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Empowering Students' Interdependence through Social and Emotional Learning: The Case of a Lebanese Private School

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Abstract: ***The aim of this study was to examine the effect of a social-emotional learning program on the behavior and academic performance of students in grade 5 in a Lebanese private school, as well as the need to infuse such programs into schools. To achieve that, a mixed method approach was used. In the quantitative part of the research, an experimental study and a survey were done. A sample of 32, grade 5 students, divided between a control and an experimental group were studied, results were analyzed and the effect of the social-emotional learning program on their academic performance in science was examined. In the survey, a sample of 41 members of school staff answered a questionnaire, and their opinion about the need and importance of infusing such programs into schools was studied. As for the qualitative part of the study, the researcher observed the behavior of some of the students in the experimental group, during the time were the program was implemented, between February 29 till March 11, 2016. The results of this intervention, showed improvement in the behavior and academic performance of the students in grade 5 in the experimental group compared to those in the control group. Respondents to the survey confirmed that applying social emotional learning is essential in providing students' success and in affecting students' achievements, and they highlighted on the importance of having such programs infused in the educational programs of their school, which implied that there is a need to use social emotional learning in schools especially in grade 5.***

Keywords: Emotional Intelligence, Social and Emotional Learning, Academic Performance, Behavior

1. Introduction

"*Educating the mind without educating the heart is not education at all." Aristotle*

Educators, parents, and community members want their children to grow up to be responsible, caring, have excellent social skills, contribute positively to society, and become lifelong learners. The role of schools and teachers nowadays is to offer more than academic instruction; their job is to foster children's well-being and social and emotional development, their responsibility is to prepare students to be more knowledgeable, to teach them how to interact respectfully with school staff, peers and all members of the community (Weissberg, Durlak, Domitrovitch & Gullota, 2015). The school is a place where students learn to become creative learners, self-aware human beings, compassionate, responsible citizens, children must be taught the skills necessary for them to face the challenges of life and the ones that help them later on in college, work and within their families, in order to achieve the desired success in life (Weissberg et al., 2015).

The educational system, the parents and the children nowadays are facing lots of challenges; children are more prone to aggressive behaviors, they are more socially detached, teachers are complaining about the increase in behavioral and academic problems of school children. A study in China showed that over 30 million children suffer from one or more mental health disorders. The same study showed that there is an active link between positive behaviors and academic success and that behavioral problem are the leading cause of academic failure (Hong, Yufeng, Agho, & Jacobs, 2011). A study conducted on 10,123 adolescents in the United States showed that about 4 to 5 adolescents suffer from a mental disorder, with anxiety being the most common (Merikangas, et al., 2010). Mental disorders remain a concern for many societies since most of them start at a young age, but they are discovered later on in life, and they are linked directly to poor educational achievements and behavioral problems (Patel, Flisher, & Hetrick, 2007). In Lebanon there is a lack of studies in the field of psychology to show the extent to which our children suffer from emotional problems, a survey conducted in 2013 (the BEI-PSY study) showed that one out of four adolescents in Lebanon suffers from at least one psychiatric disorder (Maalouf, et al., 2016).

In the last few years, lots of countries and organizations have shown an increasing interest in social and emotional learning. Many types of research all around the globe were conducted to study the positive effect of social and emotional learning on students' behavior and academic success (Weissberg, et al., 2015). The intellectual development of students is affected directly by the way they process and respond to emotions; researches show that adopting the right social and emotional programs have a positive effect on students' behavior (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). There is a general consent among the local state and federal levels in the United States that schools must adopt the right social and emotional learning program to provide a better education for children for them to reach their full potential (Brackett & Rivers, 2014), and the earliest the intervention starts, the better the

outcomes (Weare, K. & Gray, G., 2003). Daniel Goleman (1995) believes that emotions can either enhance, or inhibit the brain's ability to learn, since there is a neural wiring between the thinking and the emotional centers of the brain. He argues that people are able to create an internal stimulation of what is going on in other people's brain. When two people interact, their emotions influence each other's, for better or for worse. These findings influence directly the school climate, and encourage students to achieve more. When teachers, students, and school leaders become more emotionally self-aware and more socially intelligent, a better place for children to learn will be created. Social intelligence encloses both interpersonal awareness and social facility (Goleman, Sept. 2006). When children and adults effectively apply knowledge, control behaviors, manage feelings and make responsible decisions they will become emotionally intelligent. Effective social emotional learning programs are applied in preschool and continue through high school. Applying social emotional learning in schools can have a positive impact on student's academic performance (CASEL, 2013). A lot of research nowadays supports the idea that social emotional learning can affect strongly children's success in school and in life. These research studies proved that the best strategies for educational reform are based on focusing on school climate change, and on infusing social emotional learning programs in regular academic lessons (Joseph E. Zins, 2004).

Durlak, Weissberg, Dymnicki, Taylor, and Schellinger believe that there are five key competencies of social emotional learning. These competencies allow people to have better social relationships, and respond to challenges of life (Durlak et al., 2011). The five key principles are:

1) Self-awareness: be able to asses one's emotions, interests, values and strengths, and maintaining at the same time a sense of self-confidence.
2) Self-management: controlling one's emotions, handling stress, be strong in front of obstacles, setting personal goals and moving toward them. Expressing feelings in an appropriate way.
3) Social-awareness: recognizing and respecting individual and group differences.
4) Relationship skills: establishing healthy relationships, overcoming social pressure, resolving interpersonal conflicts. Asking for help when needed.
5) Responsible decision making: taking decisions in a way that respects others and the society, and that are based on ethical standards. Being a contributing member of the school and the community.

