز استجابات الطلاب معنوياً ومادياً. – يحسن إدارة الوقت ويوزعه على فعاليات الموقف التعليمي.
	✓			**7.التقويم :** – يراعي استمرارية التقويم. – ينوع في أساليب التقويم (كتابي، شفوي، أدائي). – يدرب الطلاب على التقويم الذاتي. – يقدم تغذية راجعة فورية للطلاب. – يتابع الأعمال الكتابية لطلابه.

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تابع : تقرير الزيارة التشخيصية

مستوى الأداء			مؤشرات الأداء	الكفاية
جيد	جيد جداً	ممتاز		
		✓	**- أثر المعلم في الطلاب :-** - يظهر الطلاب وعياً كافياً بأهداف الدرس. - يوظف الطلاب المهارات العقلية والأدائية والاجتماعية المنهجية (المرتبطة بالدرس). - يكسب الطلاب قيماً واتجاهات إيجابية ويؤثر فيهم. - ينمي ثقة الطلاب بذواتهم ويشجعهم على المبادرة وطرح الأفكار. - يراعي الطلاب الضعاف ويثري خبرات الفائقين. - يرفع المستوى التحصيلي للطلاب.	الكفاية الإنتاجية للمعلم

(ب) : المتابعة غير الصفية :-

جيد	جيد جداً	ممتاز	مؤشرات الأداء	المجال
		✓	- يخطط لدروسه محدداً دور المعلم والمتعلم والأنشطة العلاجية والإثرائية. - يخطط للأنشطة المدرسية الأخرى.	1.التخطيط
		✓	- يتعاون مع زملائه وإدارة المدرسة والتوجيه التربوي. - يستجيب للتوجيهات والإرشادات ويفيد منها. - يمتاز بالاتزان ويهتم بمظهره. - يحرص على التجديد والابتكار في العمل. - ينجز الأعمال الإدارية (سجلات....إلخ) المسندة إليه بكفاءة.	2.شخصية المعلم

- أبرز جوانب التميز :-

* ابتكرت بعض الوسائط لخدمة المادة...لوحة أسئلة مشوقة للتقويم الختامي مع توظيفها للتقنيات الحديثة.

- الجوانب التي تحتاج إلى تحسين :-

* مراعاة عرض المادة بتسلسل وترابط وتدرج مراعاة الفروق الفردية...والتأكيد بعرض ضوء لمنهم المعروضة لدى الطالبات.
* ترغيب التركيز على أهمية التقويم البنائي وتحفيز الطالبات على تقويم أدائهم ذاتياً.

- الآليات المقترحة لتحسين أداء المعلم :-

* حضور وعمل مشاهدة وتبادل زيارات صفية وذلك لاكتساب مهارة إثارة التفكير...والتمكين على أهمية التقويم البنائي.

- رأي المعلم في الزيارة :

اسم الموجه :- ....   اسم المدير :- ....

التوقيع :- ....   التوقيع :- ....

نموذج رقم (4)

الصف والشعبة	عدد الطلاب	المادة	موضوع الدرس	اليوم	التاريخ	منفذ الزيارة		
						الموجه	المدير	
٤ / ١	١٧	الاجتماعيات	العمل التطوعي في بلادي	الثلاثاء	٣/٤/٧- ٢	✓	✓	

			مستوى الأداء			
مؤشرات الأداء	الوزن النسبي	ممتاز	جيد جداً	جيد	غير مرض	

الكفاية العلمية والتربوية :-

- يقدم مادة علمية صحيحة ومناسبة لمستوى الطلاب.
- يربط المادة بالأحداث الجارية والبيئة المحلية.
- يستخدم اللغة المناسبة الصحيحة لمستوى الطلاب.

الوزن النسبي: $\frac{70}{80}$ — ممتاز ✓

التهيئة :

- يهيئ البيئة المادية والنفسية للتعلم.
- يقدم تهيئة حافزة هادفة شائقة ومناسبة لزمن الحصة ومستوى المتعلمين.
- يوضح أهداف الدرس للطلاب.

ممتاز ✓

عرض المادة وأساليب التعليم والتعلم :

- يراعي الترتيب والتسلسل المنطقي والتدرج في عرض المادة والخبرات التعليمية.
- ينوع في أساليب التعليم والتعلم.
- الأنشطة التعليمية.

الوزن النسبي: $\frac{90}{100}$ — جيد جداً ✓

الوسائط التعليمية والتقنيات :-

- يوظف الكتاب المدرسي والسبورة بفاعلية.
- يوظف الوسائط التعليمية الأخرى المناسبة للموقف التعليمي.

