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The Effect of Integration and Fragmentation on Students' Achievement  
at the Elementary Level

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A research project by  
Mona Mahmoud Sheet

Submitted to the Lebanese American University  
In partial fulfillment of the requirements  
For the degree of  
Master in Education

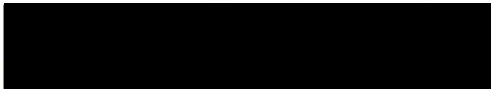
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June 2006

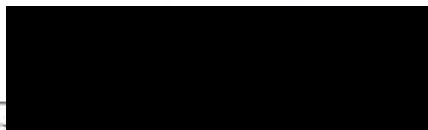
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***Dedication***

*I dedicate this project to my lovely and supportive parents. Thanks Mom and Dad for everything you did and are still doing to me.*

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Thank you a lot.

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## Abstract

During the past decade, educators as well as researchers have been giving more focus and attention to the use of new techniques in teaching that are responsive for developing well-rounded individuals and productive citizens. The aim of this paper is to show the effect of integration on student's achievement, attitude, working habit etc. Moreover, this paper focuses on learning processes, the fragmented curriculum and its benefits as well as drawbacks. This study provides a detailed literature review for the usage of the integrated curriculum with its different types, characteristics, principal's role, traditional ways of teaching and assessment. It tends to encourage the usage of integration at the elementary level. Three methods were used to compare the difference in teaching between integration and fragmentation. Interviews were conducted with three professional teachers from different schools, Questionnaires were distributed to 20 teachers in two schools, and finally a book written by Suzan Drake about integration and the implementation of this technique was analyzed thoroughly. Throughout the study, the researcher found that though the integrated approach has positive effect on the performance level, at the same time it is a costly and a complex process. This study was designed to improve the learning of the students and their level of understanding. Such teaching method makes learning fun and more active.

## Chapter I

### Introduction

Education today is set in an ever-changing context. Reformation is occurring everywhere: social security, health care, and welfare (Drake, 1998). Integrated studies can offer some solutions within this new context. For example, by using the internet, students can obtain information on any number of topics that can not be obtained from other resources. Nowadays, society requires graduates who are productive and multitasked citizens. This can be achieved by using the integrated curriculum which has shown many positive aspects in the learning process (Drake, 1998). During the past decade, several reports aimed to be critical about students' performance in the real world (Gronlund, 1998). As a result, researchers questioned the fragmented curriculum used in schools and suggested the implementation of the integrated curriculum which would allow students to look into the world critically (Beane, 1997, Cooper & Kinger, 1998, Armstrong, 2003).

Integration is considered as one of the approaches in education that is receiving attention higher than any other prior point in history (Drake, 1998). Curriculum integration assists students in becoming effective problem solvers. Moreover, it encourages them to accept responsibilities and become more self-directed and independent learners. It differs from the traditional approach in a way that it emphasizes searching for information, discovery, and inquiry rather than taking it from the teacher (Jacobs, 1989, Wiggins & Mctighe 2001).



### *Traditional teaching*

The old fashioned, stiff dry, teacher- directed instruction and rigid way of teaching is called the core knowledge approach (Fogarty & Stoehr, 1995). This definition goes hand in hand with the curriculum that is used in schools (i.e., fragmented curriculum). Fogarty & Stoehr (1995) define fragmented curriculum as "the traditional model of separate and distinct discipline, which fragments the subject area" (p.47). In traditional classrooms, teachers impart knowledge by lecture and demonstration while students take notes, observe, do drills, memorize, take tests, and later try to use or apply the imparted knowledge in other situations and setting. The fragmented curriculum is usually based on lectures and is accompanied by memorization (Mackley, 1999). Since most of the fragmented curriculum is designed with a disregard to the students' needs and interest, it shows no relevance to students, making them unmotivated to learn (Lapp & Flood, 1994, Gage & Berliner, 1998).

According to Gage & Berliner (1998), despite what hundreds of writers have said for hundreds of years, the lecture method is still a widely used teaching method at all levels. It has been said to be out of date, no longer appropriate in an age of books, television, and computers. It has been criticized for fostering a passive role for students (the student just sits there) in the learning process. Students regularly argue that lectures are boring, poorly organized, irrelevant, or redundant. They insist that lectures not only limit their involvement but fail to take into account their individual differences. Gage & Berliner (1998) found that lecturing can give students a framework, overview and criticism unlike that found in any printed material.

However, others still find that in fragmented learning (as one method of traditional teaching), students tend to see the subjects separately. Hence they cannot connect

subjects on their own. This curriculum focuses on content rather than on skills. In other words, it is based on students' knowledge and background and not on hands-on applications or materials that are needed in all aspects of work. Thus, it is based on theoretical rather than on practical aspects or fields. The units of the curriculum should tackle different levels of intelligence as well as different skills, positive attitudes; they should build positive habits of mind. The identification of the themes should foster critical thinking and real life problems (Pappas, Kiefer & Levstik, 1990). Moreover, students cannot relate what they learn in different subjects to their lives. However, nowadays, society requires citizens who are productive, creative, as well as high order thinkers. They can have better understanding of the world (Drake, 1998). This can be achieved by using the integrated approach which has shown many positive aspects in the learning process. A good example that showed the positive effect of integration on students' achievement was described by Fiske (1999) Blake (2001) as cited in Drake & Burns (2004). In an experiment conducted in North California, some students learned mathematics skills through art. The results showed an increase in other subjects' grades as well as mathematics. The school raised its average test scores two and a half levels in math and one and a half levels in reading. " the data indicate that integration of art activities into mathematics and reading can enhance the learning of specific concepts" (Levitan, 1991).

Gage & Berliner (1998) found that the above listed drawbacks of fragmentation should not be valid criticisms of the method. It may be the fault of the lecturer, not the method itself, if material is boring and poorly organized. The failure to take individual differences among students into account is indeed a problem of the method, but it is a problem with many other teaching methods as well.

Other researchers (Drake & Burns, 2004; Wortham, 1996) stated the importance of integration and its effect on students' achievement. Many of them believe that these students score higher on tests than others who still learn different subject matters or concepts in isolation or as fragmented segments (Wortham, 1996). However, others (Dewey, 1939) stated that regardless of the method used in teaching, some students can reach high academic achievement in schools. In an experiment done in the States, students' achievement on final exams in a class of college students taught by the lecture method were compared with a class taught by the integrated approach. The results showed no difference in learning outcomes although the interactive learning environments, printed material etc. were not the same in the traditional classrooms (Gage & Gerliner, 1998).

Curriculum integration (CI) is considered a vital tool for enhancing students' skills rather than concepts (Drake, 1998). Therefore, students will be able to think critically and develop higher order thinking. Thus, integration should be tackled in every aspect in life and not just in content. In the real world, people's lives are not separated into subjects. Therefore, it seems only logical that subject areas should not be separated at school.

Using this type of curriculum builds a strong basis for students as they learn in the future (Vogt, 1997; Brinton, Snow & Wesche, 1989). Students will acquire strategies and skills in real meaningful situations and use all subjects interchangeably. Teachers should not dispense knowledge but help students explore it by themselves under their guidance and directions.

This paper tends to encourage the usage of the integrated curriculum at any other educational institution at the elementary level since there is a need for continuous improvement as the demands are changing.



To achieve the objective of this study, there is a great need for a well-prepared leader. S/he should be a good communicator, provide safe as well as supportive environment for the staff, has a sense of humor, has alternatives for problems, and be a resource provider etc. Such leader should be visible everywhere and should be in touch with daily activities (Schramm, 2002). Moreover, the most important traits that a leader should possess are the ability to get results through others (feedback), managing change and having a clear vision from which this leader can develop strategies and initiate change. Most successful leaders tend to have a repertoire of styles between which they can switch to meet changing circumstances (Snowden & Gortan, 2002).

Every leader and/or manager faces a lot of conflict which are a natural and inevitable part of people concerns, perspectives and goals. Leaders have to deal with conflict situations both as mediators and as participants (Snowden & Gortan, 2002). Conflicts have the potential for such positive outcomes as promoting general growth, generating interpersonal insight, and clarifying personal identity and values.