1.1 Purpose of the Study

The purpose of this study is to investigate the positive effect of social emotional learning on the behavior and the academic performance of grade 5 students in a private Lebanese school. This study also focuses on the need to infuse social emotional learning programs into schools.

1.2 Research Questions

1) Does social and emotional learning affect the academic performance of students in grade 5?
2) Does social and emotional learning affect the behavior of students in grade 5?
3) Is there a need for social and emotional education in grade 5?

1.3 Research Hypotheses

To investigate the research questions, the following hypotheses were developed:

$H_0$1: Social and emotional learning has no effect on the academic performance of students in grade 5.

H_A1: Social and emotional learning has a positive effect on the academic performance of students in grade 5.

$H_0$2: Social and emotional learning has no effect on the behavior of students in grade 5.

H_A2: Social and emotional learning has a positive effect on the behavior of students in grade 5.

$H_0$3: There is no need for social emotional learning in grade 5.

H_A3: There is a need for social emotional learning in grade

2. Literature Review

In his book "Emotional Intelligence" Daniel Goleman defined emotional intelligence as the ability of a person to understand his own feelings, have empathy for other people's feelings, and be able to regulate his emotions in a way that improves the quality of his life (Goleman, 1995). For centuries, it has been known by psychologists that people perform better when they are highly motivated and able to manage stress. A lot of studies have shown the relation between emotions and the ability to learn and think. When a person is stressed, his hormones mobilize his ability to think. The more a person is put under pressure, the less he can think. On the contrary, when students are inspired, they show more attention, interest and good feelings toward the subject they are learning (Goleman, 2006).

2.1 Social and emotional learning.

Social and emotional learning is an educational process through which children and adults, acquire and effectively apply the skills, knowledge, and attitudes to recognize and manage emotions, demonstrate caring and concern for others, set and achieve positive goals, establish and maintain positive relationships, make responsible decisions, and handle interpersonal situations effectively (Durlak, Dymnicki, Pachan, Taylor, Schellinger, & Weissberg, 2010). Social and emotional skills are essential to prepare the child to be a good student, and a good citizen. A lot of bad behaviors (such as alcohol abuse, bullying, violence, and dropouts), can be prevented when social and emotional learning programs are applied effectively (Bond & Hauf, 2004; Hawkins et al., 2004; Weare & Nind, 2011). These effective programs are applied from preschool through high school. CASEL (Collaborative for Academic, Social, and Emotional Learning) identifies five keys competencies associated with social and emotional learning: self-awareness, self-management, social-awareness, relationship skills, and responsible decision making (Zins, Weissberg, Wang, & Wallberg, 2004).

The first social skill is self-awareness. It involves the ability to know and respond to one's self and be able to identify one's strengths and weaknesses. All these skills are critical to build the child's self-confidence, which is mandatory to everyday social situations. The second skill is self-management. It involves the ability to regulate one's emotions, in order to handle stress, manage moods, and to have control over one's impulses. Another skill needed for social and emotional learning is social-awareness, which includes being able to understand each other's, respect individual and group differences, respect diversity. Social and emotional learning focuses also on relationship skills. Students should be taught how to establish healthy relationships, be able to resolve conflicts and know how and when to seek help. Finally, social and emotional learning involves teaching students responsible decision making skills. Making decisions by taking into consideration safety and ethical standards, respect others, think about the consequences of their action and contribute to the well-being of their community (Durlak et al., 2010).When teachers work on applying these skills in basic education every day, they are providing their students not only to use knowledge, but to transfer these skills into real life. This is the main purpose of social and emotional learning, to prepare children to be ready to apply the knowledge they have as they grow up, to acquire positive social skills, to produce young adults ready to challenge the real world. Teachers cannot rely on parents in teaching children social skills, because this process does not happen for all children. To create a successful adult, academic achievement only is not enough. Children beside their academic success, must be taught how to set goals for themselves, control their emotions, react in an appropriate way to social situations, and understand the feelings of others (Durlak et al., 2010).

2.2 Definition of behavior

Behavior is every action by a person that can be observed, measured, and repeated. The behavior of a person is the part of the person that is able to change though time and space (Alberto & Troutman, 2003).

2.3 Definition of academic performance.

The academic performance is defined as the extent to which a student for example has achieved its educational goal. It is the outcome of education. Academic performance is measured by continuous examination or assessments (Academic Achievement, 2016). Academic performance is multifaceted and includes different domains of learning. A lot of criteria are used to indicate academic performance, grades and performance on an educational achievement test are one of them (Ricarda Steinmayer, 2015).

2.4 The effect of social and emotional learning on the students' behavior and academic success.

The idea that social and emotional learning programs have a positive effect on students' success in school and life has been growing for several years now (Petersen, 2008). This idea is supported by hard data. For example, the William T. Grant Foundation and Lucile Packard Foundation for

Children's Health analyzed 207 studies of social and emotional learning programs that included 288,000 elementary and secondary students. The results proved that students achieved 11% higher results in standardized tests in schools that integrated SEL in their regular programing compared to students in schools not using SEL programs. This research, conducted by Joseph P. Durlak and Roger P. Weissberg, was the first meta-analysis studying the effect of SEL programs on students (Petersen, 2008).

In the University of Virginia's Curry School of Education and Advanced Center for Teaching and Learning, more positive results linked to the use of SEL programs were found. Researchers noticed that the use of a consistent SEL program increased students' scores in math and reading, improved their social behavior and increased teachers' collaboration (Rimm, Kauffman, 2006).