جيد جداً ✓

التفاعل الصفي :

- يثير دافعية الطلاب للمشاركة وطرح الأفكار.
- يشرك الطلاب في بناء المفاهيم واستقصاء المعرفة.
- يطرح أسئلة واضحة متنوعة وهادفة ومثيرة للتفكير مراعياً الفروق الفردية.
- يشجع الطلاب على طرح الأسئلة والتعلم الذاتي.
- يحفز الطلاب على التنافس الإيجابي فيما بينهم.

الوزن النسبي: $\frac{48}{60}$ — جيد جداً ✓

الإدارة الصفية :

- يحفز الطلاب على الانضباط والانتباه.
- يعامل الطلبة معاملة حسنة.
- يعزز استجابات الطلاب معنوياً ومادياً.
- يحسن إدارة الوقت ويوزعه على فعاليات الموقف التعليمي.

الوزن النسبي: $\frac{40}{40}$ — جيد جداً ✓

التقويم :

- يراعي استمرارية التقويم.
- ينوع في أساليب التقويم (كتابي، شفوي، أدائي).
- يدرب الطلاب على التقويم الذاتي.
- يقدم تغذية راجعة فورية للطلاب.

الوزن النسبي: $\frac{34}{40}$ — ✓

مستوى الأداء				الوزن النسبي	مؤشرات الأداء	الكفاية
غير	جيد	جيد جداً	ممتاز			
			✓	$\frac{70}{80}$	**أ- أثر المعلم في الطلاب :-** - يظهر الطلاب وعياً كافياً بأهداف الدرس. - يوظف الطلاب المهارات العقلية والأدائية والاجتماعية المنهجية (المرتبطة بالدرس). - يكسب الطلاب قيما واتجاهات إيجابية ويؤثر فيهم. - ينمي ثقة الطلاب بذواتهم ويشجعهم على المبادرة وطرح الأفكار. - يراعي الطلاب الضعاف ويثري خبرات الفائقين. - يرفع المستوى التحصيلي للطلاب.	الكفاية الإنتاجية للمعلم
		✓			**ب- الأنشطة والواجبات البيتية :** - يتابع الأعمال الكتابية لطلابه.	

$$\frac{35}{40} = \frac{352}{400}$$

- أبرز جوانب التميز :-

* مُنحت الطالبات مادياً ومعنوياً مما زاد من دافعية الطالبات نحو التعلم.

* حرص على اكساب الطالبات بعض القيم والاتجاهات من تفعيل دور الطالبات في كتابة الصفحة خلال توظيفها لاستراتيجية محفزة.

- الجوانب التي تحتاج إلى تحسين :-

* حبذا التركيز على أهمية التقويم البنائي وكذلك المأكد من فهم جميع الطلاب لهدف المطلوب

- الآليات المقترحة لتحسين أداء المعلم :-

- رأي المعلم في الزيارة :

أنا أشكر والشكر لتحية الأخرى على توجيهاتهم وتعاونهم دوماً

اسـم المعلـم :ـ .... اسم الموجه :ـ .... اسم مدير المدرسة :ـ ....

التـوقيـع :ـ .... التـوقيـع :ـ .... التـوقيـع :ـ ....

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Appendix 19

Teacher's guide book (History)

Introduction

Shiekh Zayed Al Nahian says: "Developing human personality is the ultimate goal for learning and education". This goal can be achieved through education, values and required skills to succeed in school education and then in the real life. Therefore, it is vital to stop using the classical old teaching techniques such as memorizations and lectures.

We hope that our fellow teachers focus on building students personality through open discussion, critical thinking, and respecting others opinion.

Suggested teaching/learning methods and techniques:

- Playing the roles	- Critical thinking	- Making decisions
- Concluding	- Cooperative learning	- Problem –solving
- Predicting	- Observing	- Discussing
- Drawing and painting	- Surfing the net	- Telling stories
- Collecting information	- Open discussion	- Brain storming

Appendix 20

Teacher's guide book (Science)

Science skills	Description
Observe	The student uses his/her senses to realize directly the objectives' characteristics or via simple and complicated tools.
Compare	The student recognizes the similarities and differences between different objects and events.
Collect, record and analyze data	The student observes things or events then records and analyzes them.
Communicate	The students transfer the carts, data and thoughts verbally, electronically or written.
Measure	The students observe things using different measurement tools.
Expect/Predict	The student expects/predicts the results based on his/her experiments.
Conclude	The student concludes and explains the results.
Put hypothesis	The student suggests experimental explanations.

General Objectives:

The student should be able to:

- To experience the excitement in discovering and understanding the natural world.
- To use the scientific experiments to take personal decisions.
- To share intelligently in scientific and technical discussions.