As everything in life has negative and positive aspects, so does becoming the leader and/or an educational institute. One of the biggest prices to be paid is centered on personal stress because no matter how hard we try, we can never satisfy everyone. Even though the stresses and strains of leading an institute can at times seem overwhelming, the rewards and satisfaction of the job often outweigh the difficulties associated with the more turbulent times (Donahue, 2003).

### Research Questions

To add some insights to this much needed area of research on integration and traditional teaching and to fill the gap in existing studies, this study aims to investigate the following questions:

- 1- What are the main differences in teaching between the following approaches: fragmentation and integration?
- 2- How do fragmentation and integration affect students' achievement, attitudes, and work habits?

### *Purpose of the study*

The purpose of the study is to show that the students who learn through the integrated approach have higher performance than the students who learn concepts in isolation or as fragmented segments.

### *Rationale and significance of the study*

This study is conducted to show that the use of the CI approach in schools affects students' achievement, attitudes, and work habits. Many researchers have emphasized and demonstrated the importance and the effectiveness of this strategy in any classroom particularly at the elementary level (Drake & Burns, 2004; Jacobs, 1989, Wortham, 1996). There are various approaches and strategies that focus on teaching higher thinking and creative skills such as curriculum integration approach (Drake & Burns, 2004, Wortham, 1996). Most of these approaches aim at developing a curriculum that gives students and teachers a deeper understanding of content area and making a connection between various academic disciplines. Nowadays, some students face difficulties in learning. They are suffering from making a connection between different concepts from various subject matters because their teachers at school are not providing them with the latest approach in teaching. Thus, it is really crucial for students in these days to be able to grasp concepts deeply and to think seriously by linking several concepts together. Therefore, teachers at schools should be well knowledgeable about the latest strategies

and approaches in teaching in order to develop well-rounded individuals and life long learners.

CI is one of the many approaches that can enhance students' learning and improve their level of understanding. Though, few empirical research studies have been conducted, most support the use of this approach in teaching any subject matter (Lee & Smith, 1994, & Wortham, 1996).

#### *Rationale of Hypothesis*

A great number of researchers demonstrate the effectiveness of the integrated approach. Stevenson and Carr (1993) reported that CI increased students' interest and achievement scores on the National Assessment of Educational Progress (NAEP). Lee and Smith (1994) study on 820 schools led them to conclude that "about 25 percent of these restructured schools were using interdisciplinary teaching teams" (p.39). Beane (1997) reported that students who learn through the integrated approach do as well as, if not better than students who learn through separate subject matters or in isolation. Moreover, Jacobs (1989) found that interdisciplinary programs produced "higher standardized achievement scores" (p.36) than in subject areas course.

The underlying hypothesis in undertaking this study is that implementing integration positively affects students' achievement at the elementary level.

The integrated curriculum was specifically selected since most of the studies examined showed positive results on students, such as higher order thinking skills, better understanding of the world, as well as active learners that are able to function properly in the society.



## Chapter II

### Literature Review

#### *Introducing Curriculum Integration*

The beginning of the curriculum approach consists of presenting rationales for using the integrated curriculum models (Jacobs, 1989, Erikson, 1998, Fogarty, 1991). However, these researchers focus on the need of K-12 teachers to provide meaningful subject content relationships instead of the fragmentation which usually exists in most district curricula. In the integrated approach, selected thematic concepts are designed to create relevant connections between various subject areas (Lake, 1994, Smilkstein, 2004).

#### *Curriculum*

The word "curriculum" derives from an ancient Latin word meaning a "running course" (Armstrong, 1989). Through time, the meaning evolved to imply a sequence of learning experiences or courses. However, defining the word curriculum is not an easy task because it differs from one school district to another. Armstrong (2003) defines it as the sum of the meanings students experience as they engage in the activities of the school. It includes both the planned and unplanned ones. Marsh & Wills (2003) define it as those subjects that are most useful for living in contemporary society. The subjects are chosen in terms of major present day issues and problems within society. However, Armstrong (2003) defines it as all planned learning for which the school is responsible. Planned learning means the intended objectives or simply the general ideas of teacher about what students should know.

There is a need to relate learning at school and real life and work experiences in order to have successful and motivated citizens. Thus, educators should make sure that the

taught curriculum allows students to transfer the attained skills and knowledge from school to the world outside.

According to the American Association for the Advancement of Science (1989), there are some criteria that should constitute a curriculum that encourages proper learning. The curriculum should be practical, show social responsibility, be intrinsic and have philosophical values. The fragmented school day does not reflect this reality (Jacobs, 1989). Fogarty and Stoehr (1995) stated that the integrated curriculum helps students attain these mentioned skills and prepares learners for life long learning (Lake, 1994).

CI is only a small part of the large shifts occurring in educational thinking today. However, the world we are living in is changing, and education must change with it. If we live in an interconnected and interdependent world, it only makes sense that knowledge be presented as interconnected and interdependent (Drake, 1998).

Beane (1997) described CI in a specific way. It is a way of organizing the common learning or life skills considered essential for all citizens in a democracy. Curriculum is organized around real life problems and issues significant to both young people and adults. The intent is to help students make sense out of their life experience and learn how to participate in a democracy (Vars and Beane, 2000). However, Shoemaker (1991) defines it as a wonderful gift for experienced teachers. It is like getting a new pair of lenses that make teaching a lot more exciting and help them look forward into the next century. It adds more insight to learning and makes it more student- centered.

Wortham, (1996), and Drake & Burns (2004) define CI as an educational approach that cuts across subject-matter lines and brings different aspects of the curriculum into meaningful association that focuses on broad areas of study. This kind of approach views learning and teaching in a holistic way and reflects the real world in an interactive dimension. However, curriculum can be integrated from general standards and principles

to specific practices and contents, from basic levels to complex advanced levels (Howey, 1996). Moreover, the National Council of Teachers of English (as cited in Beane 1997) defined integrated curriculum as "the correlation of related materials in other subject areas ...." (p.42). It was also defined as a topic that becomes in focus is studied deeply, and engages students to use all subjects interchangeably (Pappas, Kiefer & Levistick, 1990; Tchudi, 1994, Tchudi, L, 1996; Brinton & Snow, 1997). According to Webb & Vulliamy (1996) this curriculum also deals with struggling students mainly because they work according to their own abilities. By using this method, students will investigate, gain and communicate topics in depth (Drake 1998, Brinton & Snow, 1997).

All of the above definitions support the view that IC is an educational approach that prepares children for life long learning. There is a strong belief among those who support curriculum integration that schools must look at education as a process for developing abilities required by life in the twenty first century, rather than discrete, departmentalized subject matter (Wortham, 1996). Another term that is used synonymously with integrated curriculum is Interdisciplinary Curriculum. It is defined in the *Dictionary of Education* as:

A curriculum organization which cuts across subject-matter lines to focus upon comprehensive life problems or broad based areas of study that brings together the various segments of the curriculum into meaningful association (Good, 1973, p327).

In general, all of the definitions of integrated or interdisciplinary curriculum include the following: A combination of subjects, an emphasis on projects, sources that go beyond textbooks, thematic units as organizing principles, flexible schedules, and flexible student groupings.



Several researchers have gone beyond a single definition of curriculum integration to a continuum of integration. Fogarty (1991) described the three different categories or types of integration.

- *The Multidisciplinary Integration* focuses mainly on the disciplines. Teachers who use this approach organize standards from the disciplines around a theme. Through this kind of integration, teachers expect students to understand the connections between the different sub disciplines and their relationship to the real world. It is when a teacher integrates reading, writing, and oral communication in language arts. For example, integrated science integrates the perspectives of sub disciplines such as biology, chemistry, physics, and earth/space science. In this approach, teachers fuse skills, knowledge, or even attitudes into the regular school curriculum (Drake & Burns 2004). Thus, students learn respect for the environment in every subject area. Generally, students are expected to make the connections among subject areas rather than having them taught explicitly.

#### *Interdisciplinary Integration*

This kind of curriculum has many different variations. The subjects are interconnected in some way beyond the common theme or issues. These connections are made explicit to the students. The curriculum may be tied together by guiding questions, a common conceptual focus (Drake & Burns 2004).

In this type of integration, teachers organize the curriculum around common learning across disciplines. For example, students will learn math and science concepts and skills while singing, sculpting, painting and dancing.