The school and the family are the most important places where children can learn social and emotional skills (Blum, 2005). Teachers and administrators don't have a lot of control over the family environment. Some children are lucky enough to have role models at home, others don't, which gives teachers more responsibilities toward teaching all children social and emotional skills, and infuse them in school curriculum. Students who do not receive proper social and emotional learning, the ones who do not know how to solve problems, are subjected to more educational and social problems, such as school dropout, low self-esteem and decrease in friendship. Specific instructions that are based on using social and emotional learning can help students solve some of their behavioral and educational problems (Committee for children, 2002). A study done on 120 fifth grade students shows that 20% of students have problems in adjusting in school settings, 15-22% from these students have severe problems that need special help. In addition to that, this study shows that 40 to 60% of high school students are not interested in school and do not use their full potential to succeed, therefore, social and emotional learning is an important process that must be adapted by the schools in order for all students to be subjected to it aiming to increase the chances of success (Durlak et al. 2011).

3. Methodology

This study is considered as mixed method of quantitative and qualitative experimental research. In the quantitative research, data were collected from two sources, an experimental study and a survey. Whereas in the qualitative research, observation of students' behavior was achieved. The experimental study was done to investigate the effect of social and emotional learning on students' academic success. An experimental study is a study where one variable is manipulated by the researcher. It has a control and an experimental group. It is used to explain a cause effect relationship. In an experimental study, a pre-test and a post-test are used. The experimental design has some advantages, one of them is the ability to manipulate the variables and the fact that determining a cause effect relationship is not hard, which will lead to better results (Oskar, Blakstad, 2008). A questionnaire is used to investigate the opinion of the participants about the importance and the need of social and emotional learning programs into schools. A questionnaire is used to obtain information from groups of people (Burns & Grove, 2005). The advantages of using questionnaires is that they are cost effective, easy to analyze since a lot of computer software are used for tabulation of data and data entry. Moreover, questionnaires are familiar to people and the researcher own opinion does not influence the respondents (Advantages of Written Questionnaires, 2014). To study the effect of social and emotional learning programs on students' behavior, a qualitative approach was used. The behavior of students was assessed by teachers' observation. In a qualitative approach, data are collected from a small sample by direct interactions with participants. The advantages of the qualitative approach is that it is rich and have a deep insight. There are different methods for collecting data in a qualitative approach, one of them is observation which involves taking descriptive notes of what is happening (Methods of Collecting Data, 2016). The independent variable in the experimental study was the social and emotional learning, while the dependent variable was: the academic success of students. In this study, the grades from a pre-test, a post-test and two quizzes, quiz 1 and quiz 2 in science were used to test the impact of five weeks, theoretically-based social and emotional learning activities on the academic success of grade 5 students in a Lebanese private school. The behavior was assessed by teachers' observation. The importance of the infusion of the social and emotional learning in school is assessed by school teachers, coordinators and administrators true questionnaire.

3.1 Participants

In the experimental study as well as in the observation of students' behavior, two classes were involved. In the control class there were 15 students and in the experimental class there were 17 students. The researcher choice was based on the fact that the students of the experimental class had serious academic problems (based on the opinion of teachers of grade 5). An ethical approval to conduct a research by using the questionnaire was given on March 9, 2016 by the committee on Research Ethics CRE at LIU. The questionnaire was distributed to a sample of forty-one members of the school teachers, administrators and coordinators to answer it, thirty were given back.

3.2 Procedure

To conduct the experimental study, the researcher obtained an approval from the elementary school principal on January 25, 2016. The research was carried out over a period of five weeks, from February 9 till March 11, and for six sessions per week (50 minutes each session). In three sessions out of six grade five students were given five activities that act on promoting social and emotional learning. These activities were introduced only by the researcher according to the following schedule and criteria:
1st week (between February 9 and February 12, 2016): "Me and My Safe and Caring School" that promotes self-awareness.

2nd week (between February 15 and February 19, 2016): "Discovering Our Feelings" that promotes self-management.

3rd week (between February 22 and February 26, 2016): "Respect Yourself and Others" that promotes social-awareness.

4th week (between February 29 and March 4, 2016): "Teaming Up for Success" that promotes relationship skills.

5th week (between March 7 and March 11, 2016): "The Power to Choose" that promotes responsible decision making.

These activities were chosen from the book "Activities for Building Character and Social and Emotional Learning" (2012).

In the other three sessions, the researcher (as a science teacher), integrated social and emotional learning with science according to the following schedule and criteria:

1st week (between February 8 and February 12, 2016): students were asked to research ways they can use recycling to keep their school and neighborhoods clean which will make their environment safer and build a sense of community. This activity was done to promote self-awareness.

2nd week (between February 15 and February 19, 2016): the researcher discussed with the students about the psychological reactions people have when experiencing stress and what are the healthy ways to deal with it. A comparison about how adults and young people might react to stress was done. This activity was used to promote self-management.

3rd week (between February 22 and February 26, 2016): the researcher related the science lessons to everyday life. The students were given lessons about the life cycles of animals and humans, and the researcher focused on the importance of each stage in the life cycle. This activity was done to promote social awareness.

4th week (between February 29 and March 4, 2016): students were asked to work in different groups, to identify different seeds and to dissect them. They were asked to find the cotyledon, the seed coat, and the embryo. The researcher discussed how do plants provide oxygen and use carbon dioxide in the process of photosynthesis. Groups were then asked to compare and discuss their findings. This activity was used to promote relationship skills.