#### *Transdisciplinary Integration*

This approach transcends the disciplines and is found in many different forms. It differs from the other approaches because it does not begin with the disciplines in the

planning process; rather the planning begins from a real life context (Chard, 1998). This approach focuses mainly on personal growth and social responsibility. Teachers organize curriculum around students' questions and concerns. Students develop life skills as they apply interdisciplinary and disciplinary skills in a real life context. However, there is one route that leads to Transdisciplinary integration: project based learning

*Project based learning:* In this kind of project, students tackle a local problem.

According to Chard (1998), planning project- based learning involves three steps:

- Teachers and students select a topic of study based on student interests, curriculum standards, and local resources.

- The teacher finds out what the students already know and helps them generate questions to explore. The teacher also provides resources for students and opportunities to work in the field.

- Students share their work with others in a culminating activity. Students display the results and review and evaluate the project. In this kind of integration, students go beyond the minimum effort, make connections among different subject areas to answer open-ended questions, retained what they have learned, apply learning to real real-life problems, have fewer discipline problems, and have lower absenteeism.

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At last, educators have found out that no one approach is preferable. Approaches seem more and more alike as teachers integrate standards based planning with effective teaching and learning practices (Lake, 1994). The Multidisciplinary, Interdisciplinary, and Transdisciplinary perspectives offer different maps to begin the design process.

Teachers can use any of the approaches at any level of education, in a single classroom or in a team approach (Drake, 1998).

### *History of Curriculum Integration.*

CI began in the late 1800s with the Herbartians, a movement named after German philosophers and educators Johann Friedrich Herbart. However, in the 1920s, John Dewey (as cited in Drakes', 1998) led the progressive educators to place students' personal and social concerns at the center of curriculum because he believed that students could not attain higher levels of learning in a separate subject approach. According to Dewey, teaching should not be taught in isolation or fragmented segments but in a holistic way. At that time, the term "integrated curriculum" used to be described as the Project approach (Drake & Burns, 2004). Therefore, the main intent of CI is to construct meaningful bridges, to show connections in development and learning (Wortham, 1996).

### *Factors that might influence Integration*

Integrating curriculum varies depending on several issues such as: the teacher's own instructional and learning style, level of understanding and comfort with various content areas, the structure of the school setting and school day, school policy, the time available for planning and implementing integrated curricula, level of parental support and interest, and administrative support and interest (Jacobs, 1989, Kim, Andrews & Deborah, 2004). That's why, when teachers want to select an option, they have to consider the following conditions:

- The flexibility of the schedule. This refers to making judgments in her schedule that will allow her to encourage teaming arrangements or rearrange the sequence of subjects.

(Bonita, 2003)



- The support of the staff. It focuses on teachers' enthusiastic about the possibilities for integration. Moreover, it is important to note that without motivation, school change is difficult and the greater the degree of integration the greater the need for preparatory work with the faculty (Jacobs, 1989).

-The nature of the curriculum requirements: Usually school curricula vary in-terms of how subjects are presented at each grade level and the flexibility of the school policy or identity. However, curriculum designers should not make arbitrary decisions about which subject matter lends itself best to integrated work. That's why thoughtful consideration must be given to the best way to address school curriculum requirements and at the same time enliven the course of study (Bullock, Hardy, Brown, Dobson, & Raimato, 2002). All these factors should be taken into account before implementing integration. However, these are some but not all of the factors that might influence each teacher's integration of content at the elementary level

#### *Integration of Subject Matter*

Integrating different subject matter helps children perceive learning as a whole (Beane, 1997). It means that learning is no longer focused on working with separate ideas, issues and skills but in fact they are connected and linked to each other. However, according to Stevick, (1998) integrated teaching means moving away from depending on one source for ideas, whether it is the textbook, a trade book, or a guest speaker to a more hands-on material. Instead there is a variety of resources to make connections between subject areas, ideas, skills and perspectives (Wortham, 1996). This diversity can help teachers better address the needs of students, such as children with special needs, children for whom English is not the first language and children who are under great stress. Thus, each of these children can contribute to learning in a classroom where integrated teaching occurs. However, it is important to keep in mind that the aim is not to have the same

According to a recent study done in a university in the States, Kim, Andrews & Deborah (2004) found out that the students who went through the new integrated curriculum reported higher levels of professional preparation in all the standards and competency areas than those who went through the traditional course-oriented curriculum. Moreover, teachers became more creative, enthusiastic and proud in their teaching. They ended up appreciating the social support of working together, feeling that they are able to teach more effectively when they integrate across subjects and courses (MacIver, 1990). Time was also used more effectively in order to meet students' interests and needs. Jacobs (1989) also reported that CI resulted in better student self-discipline, increased homework completion, and having a better attitude towards school.

A small body of research is related to the impact of an integrated curriculum on student attitudes. MacIver (1990) found out that in an integrated program students developed team spirit and improved their attitudes and work habits. This was attributed in part to the fact that teachers met in teams and were able to quickly recognize and deal with students' problems.

Caine and Caine (1991) pointed out that the brain searches for patterns and interconnections as its way of making meaning. If humans do learn by connection-making, it only makes sense to teach through connection.

Hirsch (1997) noted that traditional knowledge-based schooling is currently employed with great success in most other advanced nations.

The emphasis that permeated the traditional school was recitation, memorization, recall, testing, grades, promotion, and failure. And or this kind of education it was necessary that children primarily listen, sit quiet and attentive in seats, try to fix in their minds what the teacher told them.....this fixed, closed, authoritarian system of education perfectly fitted the needs of a static religion.

(Hirsch, 1997, p.45)

### *Advantages of the Integrated Approach*

Since the 1930s different writers emphasized the idea that learning should be child-centered and inquiry-oriented (Bruner, 1966; Dewey 1939 and Kilpatrick, 1939) and curriculum should be initiated and planned by both teachers and students. However, integrated studies should include activities that are useful or meaningful to children. Until now, it is believed that classrooms should be child centered. The benefits of an integrated curriculum have been noted by many educational philosophers and curriculum theorists (Bruner, 1966, Dewey, 1939) and most of them agreed that IC should be contextualized in a way that learning needs to be relevant and meaningful to the children. It should have a purpose for their lives and be a continuation of their prior experiences. Moreover, context also means that an activity is purposeful because it allows children to make sense of what they are learning and connect the knowledge that they have already acquired to the world around them and to their own experience (Perkins, 1991; Wortham, 1996). Moreover, it promotes active and meaningful learning where children are able to think critically and construct meaning from what they are learning. They need to be actively engaged in activities rather than being passive observers of a teacher's or other students' activities (Perkins, 1991; Wortham, 1996). Integrated curriculum is designed for children's interests and needs. This means that a teacher should take into account students' needs and tries to adjust her/his teaching methods according to what they like (Lattuca, 2004). Furthermore, the teacher should also be aware of students' background, culture orientation, developmental abilities etc, and try to develop activities at different levels using multiple approaches to match the characteristics of each child (Wortham, 1996).



According to Perkins (1991), integrative learning serves the goal of teaching thinking in several ways. First, an integrative theme engages students in a thoughtful confrontation with the subject matter. Students have to ponder what the theme reveals about the deep and distinctive characters of such different subject matters as history and math. Moreover, a good integrative lens not only engages students in abstract thinking but gives them a powerful tool to analyze and understand the material explicitly (Ackerman, 1989). Another advantage for the integrated curriculum is that struggling students will be part of the learning since the exploration, discovery and critical thinking suits the different abilities of students. Since the lessons are being taken in depth, it is easier for weaker students to make connections (Lake, 1994). Consequently, the integrated approach makes education more meaningful and more relevant to students' needs and interests. Students will realize that language, thinking, and learning are inseparable as they use this approach (Smith & Lounsbery 2005).