5th week (between March 7 and March 11, 2016): students were asked to research and discuss positive versus negative choices humans make in trying to save our planet. Students were encouraged to plant trees in school and at home. This activity was used to promote responsible decision making.

The pretest and the posttest testing items were designed according to the following coefficient: 20% for true or false questions, 20% for the graphic organizer, 40% for subjective questions (literal questions), and 20% for interpretive questions. Students were also given the same length of time for both tests (50 minutes). The pretest was given to students on February 4, 2016, while the post test was given on March 11, 2016.

The questionnaire was taken from an original survey administered to 500 registered users of edweek.org, education Week's flagship website. The Education Week Research Center conducted the study in April 2015 to gain a better understanding of how teachers and school-based administrators view social and emotional learning. In the private school were the study was conducted, the questionnaire was used to study the importance of infusing social and emotional learning in schools. Only nine questions were taken from the original questionnaire (the ones that serve the purpose of this study). Questions 5, 6, 7 and 8 aimed at examining the opinion of the participants about the importance of social and emotional learning skills.

4. Results

4.1 Techniques used for data analysis

SPSS version 21 is the statistical software used for data entry and data analysis.

For the descriptive statistics, the results are presented using graphs and tables. For the nominal variables, frequencies and percentages were used. For the ordinal and scale variables, statistical characteristics such as Mean, Standard Deviation, Mode and Coefficient of variation were used.
For the inferential statistics, the researcher studied the relation between variables and also for comparing the results of the pre-test and post-test. Independent sample T-test and Paired sample T-test were used for this part.

4.2 Results of the pre-test and post-test of the control group

Table 1 displays the results of the pre-test and post-test of the control group. It shows that students in control group averagely scored 79.13/100 on the pre-test where the most scored grade was 61, and there was no significant dispersion in the students' answers (CV=13.78%). The average score of quiz 1 was 84.73 whereby the most scored grade was 99/100

with no significant dispersion in the students' answers. The students' average score of quiz 2 is 79.93/100, having 80 as the most scored grade with no significant dispersion in students' answers. The students averagely scored 75/100 on their post-test, having 60 as the most scored grade with no significant dispersion.

Table 1: Results of the Pre-Test and Post-Test of the Control Group

	Mean	Mode	SD	CV	Mean %
Pre-Test (/100)	79.13	61	10.91	13.78%	79.13%
Quiz 1 (/100)	84.73	99	16.55	19.53%	84.73%
Quiz 2 (/100)	79.93	80	13.26	16.59%	79.93%
Post-Test (/100)	75.00	60	10.95	14.60%	75.00%

4.3 Results of the pre-test and post-test of the experimental group

Table 2 displays the results of the pre-test and post-test of the experimental group. It shows that students in experimental group averagely scored 76.47/100 on the pre-test where the most scored grade was 78, and there was no significant dispersion in the students' answers (CV=10.47%). The average score of quiz 1 was 75.82/100 whereby the most scored grade was 70 with no significant dispersion in the students' answers. The students' average score of quiz 2 is 89/100, having 85 as the most scored grade with no significant dispersion in students' answers. The students averagely scored 83.71/100 on their post-test, having 83 as the most scored grade with low dispersion. The dispersion in the answers of all the tests was greater for the control group than the experimental group, whereby the experimental group's answers were more convergent.

Table 2: Results of the Pre-Test and Post-Test of the Experimental Group

	Mean	Mode	SD	CV	Mean %
Pre-Test (/100)	79.13	61	10.91	13.78%	79.13%
Quiz 1 (/100)	84.73	99	16.55	19.53%	84.73%
Quiz 2 (/100)	79.93	80	13.26	16.59%	79.93%
Post-Test (/100)	75.00	60	10.95	14.60%	75.00%

4.4 Inferential statistics

In this section, we are looking to study the difference between the results of pre-test and post-test, and quiz 1 and quiz 2 for both experimental and control groups with the comparison between the two groups. To study the difference between weeks for the same group, the paired sample t-test (student) is used, which is a parametric test used to compare two means of the same group, and to study whether there is a significant difference or not. For the comparison between the experimental and control groups, the independent sample t-test (student) is used, which is a parametric test used to compare two means of different groups, and to study whether there is a significant difference or not. For the interpretation, Sig (Degree of significance) is compared with α (error ratio = 5% i.e. 0.05). So If Sig > $\alpha \rightarrow$ the difference is considered as insignificant and vice versa.

4.4.1Comparison between pre-test and post-test of the control group.

Table 3 and Figure 1 show a comparison between pre-test and post-test scores of the control group students. They illustrate that students averagely scored 79.13/100 on their pre-test while they averagely scored 75/100 on their post-test. It is noticed that the scores of the control group students have declined 5.22% with a significant difference between the pre-test and the post-test (sig=0.049).

Table 3: Comparison between Pre-Test and Post-Test of the Control Group

Means		% of improvement	t value	Sig
Pre-test	Post-test			
79.13	75.00	-5.22%	2.156	**0.049**

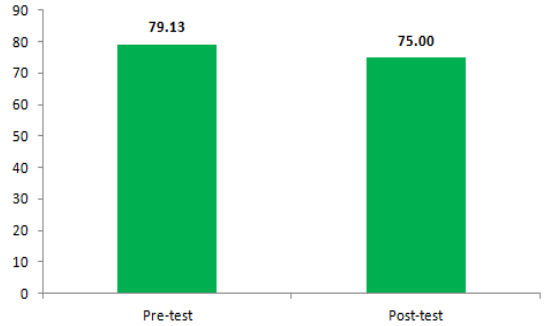

Figure 1: Comparison between Pre-test and Post-test of the Control Group

4.4.2 Comparison between the pre-test and the post-test of the experimental group.

Table 4 and Figure 2 show a comparison between pre-test and post-test scores of the experimental group students. They indicate that students averagely scored 76.47/100 on their pre-test while they averagely scored 83.71/100 on their post-test. It is noticed that the scores of the experimental group students have improved 9.47% with a significant difference between the pre-test and the post-test (sig=0.008).