#### *Obstacles that might appear*

The path toward developing integrated curriculum is full of obstacles such as the need of time, funds or money, lack of resources and leadership. Moreover, this approach entails enormous work and planning by teachers because it is not based on an existing curriculum (Jacobs, 1989, Armstrong, 2003). Generally, teachers are not prepared to undertake such a change and are not familiar with the related teaching techniques. Teachers have to prepare extra activities that might add more insight to the text and definitely link it to different subject matters (Scherer, 1998). Teachers should find a personal meaning for the change so that positive results will be found (Drake, 1998). Leaders are asked to provide time for teachers to get used to the idea of change (Drake, 1998). They will face anxiety, frustration, and conflicts with the teachers. Moreover, the management of classroom organization is highly sophisticated and requires specific

training (Witte, 2004). Also, there are no assurances that basic core curriculum requirements will be met. Thus, the obstacles that a teacher might face while implementing the integrated approach are as follow:

#### Time

This is the strongest and most common recommendation. Teachers need time not only to plan but also to make sense of new ways to deliver curriculum (Tchudi, 1991, Vogt, 1997 and Jacobs, 1989). Thus, building an integrated curriculum takes a lot of time, particularly if this is the first effort. Some researchers found that a period of approximately 10 days is an optimum time to build a full unit. Some extended this time over a year, others worked during summer holidays or exam periods (Jacobs, 1989).

#### Scheduling

A second concern raised is the necessity for changing the schedule. There is a need for larger blocks of time to deal with a concept in depth. This can be done in many creative ways: there is no standard formula (Jacob, 1989, Wortham, 1996).

#### Planning

The biggest obstacle to curriculum building is planning Jacob, (1989), Lake, (1994), Wortham, (1996) and Carr & Harris, (2001) recommend that teachers start to introduce integrated concepts during a regular class. The planning takes into consideration the whole curriculum such as what is taught in a certain grade level and where are some of the duplications and connection in the required curriculum. (Tchudi, 1991).

#### Resources

Textbooks are only one source of data required today. To integrate the curriculum, teachers often require new resources. A school can provide the students by multitude of newer information technologies, such as online database, the internet and electronic bulletin boards (Fogarty and Stoehr, 1995). However, if a school lacks these resources,

then it will be considered as a pervasive problem. Some react positively to the challenge of dealing with the problem while other principals force their teachers to share resources rather than duplicate them (Jacobs, 1989). The resources should be found in the school, and students should be active participants in the learning process.

#### Teacher's preparation

Other drawbacks that might be faced while implementing this approach is teacher's preparation. Some of them are not prepared to undertake such a change and are not familiar with the related teaching technique. Therefore, they consider such moves to be revolutionary. Teachers' resistance can make problems arise (Drake, 1998). They often lack the confidence to replace the traditional instruction with new techniques. As a result, leaders are asked to provide time for teachers to get used to the idea of change (Drake, 1998). It is advisable to start change on a small scale, so teachers get used to the idea (Lake, 1994). On the other hand, national standards, which set up rigid constraints on time, curricula content, and planning, discourage teachers' effort to integrate. (Kutz, Cooper, Sadowaski, and Wallsh, 1983). Also, parents should be informed of the changes and know what is expected from them and their children. Assessment should be adjusted accordingly (Lake, 1994).

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#### *Leadership*

The leadership of a team is problematic. The leader may experience difficulties if he or she is perceived to be parachuted in by the administrator. Like every one else, leaders get better with practice. However, it is of great importance that the leaders understand that teachers need to see the necessity for educational change (Armstrong, 2003). When trying to implement a new curriculum, the leader should know about the process, predict the futuristic results, allow the team to find its own voice, allow teachers to talk, identify group patterns and articulate them, synthesize the ideas of a group, take responsibility for



the final product, make people comfortable, have interpersonal skills and facilitate shared roles (Drake, 1993; Brown, 2001; Snowden & Gortan, 2002).

### *Principal's role and integration*

Principals are critical to the success of any school wide innovation or change. Teachers look to their leaders for guidance and support. When there is something fundamental to the learning process as the structures for the curriculum and instruction, then the principal must be knowledgeable. If the principals bring older visions of teaching and learning to professional evaluation, they will destroy the change process (Paris & Gespass, 2001).

The common problem will be scheduling. A teacher cannot provide an integrated learning experience for students if they get only part of the package. School principals should restructure time into blocks and all teachers into teams. There should be 2 to 4 years of preparatory work. The following questions should be planned and answered before applying the model (Tchudi, 1994 & Tchudi, 1996).

- Do teachers understand what values lie in teaming and curricula integration?
- Do they know how and when to integrate curricula?
- Are parents on board with the direction?
- Have teachers had answers to the questions that worry them related to maintaining discipline integrity?
- Does the administration understand and express support for teaming and integration (verbal, financial, and planning time etc.)
- How much time will be devoted to integrate and instruction during the year?

When choosing a teaching method it is important to know the learners. What are their experiences, interests and goals (Fogarty & Stoehr, 1995)? When youth are asked what they wish to learn, they may not know enough about a subject to form an opinion.

However, if they are involved in selecting goals, they have a stronger sense of ownership

(Lake, 1994). Youth learn best in an atmosphere of warmth and acceptance. They should be actively involved in setting goals and planning their learning activities (Witte, 2004).

A teacher should know that each student is unique. For instance, a visual learner may only need to see an item in writing to remember it (Fogarty & Stochr, 1995). An example is a small child who looks at alphabet cards and can identify the letters. An auditory learner will best be served by having the information spoken to them or repeated by them. By hearing and repeating the 4-H pledge members may quickly learn to associate the words with the four Hs. Kinesthetic learners may need to touch items to determine size, shape, texture, and weight. This allows them to compare and contrast elements as they learn. They can then internalize the concept. However, involving youth in different activities while they learn new material strengthens knowledge retention (Johnson, 2000). This will create new experiences for them to share with others, which also reinforces the learning process (Gage & Berliner, 1998). Here is one of the traditional techniques in teaching:

#### Lecture

This method is probably the most common form of education. It fragments concepts into chunks, but it allows the educator to deliver a large amount of information in a short amount of time. Preparation is done by an individual and can be repeated on a routine basis for each new group of learners (Gage & Berliner 1998). Auditory learners are the best receivers of lecture information. However, this method can cause learners to become bored and easily distracted (Mackley, 1999).

### Advantages of fragmentation

Many researchers agree that there are many advantages in using the fragmented curriculum (lecturing goes under it). For instance, specialization of subjects goes back to Aristotle, who believed that knowledge should be divided into three arenas: the productive, theoretical, and practical disciplines. It is believed that the fragmented curriculum shows effectiveness in its instructional strategies, and the "socially sanctioned community base" (Jacobs, 1989, p 76). However, the fragmented curriculum focuses on the quantity of skills rather than the quality whereas integrated curriculum focuses on the transfer of knowledge (Tchudi, 1994).

A lecture can be an effective method for communicating theories, ideas, and facts to students. Typically in a structured presentation, a lecture should be designed to include certain procedures in order to be effective—procedures that research and expert lecturers have identified as essential to assist student learning (Gage & Berliner 1998). The basic purpose of lecturing is the dissemination of information. Teachers should identify important information for the learner and transmit this knowledge in the lecture. The lecture method is recommended for high consensus disciplines—those in which there is agreement on the fundamental principles and procedures, such as math and the natural sciences.

Gage & Berliner (1998) defended the usage of the lecture method. He believed that this method is valuable because it combats students' passivity. This means the process of following a lecture can be anything but passive just because students are silent and almost motionless does not mean that they are inactive. They maybe working hard cognitively to



follow the arguments comprehend their logic, judge their validity, etc. Moreover, lecturing can arouse active interest that leads students to understanding. It brings the lecturer's own enthusiasm and aesthetic pleasure to the material.

Teaching in the integrated program is far different from teaching in the traditional classroom. In the traditional programs, teachers act as directors of learning, preparing specific lessons, deciding on the sequence in which those lessons will be presented, and determining exactly how students will be evaluated (Wolfinger & Stockard, 1997). The students have little input into the content or the direction of their learning. On the other hand, the teacher working within the integrated curriculum acts as a facilitator of learning rather than a director of learning. However, the teacher as facilitator provides opportunities for individual learning rather than dictating what will be learned through lessons and objectives (Johnson, 2000). Thus, planning for teaching the integrated curriculum is far more exciting than planning within the traditional curriculum. The integrated approach to curriculum allows for teaching in a dynamic and exciting classroom where children are active investigators and learners rather than passive recipients of knowledge (Lake, 1994).

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If learning is to be developmentally appropriate for young children, the teacher must help maintain a balance between both teacher directed and child learning activities.

#### *Assessment and Teaching*

Just as curriculum integration changes the way instruction looks, it may also lead to a change in assessment strategies. As students are involved in real tasks, teachers find that they need to design performance assessment that gives a true picture of students understanding of concepts.