Table 4: Comparison between Pre-Test and Post-Test of the Experimental Group

Means		% of improvement	t value	Sig
Pre-test	Post-test			
76.47	83.71	+9.47%	3.016	0.008

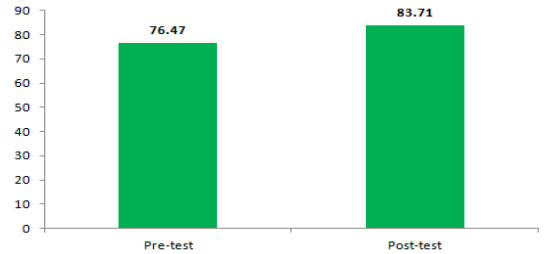

Figure 2: Comparison between Pre-Test and Post-Test of the Experimental Group

4.4.3Comparison between quiz 1 and quiz 2 of the control group.

Table 5 and Figure 3 show a comparison between quiz 1 and quiz 2 scores of the control group students. They illustrate that students averagely scored 84.73/100 on their quiz 1 while they averagely scored 79.93/100 on their quiz 2. It is

noticed that the scores of the control group students have declined 5.67% with no significant difference between the quiz 1 and the quiz 2 (sig=0.063).

Table 5: Comparison between Quiz 1 and Quiz 2 of the Control Group

Means		% of improvement	t value	Sig
Quiz 1	Quiz 2			
84.73	79.93	-5.67%	2.023	0.063

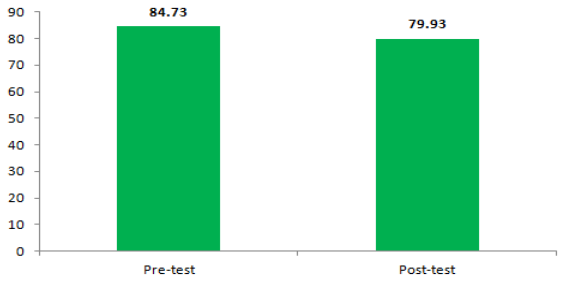

Figure 3: Comparison between Quiz 1 and Quiz 2 of the Control Group

4.4.4 Comparison between quiz 1 and quiz 2 of the experimental group.

Table 6 and Figure 4 show a comparison between quiz 1 and quiz 2 scores of the experimental group students. They illustrate that students averagely scored 75.82/100 on their quiz 1 while they averagely scored 89/100 on their quiz 2. It is noticed that the scores of the experimental group students have improved 17.38% with a significant difference between the quiz 1 and the quiz 2 (sig=0.000).

Table 6: Comparison between Quiz 1 and Quiz 2 of the Experimental Group

Means		% of improvement	t value	Sig
Quiz 1	Quiz 2			
75.82	89.00	+17.38%	5.778	0.000

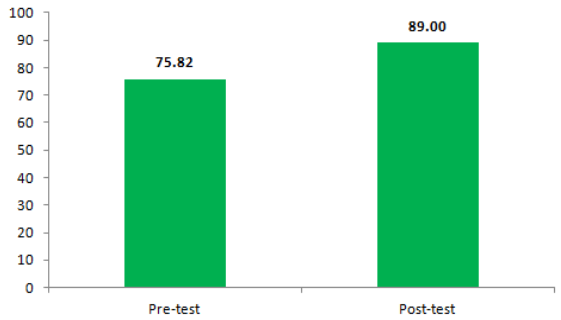

Figure 4: Comparison between Quiz 1 and Quiz 2 of the Experimental Group

4.4.5 Comparison between pre-tests of control and experimental group

Table 7 and figure 5 demonstrate a comparison between the pretests scores of the students of control and experimental groups. They show that the average score of the pretest of the control group (79.13/100) is slightly greater than the average score of the experimental group pretest (76.47/100). The difference between the pretest scores of control and experimental groups is not significant (Dif = -3.36%), which is very important to the credibility of the test and study design as it is very important to have close means between control and experimental groups in the pre-test with insignificant difference as that implies that both groups were homogenous and have the same level of knowledge at the beginning.

Table 7: Comparison between Pre-Tests of Control and Experimental Groups

Means		% of difference	t value	Sig
Control	Experimental			
79.13	76.47	-3.36%	0.794	0.434

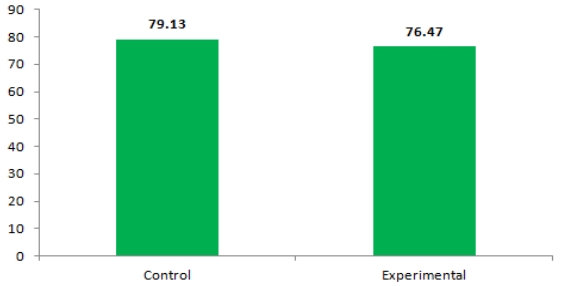

Figure 5: Comparison between Pre-tests of the Control and Experimental Groups

4.4.6 Comparison between quiz 1 scores of the control and experimental groups

Table 8 and figure 6 demonstrate a comparison between the quiz 1 scores of the students of control and experimental groups. They show that the average score of the quiz 1 of the control group (84.73/100) is greater than the average score of the experimental group quiz 1 (75.82/100). The difference between the quiz 1 scores of control and experimental groups is not significant (sig = 0.073 and Dif = --10.52%).