In the traditional classroom where subject matter areas are kept separate, where all children are expected to participate in the same lessons, learn the same concepts, and gain

the same skills all at exactly the same time, assessment is generally in the form of tests and quizzes (Wolfinger & Stockard, 1997). It is easy to determine whether or not a child has learned the basic facts of addition by giving a written test in which all of the basic facts appear and the child must show the answers. Then, when all of the students have completed the test it is easy to collect and grade the papers. Finally it is easy to assign a grade. Traditional tests are valid for testing students' factual knowledge. Most tests use an objective format, such as multiple-choice questions. Multiple-choice tests have some advantages, including a lower probability of correct guesses than ordinary true-false tests do; they can be used to measure many levels of learning; they allow for extensive sampling of material, and they are easy to administer and grade (Gronlund, 1998). Hence, traditional assessment is based on certain premises. First, it is assumed that there are specific bits of information that all children should know. Once these are identified, it is relatively easy to develop a test to determine whether they have been acquired. Second, traditional assessments are based on the premise that all children will learn specific skills or concepts at the same time (Ross, 1994). Therefore, all students can be assessed on the acquisition of those skills at the same time.

Students who are learning through the traditional way of teaching face several problems for the following reasons:

Not all children are ready to learn the same things at the same time. This may be due to the differences in cognitive developmental level, environment, or content and skill background, learning styles. Thus, different children learn at different rates and times (Wolfinger & Stockard, 1997). For example, a child who has plenty to eat and a safe place to sleep is going to have an advantage over a child who goes to bed hungry in an unsafe building.

Traditional assessment takes into account the child's prior learning as it maybe reflected in scores. For example, children are asked to learn the names of the nine planets in order of distances from the sun. Maya has been interested in astronomy ever since the first night she looked into the sky and saw the star. She came to the lesson not only knowing the names of the planet in their order but also having explicit knowledge about this topic. However, in the unit test she lists all the planet correctly and with ease. Mike, on the other hand, was surprised to learn that there were other planets than the earth. On the test he listed five planets in no particular order. Thus, his limited background about the topic made him fail the test (Wolfinger & Stockard, 1997).

Other problems can emerge in traditional classrooms. Thus, fragmented forms of assessment tend to reflect the traditional curriculum. However, if one considers the integrated curriculum in which separation of subject matters areas is not appropriate, where students may be investigating different concepts at different times, and where hierarchies of skills and concepts give way to learning in authentic situations, then traditional forms of assessment are inappropriate (Wortham, 1996).

#### *Planning for effective integration*

Never take a trip without a map! You must plan every phase of the garden from the layout to placement ....Keep this plan after you've planted so you'll be sure to know where everything is; otherwise you may pull up the lettuce and cultivate the dandelions by mistake (Baker 1983, pp, 172-173).

When teachers begin to plan integration they often feel overwhelmed and burdened. Time is a major factor. Teachers who plan in teams or groups often report finding the most effective tools, resources, materials, and ideas for teaching by brainstorming with their colleagues. Resources and references are helpful, but many important factors must be considered when attempting integration (Beane, 1997). However, some resources are incomplete and not specific to a particular classroom, community, or region.



Educators, considering CI, will need to take full advantage of the decades of research and experience with this potentially powerful way of designing and carrying out education (Beane, 1997). After many studies, it was found that successful schools have some criteria in common. They all establish a well-crafted, focused, valid and clear curriculum to direct teaching and provide assessments aligned to the curricula (Howey, 1996; Wortham, 1996; Pennell, 1998; and Smith & Lounsberg, 2005). Moreover, curriculum developers are essential people in the transition of curriculum. They are the ones who make sure that the curriculum is consistent with the school's mission. However, there are several techniques that a teacher should take into account in order to have a well-organized and successful lesson. (Erikson, 1998). The techniques come as follow:

- Conducting an action research to learn about current resources and best practices.
- Developing a proposal for integration (Erikson, 1998).
- Implementing and monitoring the pilot program, with continual assessment of students and the program (Jacobs, 1989, 27).
- Engaging students in learning through multiple ways or different styles (as described by Gardener 1983). Therefore, learning is a holistic experience with many ways of knowing. Students learn through all of their senses. They apply all of their physical, mental and social capabilities to construct deep understandings of the world and one's life in it. Reading, listening, viewing, and observing are joined with writing, speaking, visualizing, performing, and producing to encompass a holistic experience of learning.
- Using a variety of instructional and assessment strategies to engage students in a meaningful discussion (Wortham, 1996; Beane, 1997; Gronlund, 1998).
- Knowing when to lead and when to follow with a balance of direct instruction and student-centered and independent learning (Shoemaker, 1991).

- Providing a balanced educational curriculum that draws on individual, cooperative learning and paired learning experiences (Slavin, 1990; Gronlund, 1998).
- Developing different forms of questioning to engage the minds and hearts of students, flowing from specific to open-ended questions.
- Helping students construct meaning through a curriculum and learning environment that encourages pattern seeking and connections at both the concrete and abstract levels (Gronlund, 1998).
- Learning how to create an environmental gestalt that brings together the best of what we know about how children learn (Erikson, 1998).

Ross (1994) suggests that designing entails putting mental plans into blueprint for instruction. He commends taking what follows into account throughout the planning and teaching processes:

The context of the teaching, the content to be taught, the learners involved, the teachers' (experience, strength, weakness, preferences etc.).

### *Appropriate Content*

The most important aspect of content is the developmental level and interests of students. According to Huck, Helper, and Hickman (1993), there are two reasons for stressing appropriate content. First, most children's books have to be read at an appropriate age and stage in the development of a child or they will never be read. Second, the power of literature to enable a reader to experience lives vicariously is unequalled. They have found that the content must be judged in terms of the quality of the writing. Thus, teachers must read widely to improve their ability to identify quality children's literature and to find literature that is appropriate to their students.

*Needs and Interest of students*

When educators select materials, they must take into account the needs and interests of individual students in the broadest sense. Students with special needs as well as those with culturally diverse backgrounds must be represented in all phases of the curriculum (Drake, 1998). In other words, students will choose books and literature that interest them.

As children grow older, they become more aware of other people around them and enjoy reading about children who are facing problems similar to theirs.

*Needs of the Curriculum*

When selecting materials, educators should not underestimate the importance of supporting the curriculum. Specific areas of the curriculum may require additional materials. This is particularly true when teachers rely less on published textbooks for all of their curriculum and more on thematic units or integration. Teachers can get help from school librarian or media center.

As a conclusion, it was found that the IC has many positive aspects in the learning process. It builds a strong basis for students as they learn and live in the future (Vogt, 1997; Brinton, Snow & Wesche, 1989). Students will acquire strategies and skills in real meaningful situations and use all subjects interchangeably. Moreover, they will synthesize and connect previous ideas with different sources of information. Having students as active participants in their own learning, and using real-life situations are essential elements for the success of this approach (Carr & Harris, 2001). Furthermore, learners will read different materials for different purposes; thus, they will synthesize and connect previous experiences with different sources of information.

Integrated curriculum should help students learn new information by utilizing the exposed knowledge (Lake, 1993). Thus, in this study, three methods were used to show



the effect of integration and fragmentation on students' achievement, work habits, attitude, etc.

## Chapter III

### Methodology

The subject of CI has been under discussion for the last half-century, with resurgence over the past decade. The explosion of knowledge, the increase of state mandates related to myriad issues, fragmented teaching schedules, concerns about curriculum relevancy, and a lack of connections and relationships among disciplines have all been cited as reasons for a move towards an integrated curriculum (Jacobs, 1989; Beane, 1997; Mackley, 1999). The purpose of this paper was to investigate whether the integrated curriculum approach could enhance students' achievement at the elementary level. Questionnaires and interviews were used as the principle sources of data. The questionnaire items were qualitatively analyzed to provide evidence on the effect of both integration and fragmentation on students' performance.

#### *Data Collection Procedure*

Throughout this research, three sets of instruments were used in this study as a baseline for data collection. First of all, interviews were conducted with three teachers from three different schools (appendix A). Second, a questionnaire (appendix B) was used to examine the positive effect of integration on students' achievement. The third instrument was document analysis, the researcher analyzed a book written by Susan Drake (1998) entitled *Creating Integrated Curriculum* related to integration. However, various points were discussed deeply but most of them focus on one idea which is students' interest and needs. It is important to keep all students, teachers, families, and the general public both informed and involved in continuing efforts to provide every student with meaningful learning experiences.

*Participants for the questionnaire*

The convenient sampling for the questionnaire consisted of a total of 20 teachers. The participants originated from four separate middle- class schools in Lebanon. They were chosen because they had wide knowledge and skills in using the integrated approach for more than 3 years. All of the participants were Lebanese. Their native language was Arabic. Their ages ranged from 27 to 36.

The researcher distributed the questionnaire and asked the 20 participants (4 males and 16 females) to fill in the items by the most appropriate choice. They were asked to complete it and to return it to the researcher during the same period. It took the subjects around 10 minutes to fill it in. The participants were informed about the purpose of the questionnaire and were asked to circle the appropriate answers. The purpose of the questionnaire was to investigate the participants' beliefs concerning the effect of integration on achievement as well as students' attitude. The participants judged the items of the questionnaire by putting a circle on one of the Likert scale choices, a- Agree b- strongly agree c- disagree d- strongly disagree. The purpose of the questionnaire was to investigate the participants' beliefs concerning integration and the strategies they use in teaching and whether or not they benefited from integrating themes through different subject matters. Using the Likert Scale, the participants judged 10 statements evaluating and measuring integration and fragmentation strategies. The first item pertains to resources, materials as well as manipulative. The second item focuses on timing and planning. The third discusses fund raising and money. The fourth item pertains to prior knowledge and the experience to build this approach. The fifth one requires stating the difference between integration and fragmentation in terms of application. The sixth item asks for integration of different subject matters. The next item emphasizes on students'



attitude and achievement. The last item pertains to the obstacles that might appear while using any of the two approaches.

### *Participants for the Interview*

The participants for the interviews were three teachers from three different schools. One of the participants was a four grade-science teacher. She is 29 years old. She has an M.A in Education. She was chosen not only because the subject of her thesis was about the integrated curriculum, but also because she has been implementing that approach for two years. The second participant is an English coordinator in a middle-class school in Lebanon. She is 35 years old. She has a B.A in elementary education. She has been teaching for 14 years. She was chosen because she gave a number of workshops that aimed at training teachers in using the integrated approach. The third participant had earned a special degree in using the integrated approach. She is 27 years old. She was considered a specialist in that field. She is a grade six teacher. She had been to the United States of America. All of the above participants have been implementing the integrated approach while teaching because as they said it makes learning easier and more dynamic as well as it encourages students to make connection or link between two different subjects and more. It encourages students to make connection between two or more different subjects which makes learning more meaningful to them.

### *Interviews*

Participants in this study are three teachers from three different schools. The participants were chosen for their good background in this topic. The researcher asked them basic questions related to integration and fragmentation. The rationale for using exactly the same questions for all the participants was to assure exactly comparable

results. The participants were free in answering the questions. They answered the questions in around 30 minutes.

The researcher asked the participants 15 questions. The first item basically covers the interviewees' definition for integration. The second item focuses on some of the advantages for using this approach. What might it add to learning? And in what way it is positive. The third item pertains listing some of the obstacles that a teacher might face while implementing this approach. The fourth question talks about materials and needs (money, resources, and stationary) that will make learning relevant and meaningful to students needs. Then the researcher asked about the principals' role. Does he interfere and provide help or it's just the teachers' role. The following question covers the difference in application between integration and fragmentation. Then, the researcher asked if the teachers' role differs and at which grade level does fit most. At last, the questions covered types of assessment when implementing integration. Do the teachers follow one type of assessment which is paper and pencil do they vary the method like portfolio, checklist, observation etc. To add more insight to the interview the researcher asked for real life examples and if this approach is ready to be applied at any school in Lebanon.

#### Document Analysis

The researcher chose Suzan Drakes' book entitled by "*Creating integrated curriculum*", *proven ways to increase students' learning, 1998*. The researcher intended to use one of Drakes' books because of her positive intention towards integration. In this book, Drake has covered various aspects that determine the developmental abilities and needs of individual children. However, the lessons that were covered in her book come as follow:

- Origin of the integrated curriculum
- Integration from different domains and subject areas
- Integration through Thematic units

- Does integrated curriculum work
- Planning integrated Curriculum to meet Developmental needs
- Planning integrated curriculum to respond to children's interests
- Planning integrated curriculum to understand connections in knowledge
- Models for planning integrated Curriculum
- Evaluating integrated Curriculum and instruction
- Overcoming the obstacles and finding success
- Assessing children's progress in integrated curriculum
- Assessing the effectiveness of the integrated curriculum
- Assessing teacher's and leader's role.

Throughout this study, the researcher chose some items that were covered to comment on. It was clear throughout the book that Drake has a positive view in implementing this approach. She believes that students will acquire strategies and skills in real meaningful situations and use all subjects interchangeably. Moreover, she repeated the idea that if teachers want to have productive citizens and life long learners, they should use integration as a first change.

#### Ethics

Before the implementation of the study, the researcher received consent from the English coordinator (the second participant) to carry the study (to fill in the questionnaire). All teachers were informed about the aim of the study and the methodology to be followed. They were told that the aim of the study was to investigate the effect of integration and fragmentation on students' achievement. The researcher told them that their responses to the questionnaire items will be used as the main instrument to complete a research project. They were also told that they will be informed about the



results of the study if it was of interest to them. When they were asked to complete the questionnaires, they were asked to feel free either to participate or not.

The same procedures were followed regarding the interview. The researcher was granted permission beforehand. She introduced the content of the study to the participants and assured them that all collected data would be mentioned without names.-

In this chapter, I reviewed the different instruments used to conduct the research.

## Chapter IV

### Reporting and Analyzing Findings

The aim of this study is to investigate the different affects of implementing integration and fragmentation on students' achievement. The results obtained from the analysis of the interviews have revealed that integration makes learning meaningful and relevant. After conducting the interviews and analyzing the questionnaire sample, the researcher was able to analyze the questionnaire items and the frequency by which the participants implement the integrated curriculum.

#### *Interview*

The following data was gathered through the interview. The analysis of these results suggested that some students learn better while using the integrated approach because this approach leads to developing better thinking, learning and higher order skills. According to the informants in the interview, students are more likely to develop deeper understanding of subject matter and improve problem solving. Moreover, this approach is beneficial because it enhances students' skills rather than make them focus on the content. This means that students will be able to analyze and synthesize information rather than depend on their memorization. Students are more likely to become autonomous and proactive in their conduct as thinkers and learners. In addition, students are able to make contextualized relationships. Thus, their understanding of the relationships among the subject matters will become sharper, and their thinking will become more insightful and systematic inside and outside school. However, it has been found that this approach needs a lot of preparation both from the school (administrators, principal) and teachers.

Teachers should cooperate and work collaboratively in order to develop well rounded individuals and life long learners.

Teacher's comments:

According to one of the teachers, "to make this change, the whole school should be part of it, and not only one class, all working together to make a change." She added, "There should be a curriculum analyzer, who is going to be analyzing the curriculum because we really need to keep the standards of each grade level."

The second interviewee focused more on preparation and timing. "In order to apply this curriculum; it needs a lot of work especially that all groups have to work together (cooperative and collaborative work). Teachers need time to prepare material, ahead of time, time to look into the curriculum." She also said, "The curriculum analyzer has to be always ready and cautious in order to set the standards". "There is a need of many different resources, magazines journal, different manipulative, stationary, etc."

"The teachers' role is different. The teacher is not there to provide information but to guide the students. She gives them the steps and they have to go step by step in order to reach where they want to reach." The interviewee mentioned that "this approach is good because each student will be working on his/ her appropriate level of difficulty." She

further added, "There should be a change in the whole curriculum. There should be an analysis of all the subject areas and then find how these subjects might be integrated".

That's why; teachers from different departments should work together towards common goals without sacrificing their own subject matter concerns? Thus, cooperation and collaboration are prominent while using this approach.

The informants explained that this approach needs a lot of preparation both from the school and teachers. For example, there is a great need of different sources of information as updated magazines, journals, different manipulative and stationery etc.