Table 8: Comparison between Quiz 1 Scores of Control and Experimental Groups

Means		% of difference	t value	Sig
Control	Experimental			
84.73	75.82	-10.52%	1.858	0.073

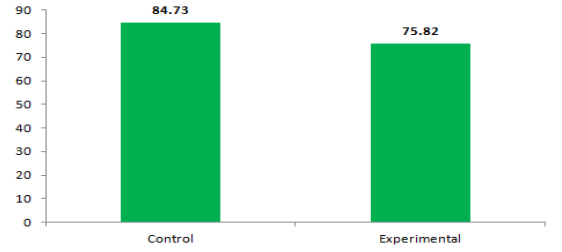

Figure 6: Comparison between Quiz 1 Scores of the Control and Experimental Groups

4.4.7 Comparison between quiz 2 scores of the control and experimental group. Table 9 and figure 7 show a comparison between the quiz 2 scores of the students of control and experimental groups. They indicate that the average score of the quiz 2 of the experimental group (89/100) is greater than the average score of the control group quiz 2 (79.93/100). The difference between the quiz 2 scores of control and experimental groups is significant (sig = 0.018 and Dif = 11.35%).

Table 9: Comparison between Quiz 2 Scores of Control and Experimental Groups

Means		% of difference	t value	Sig
Control	Experimental			
75.00	83.71	11.61%	2.589	0.015

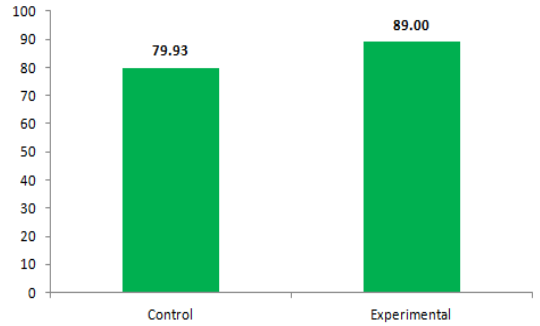

Figure 7: Comparison between Quiz 2 Scores of Control and Experimental Groups

4.4.8 Comparison between post-tests of control and experimental groups

Table 10 and figure 8 demonstrate a comparison between the post-test scores of the students of control and experimental groups. They show that the average score of the pretest of the experimental group (83.71/100) is greater than the average score of the control group pretest (75/100). The difference between the pretest scores of control and experimental groups is significant (sig = 0.015 and Dif = 11.61%). This significance difference in scores in the post-tests between both groups highlight on the impact of the intervention that is conducted on the experimental group, especially that pretests showed that the scores of both groups are convergent.

Table 10: Comparison between Post-Tests of Control and Experimental Groups

Means		% of difference	t value	Sig
Control	Experimental			
75.00	83.71	11.61%	2.589	**0.015**

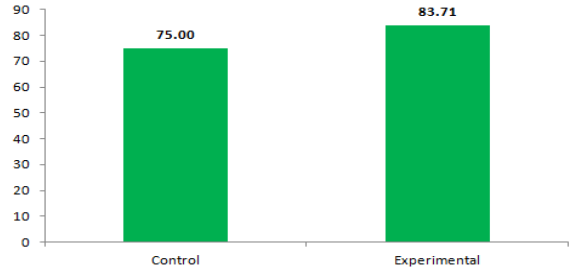

Figure 8: Comparison between Post-Test of Control and Experimental Groups

4.5 Results of the behavior

Table 11 shows the results observed by the researcher during the science period after five weeks of applying the social and emotional learning activities.

Table 11: Results of Observed Behavior of the Experimental Group- continued

Principles	Improved Academic	Improved Positive Social	Reduced Problem	Improved Learning
	Performance (Grades)	Behavior (social skills/ organization)	Behavior (Discipline)	Skills (Strategies)
Motivation				
Student 1	+	+	+	+
Student 2	+	+	-	+
Student 3	+	+	-	-
Student 4	+	+	+	+
Commitment				
Student 1	+	+	+	-
Student 2	+	+	-	+
Compliance				
Student 1	+	-	-	+
Student 2	+	+	+	+
Disruptive Behavior				
Student 1	+	+	+	+
Student 2	+	+	+	+
Student 3	+	+	+	+
Delinquency				
Student 1	+	+	+	+
Student 2	+	+	+	+

+: improved -: did not improve

These results show an improvement in the behavior of some of the disruptive students in the experimental group. A noticeable improvement in motivation, compliance, disruptive behavior and delinquency of these students was noticed which was reflected by their improved academic performance, improved social behavior, reduced problem behavior and improved learning skills. No change in behavior was noticed in the control group.

4.5 Results of the questionnaire

Figure 9 shows the professional role of the respondents, it indicates that 83.33% of the respondents are teachers, 6.67% of them are school-based department leader or curriculum coordinator, 3.33% of them are school principal, 3.33% are assistant principal, and 3,33% are not specified. Most of the respondents are teachers.

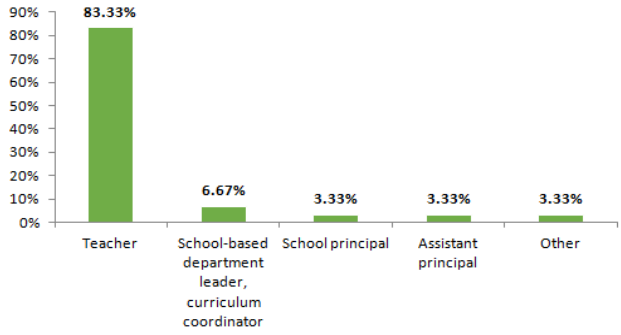

Figure 9: Professional Role of the Respondents

Table 12 demonstrates respondents' number of years working in the field of education. It points out that most of the respondents have 21 to 26 years of experience in the field of education; only one respondent has more than 30 years of experience while only one respondent has 1 to 2 years of experience in education field.

Table 12: Respondents' Number of Years Working in the Field of Education

	Frequency	Percent
1-2 years	1	3.33%
3-5 years	1	3.33%
6-10 years	5	16.67%
11- 15 years	5	16.67%
16-20 years	7	23.33%
21-26 years	8	26.67%
26-30 years	2	6.67%
More than 30 years	1	3.33%
Total	30	100.00%

Figure 10 displays the grade level that respondents teach or serve as a school administrator. It shows that 26.67% of the respondents teach or administer kindergarten grade, 16.67% of them teach or administer grades 3-5, 26.67% of them teach or administer grades 6-8, and 30% of them teach or administer grades 9-12. Hence, most of the respondents teach or administer grades 9-12.

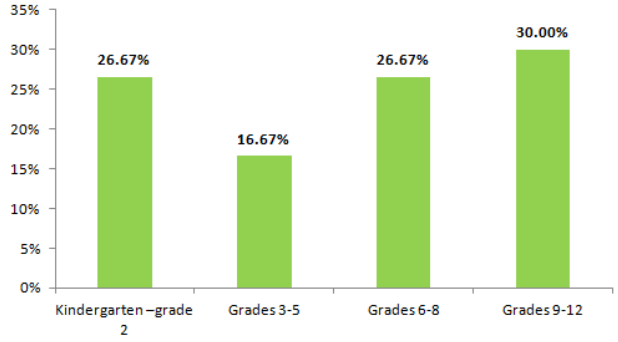

Figure 10: Grade Level that Respondents Teach or Serve as a School Administrator

Table 13 and figure 11 show familiarity of respondents with social emotional learning. Table 12 indicates that respondents tend to be familiar about social emotional learning; there was a low dispersion in the respondents' answers regarding familiarity with social and emotional learning. Figure 11 displays that 10% of the respondents are not familiar at all with social emotional learning, 26.67% of them are not familiar with social emotional learning, while 16.67% of them are very familiar with social emotional learning, and most of the respondents (46.67%) are familiar with social emotional learning.

Table 13: Familiarity of the Respondents with Social and Emotional Learning

Mean	Mode	SD	CV
3.60	4	1.10	30.60%

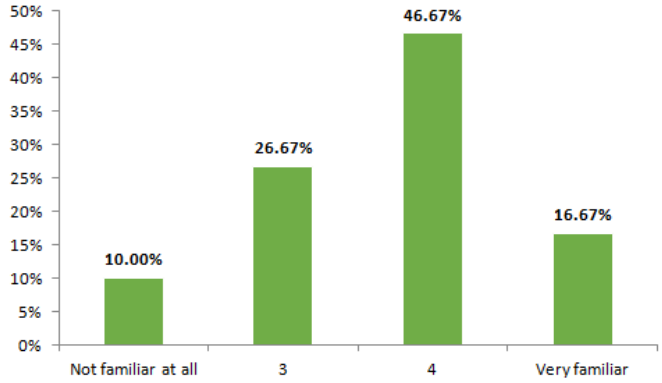

Figure 11: Familiarity of Respondents with Social Emotional Learning

Table 14 demonstrates respondents' evaluation about the importance of the suggested factors to students' achievements. It indicates that respondents consider that school safety, social and emotional learning, parental support and engagement, teaching quality, and student engagement and motivation as very important factors to students' achievements. Whereas they consider family background and school discipline policies as important factors to students' achievements. The respondents believe that teaching quality is the most important factor to students' achievements (highest mean = 4.83).

Table 14: Respondents' Evaluation about the Importance of the Suggested Factors to Students' Achievements

	Mean	Mode	SD	CV	Mean %
School safety	4.73	5	0.74	15.63%	4.73
Social and emotional learning	4.63	5	0.61	13.27%	4.63
Parental support and engagement	4.73	5	0.58	12.32%	4.73
Family background	4.13	4	0.94	22.67%	4.13
Teaching quality	4.83	5	0.46	9.54%	4.83
School discipline policies	4.33	5	0.80	18.51%	4.33
Student engagement and motivation	4.80	5	0.41	8.48%	4.80

Table 15 shows respondents' evaluation about the importance of the suggested aspects of social and emotional learning to be learnt by students, indicating that respondents think that responsible decision making, self-awareness, and self-management tend to be very important aspects of social and emotional learning to be learnt by students, while they think that relationship skills and ability to empathize with others are important aspects of social and emotional learning to be learnt by students.