Concerning (IC), the informants said that when implementing this kind of curriculum, the teachers' role changes. That is, the teacher is not any more the provider of information rather s/he is a guider or a facilitator that needs to inform students' of the steps they need to accomplish. Throughout application, the teacher has to make sure that students are on task and try to give each student his/her appropriate level of difficulty and always keep in mind the learning style of each child. Thus, classes should be student-centered and inquiry-oriented.

Integration can be applied at any grade level but there should be a determination and a hard working staff. Moreover, the earlier the implementations, the better the results.

Different methodologies or teaching practices should be applied so that no child is left behind. Assessment in integrated unit refers to assessing those capacities and products deemed essential to a certain unit. Assessment is the involvement of the student in an activity requiring him or her to integrate various skills and levels of understanding in order to solve a problem. In this kind of teaching (integration), teachers should not view assessment only as the use of formal tests, but it should be viewed as a way of clarifying, providing feedback and setting goals. However, there are various and non traditional ways for assessing students' achievement such as observation, anecdotal records, checklists, interviews, portfolios, discussions, presentations, etc (Gronlund, 1998).

Finally, the informants stated that integration might enhance students thinking which can also lead to a better achievement. At the same time, it has been found that it needs a lot of preparation and definitely hard working staff. Therefore, in order to develop well rounded individuals and life long learners, integration might be one of the prominent issues that teachers should consider in the teaching learning process.

Almost every teacher has experienced the feeling that "there isn't enough time to get it all in" or "the school day just isn't long enough for all that I'm supposed to do, it seems

that every year there are more things added to the curriculum. This feeling of frustration is one of the motivations behind development of an integrated curriculum. Teachers see this as part of the solution to the requirements that pull teachers in different ways.

Another interview was done with an English coordinator .There are two comments that almost seem to go together. This teacher is exhausted, but this is more than balanced by the excitement she feels and the fact that she usually feels more energized than at any other time in her career. Once she has planned her curriculum in this way for a while, it becomes second nature and the exhaustion fades. On the other hand, many of the rewards come from working collaboratively, often for the first time, with other teachers. Other rewards are derived from the reception of students. For the students, school becomes a more inviting place to be. It has been found that there are fewer discipline and attendance problems because students tend to be more engaged in the learning process.

### *Questionnaire*

The results obtained from the analysis of the questionnaire have revealed some of these relationships. Throughout this study, 20 participants were asked to fill in the questionnaire. All of them approximately have the same educational degree, most of them in Education others have a degree in English literature. The researcher made sure that all the participants have at least 5 years of experience. The 20 participants answered the 10 questions. After collecting data from the participants, the researcher came up with the following results:

63% of the participants agree that students learn better if they feel, see, and touch the subjects they are studying. It has such obvious merit that it would be amazing if traditional education did not make use of multisensory methods of teaching. In other words, students can learn better when they touch and see the material in front of them.

They will grasp content in a better way. The other participants (27%) prefer the traditional approach because it is safer and more organized although it needs planning and effort.

The results obtained for the research questions posed in the study are presented in Table 1.

	Integrated Approach	Traditional Teaching
Manipulative, resources	63%	27%
Time consuming, planning	54%	28%
Need funds	85%	15%
Grade level application	85%	90%
Attitudes and Achievement	95%	5%
Collaboration and cooperation	90%	5%
Meet course objectives	65%	25%

Students are not the only ones who respond favorably to the learning experiences that are part of an integrated curriculum. In a study of an integrated mathematics curriculum, Edgerton (as cited in Tchudi, 1991) found that after one year 83 percent of the teachers involved preferred to continue with the integrated program rather than return to the traditional curriculum. Throughout this study, it was clear that students' achievement and attitudes is higher when learning through integration. Most of the applicants agree that this learning approach needs well-equipped staff that can provide the learners with the



latest techniques in teaching. It needs funds or money. Teachers did not mind to share their ideas with others. In fact, it was clear from the results that those teachers like to collaborate and cooperate to reach the same goal which is productive citizens. However, the results for teachers who used the traditional way of teaching were not supportive as well as useless. The applicants showed no concern for collaboration. The results have shown that they prepare lessons individually. An important issue is that those teachers are not motivated to use any material or kind of manipulative that might add an insight to the lesson.

#### *Document Analysis*

In her book "*Creating Integrated Curriculum*" Susan Drake emphasized the idea that traditional subject –based curriculum does not engage students in learning because it is often irrelevant and provides little challenge. When teaching different subjects, teachers may present knowledge in a fragmented way. Often the only reason teachers give for learning something is that it will be on the test or it will be needed down the road. In contrast, integrated curriculum is often associated with real-life problems because life is not fragmented into subject areas. For example, the threat of nuclear war brought together scholars who study climate, population patterns, history of past disasters, and philosophy. Thus, a real life context gives students a reason to learn.

Susan Drake found that it is crucial for teachers to begin this approach with advocacy. That is, they must advocate for planning time and grade level team meetings. She suggested that teachers can make a case for the importance of the time spent in planning, particularly if they are willing to share the outcomes (integrated unit) with other teachers and parents. Children in the first and second cycle need opportunities for hands- on learning. They learn through their senses, through concrete experiences, and by active participation with manipulative. For example, when teaching reading, teachers must

make the materials meaningful and find ways for students to make connections between real-life situations.

Another issue that Drake focused on is the learners of the new century. According to her, it is the learning of connecting things up, integrating ideas within and across subject matters, and with elements of out-of-school life. Moreover, Drake found out that changes are occurring everywhere in the workplace due to technology, in addition to restructuring, all these have led to the realization that students need different skills to be successfully employed today than they did ten years ago. The skills necessary for successful employment include both academic and workplace skills. Workers will need technical skills, academic proficiency, and the ability to solve problems, to work as a team members, and to communicate effectively with a variety of people in a workplace. Thus, there is a need for schools to follow the integrated curriculum which allows students to acquire a broader, more in-depth understanding of academic material and apply what they learn to real-life situations. Outside school, problems and concerns are found in one context. Thus, schools should reflect the world outside, and it is here that relevancy comes into play. Therefore, students will be more prepared to succeed in whatever career they choose after high school. At last, Drake mentioned that educator must provide students with equal opportunities to learn and succeed so they will work on their students to become productive citizens.

#### *Summary of research finding*

The findings support the positive effects of curriculum integration (Shoemaker, 1991; Drake, 1993; Tchudi, 1994; Wortham, 1996; Webb & Vulliamy, 1996; Beane, 1998; Drake, & Burns, 1998; Witte, 2004). The basic findings of the research are the following:

The results clearly showed that the integrated curriculum helps students apply skills as well as leads to faster retrieval of information. It encourages depth and breadth in learning. While in the traditional way of teaching, students end up memorizing information, just like a matter of parroting. Those students will not gain the essential skills that are needed in real life.

In the hypothesis above, the researcher stated that students' achievement, attitude as well as personality improve significantly as a result of the implementation of the integrated approach. Thus, the researcher expects the hypothesis to reach its aim.

Regarding the general question which was posed at the beginning of the study, "what are the main differences in teaching between fragmentation and integration?" The results of the questionnaire suggested that there was a positive effect of implementing the integrated approach on students' achievement. It leads to better learning skills and developing higher order thinking. On the other hand, the results also showed that integration needs a lot of work from the whole staff at school. However, traditional teaching showed less interest from the participants because it makes learning boring and inactive. Regarding the second specific question "How do fragmentation and integration affect students' achievement, attitude, and work habits" the findings of the study implied that the participant benefited from this integration since they reported enthusiasm to learning and transforming knowledge into real life problems. The previous findings concur with the finding of the studies Wolfinger & Stockard (1997) and Vars & Beane (2000) in that there was a remarkable increase in the frequency with which the participants implemented integration. The results also concur with the study of Brinton et al, (1989) and Snowden & Gortan, (2002) about the role of the leader. Leaders should provide teachers with a wide range of resources, since the main strategy in integration is hands-on activities. Throughout this study, it was found that the integrated approach



gives students and teachers a deeper understanding of content area as well as guides students in the learning process by linking the concrete examples to the abstract ideas and concepts (Beane, 1998). It encourages them to accept responsibilities and become more self-directed and independent learners. Moreover, it helps students to work effectively with a diversity of people by sharing ideas and experiences (Wortham, 1996). Last but not least, it enhances creative thinking skills and emphasizes searching for information rather than taking it from the teachers. Thus this approach does not mean a curriculum that strives for high grades but one that helps students apply the learned skills in real life. However, the fragmented approach actually pigeon holes the content and students tend to see the subject separately. Moreover, students cannot relate what they learn in different subjects to their real lives. Hence, they cannot connect information on their own. The curriculum focuses on content rather than on skills, which asks for an application and usage of hands-on material rather than receiving knowledge. Thus, the integrated approach aims at developing skills that help the individual use them in real life situations such as: ability to comprehend knowledge, synthesis information.

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## Chapter V

### Conclusion

#### *Research on Implementation*

The research findings related to implementation have several common elements. One factor that comes through loud and clear is that CI is time consuming and effort taking. Teachers need time to select themes, explore resources, and discuss students' learning styles. They also need and coordinate teaching schedules. Based on the above extensive review of literature, and with the different articles written by Shoemaker (1991), here are some of the essential components of an integrated curriculum:

- Core skills and process: it includes the main skills that are needed to solve problems such as reading and mathematics as well as social skills and problem solving.
- Major themes: each curriculum strands is further divided into themes. For example, if the lesson is about endangered animals, the strand that comes under it would most likely be whales, lions, etc.
- Questions: questions are considered as basic issues in this field as they are used to further define major themes and focus activities.
- Unit development: from the major themes and questions, knowledge and skills related to the concepts, teachers plan activities that will lead to the development of knowledge and skills which will answer the question. Teachers also collect resources and develop actual lesson plans and assessment strategies.
- Evaluation: the unit plan can be evaluated through the results of students. Therefore, a teacher can know if students achieved the intended outcomes from their results in the test.

- Successful efforts towards integration tend to include the above elements or a variation. Palmer (1991) suggests that teachers and curriculum supervisors should work cooperatively in order to reach a common goal. From these lists, the teachers work together to find appropriate connections to content areas. For example, research skills may be part of science, math, music, language arts, and social studies. From this discussion, teachers devise plans for teaching. Any plan takes time, empowers teacher, requires flexible schedules, and encourages collaborative work.

#### *Limitations of the study*

One of the limitations of this study relates to the lack of time to implement any designed curriculum. Moreover, due to the objectives that might be set from the school and the usage of the books, the curriculum was restricted to them thus limiting the content (as mentioned in the interview). Also, the number of participants is small. It would be better if more participants were enrolled in this study. Thus, the results are neither reliable nor valid. Another point to ponder about is that not all the participants filled in the questionnaire; this by itself, might have affected the results.

#### *Recommendations*

The factors that should to be considered in an integrated curriculum are (Jacobs, 1989, MacIver, 1990) the following:

Terms (such as theme, outcome, concepts etc.), available resources, support services, flexibility in scheduling, subjects and concepts that will be integrated, curricular scope and sequence, themes that promote the transfer of learning and connections, theme planning time that is used to exchange information about content, students, special areas of teachers' expertise, and teaching methods should be defined.

When teachers select themes, it is important that they avoid themes of convenience that have no meaningful, larger concepts, but instead they should choose concepts or



themes that are related to students real life and that meet their interests and needs. Thus, a teacher should consider these needs as essential in teaching.

Teachers should be aware of these elements and try to consider them in the learning approaches. It is necessary for each school to determine the best procedure to meet the needs of the particular student body (Palmer, 1991). For example, a secondary school may face different constraints than an elementary school may face. Rather than move from a traditional, subject-specific curriculum to an integrated curriculum in one sudden sweep, schools find more success when they make gradual changes, making sure that everyone involved feels a sense of ownership of and commitment to the changes.

### *Conclusion*

The findings of the study offer several pedagogical implications for integration and its positive effects on students' achievements and work habits. Not only has the study helped make a contribution to the theories of integration and fragmentation, but it has also offered some possible ways to look at both the theoretical and methodical perspectives for integration. The findings indicated that the participants benefited from the integrated approach in terms of developing well-round individuals as well as productive citizen.

Although the findings of the study provided evidence on the effect of implementing integration and fragmentation on students' achievement, two limitations must be kept in mind when interpreting these findings. First, the number of teachers who participated in the study was rather small. Thus, it is difficult to draw strong generalizations due to the limited number of participants. Therefore, additional studies are needed to replicate the effects measured. Second, the small number of the questionnaire items might have negatively affected the results. The participants had to answer only 10 questionnaire items. It was likely that they might not have answered the items honestly. They might

have read them quickly or they might have just answered without reading. This might have obscured some effects of the findings.

The questions the current study sought to answer were whether the integrated approach instruction would benefit learners and whether implementing this strategy would enhance their achievement.

Yet still, this study has opened a door for further research studies. First, since the sample size of the present study was limited to 20 participants, additional studies that include a wider sample are needed in order to develop a more comprehensive picture of both the integrated and the fragmented approaches and implementation .

As a whole, curriculum integration should be considered an approach that might help students have the predispositions and skills that are needed to solve social problems and improve society (Beane, 1997). Teachers who advocate and encourage using IC believe that students have the right to be intelligent, well informed, search for meaning in their world, engaged with significant issues, authentic work, think critically and to be good citizens in this world (Drake, 1998). Hence, by using this approach students will have a better chance to be active learners and construct meaning in an easier and more dynamic way

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Using this type of curriculum builds a strong basis for students as they learn and live in the future (Vogt, 1997; Brinton et al, 1989). Students will acquire strategies and skills in real meaningful situations and use all subjects interchangeably (Vogt, 1997; Snow & Brinton 1997; Drake 1998). Moreover, students will end up synthesizing and connecting previous ideas with different sources of information.

For this approach to be successful, teachers have to spend more time in preparing and sharing their findings with the colleagues. Such teachers should

believe that they can make a difference by helping their students to be prepared for the future.



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## Interview

### The questions were:

- 1- Define Curriculum Integration
- 2- What are some of the advantages of integration?
- 3- List some of the obstacles that a teacher might face while implementing this approach.
- 4- Can any teacher apply it at any grade level or it needs professional and trained staff?
- 5- What about preparation, money and resources?
- 6- Are teachers in need for manipulative, resources or hands on material while implementing it the approach?
- 7- Do these materials need money or teachers themselves can prepare them?
- 8- What about principals' role, should they interfere and provide help or it's just the role of teacher?
- 9- How can you define principals or leaders role?

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- 10- How does this approach differ from the traditional way of teaching?
- 11- Does the teachers' role differ?
- 12- At which grade level does this approach fit most?
- 13- What kind of assessment or testing can you use?
- 14- Have you applied it in your classroom? What were the results?
- 15- Do you think it can be applied here in Lebanon and at any school?

## INTEGRATED CURRICULUM QUESTIONNAIRE

Dear participants,

Attached you will find a number of questions related to the Integrated Approach. These questions are part of a research paper that I am currently working on. I will be grateful to you if you answer the questions for me. Thank you in advance and I really appreciate your time and effort.

Please fill in with the correct information.

1. Age -----
2. Gender -----
3. Nationality -----
4. Native Language -----

**1- Manipulative and other resources are needed in an integrated classroom.**

a- Agree      b- strongly agree      c- disagree      d- strongly disagree

**2- Integrating different subject matters consume time and planning.**

a- Agree      b- strongly agree      c- disagree      d- strongly disagree

**3- Money is considered a need for a school to develop this approach.**

a- Agree      b- strongly agree      c- disagree      d- strongly disagree

**4- Using this approach in teaching is considered a worthwhile endeavor, positive experience to teaching.**

a- Agree      b- strongly agree      c- disagree      d- strongly disagree

**5- Traditional teaching is more effective than integration.**

a- Agree      b- strongly agree      c- disagree      d- strongly disagree

**6- Integration means linking different subject matter to each other.**



a- Agree      b- strongly agree      c- disagree      d- strongly disagree

7- Integration can be applied at any grade level.

a- Agree      b- strongly agree      c- disagree      d- strongly disagree

8- Integration affects students' attitude and achievement positively.

a- Agree      b- strongly agree      c- disagree      d- strongly disagree

9- Course objective do differ among the two approaches (integration and traditional teaching).

a- Agree      b- strongly agree      c- disagree      d- strongly disagree

10- Teachers might face obstacles while applying this approach.

a- Agree      b- strongly agree      c- disagree      d- strongly disagree