Table 15: Respondents' Evaluation about the Importance of the Suggested Aspects of Social and Emotional Learning to be learnt by Students

	Mean	Mode	SD	CV	Mean %
Responsible decision making	4.73	5	0.52	11.00%	4.73
Relationship skills	4.33	4	0.66	15.25%	4.33
Self-awareness	4.67	5	0.55	11.71%	4.67
Ability to empathize with others	4.40	5	0.72	16.45%	4.40

Self-management	4.63	5	0.72	15.50%	4.63

Table 16 shows respondents' evaluation about the importance of the suggested qualities and skills to be possessed by teachers. It points out that respondents think that responsible decision making, self-management, and self-awareness are very important qualities and skills to be possessed by teachers, while they think that ability to empathize with others and relationship skills are important qualities and skills to be possessed by teachers.

Table 16: Respondents' Evaluation about the Importance of the Suggested Qualities and Skills to be possessed by Teachers

	Mean	Mode	SD	CV	Mean %
Responsible decision making	4.83	5	0.46	9.54%	4.83
Ability to empathize with others	4.57	5	0.57	12.44%	4.57
Self-management	4.83	5	0.53	10.98%	4.83
Self-awareness	4.70	5	0.60	12.68%	4.70
Relationship skills	4.57	5	0.57	12.44%	4.57

Table 17 shows the initiatives used by respondents' school to improve students' behavior. It illustrates that school wide behavioral-management programs are the most indicated initiative used by respondents' school to improve students' behavior, then targeted behavioral interventions are the second most indicated used initiative, while 5 respondents indicated that their school used restorative practices as initiative to improve students' behavior, and 4 of them indicated school security practices as used initiative. 5% of the respondents said that their school hasn't used any such programs or strategies or 3 of them don't know whether their school used any initiative to improve students' behavior. Respondents indicated that school wide behavioral-management programs are the most used initiative by respondents' school to improve students' behavior.

Table 17: Initiative Used by Respondents' School to Improve Students' Behavior

	Frequency	Percent
School wide behavioral-management programs	15	50.00%
Targeted behavioral interventions	11	36.70%
Restorative practices	5	16.70%
Not applicable, my school hasn't used any such programs or strategies	5	16.70%
School security practices	4	13.30%
I don't know	3	10.00%
Other	1	3.30%
Total	30	10.00%

Table 18 displays the respondents' description about the amount of attention given to the suggested factors at their current school, as compared with the development of academic skills and content knowledge. It shows that most of the respondents think that the school gives about the right attention to school climate (63.33%), students social and emotional learning (73.33%), parental support and engagement (53.33%), school safety (76.67%), school discipline policies (66.67%), students' engagement and motivation (73.33%), and teachers' well-being (70%) as compared to the development of academic skills and content knowledge. It seems that the school pays attention mostly to the "school safety" as it has scored the highest among other factors.

Table 18: Respondents' Description about the Amount of attention given to the Suggested factors at their Current School, as Compared with the Development of the Academic Skills and Content Knowledge

	Too much attention	About the right of attention	Too little attention
School climate	13.33%	63.33%	23.33%
Your students social and emotional learning	13.33%	73.33%	13.33%
Parental support and engagement	20.00%	53.33%	26.67%
School safety	13.33%	76.67%	10.00%
School discipline policies	3.33%	66.67%	30.00%
Students' engagement and motivation	16.67%	73.33%	10.00%
Teachers' well-being	20.00%	70.00%	10.00%

5. Discussion

Research Question 1: Does social and emotional learning affect the academic performance of students in grade 5?

According to the outcomes of the pre and post-tests**,** it is noticed that the scores of the control group students, who were not submitted to social emotional learning, have declined 5.22% with a significant difference between the pre-test and the post-test, their scores between the quiz 1 and the quiz 2 also have declined 5.67% with no significant difference. There was deterioration in control group's academic performance with no investigated reason, but knowing that they were not subject to any intervention that yielded to these results.

On the other hand, it is noticed that the scores of the experimental group students, who were submitted to social emotional learning, have improved 9.47% with a significant difference between the pre-test and the post-test and also improved 17.38% with a significant difference between the quiz 1 and the quiz 2. An intervention of SEL was made before quiz 2 and of course the post-test, which implies that this improvement is the result of the effect of SEL intervention on students' academic performance. The two groups of students, control and experimental, had the same level of knowledge and were homogenous at the beginning, as the average score of the pre-test of the control group was approximately similar to the average score of the experimental group pre-test, which is very important to the credibility of the test and study design as it is very important to have close means between control and experimental groups in the pre-test with insignificant difference. Moreover, this homogeneity gives more evidence and indication that SEL contributed in improving students' academic performance despite that the two groups possess the same level of knowledge, whereas one of these groups

showed improvements after the intervention while the other group showed a decline.

Comparing the scores of the two groups before and after the SEL intervention also confirms that SEL had a positive impact on students' academic performance. As the average score of the quiz 1 of the control group is insignificantly greater than the average score of the experimental group quiz 1, while the average score of the quiz 2 of the experimental group, after submitting them to SEL, is significantly greater than the average score of the control group quiz 2. Furthermore, the average score of the post-test of the experimental group is significantly greater than the average score of the control group post-test. This significance difference in scores in the post-tests between both groups reinforces the positive effect of the SEL intervention that is conducted on the experimental group.
By these means, analyzing the first hypothesis proves that the null hypothesis is rejected.

Hypothesis	Evaluation
H01: Social and emotional learning has no effect on the academic performance of students in grade 5.	Rejected
HA1: Social and emotional learning has a positive effect on the academic performance of students in grade 5	Accepted

Research Question 2: Does social and emotional learning affect the behavior of students in grade 5?

Through observation, the researcher, as a science teacher noticed an improvement in the behavior of the students in the experimental group, while no change in behavior was noticed in the control group.

Hypothesis	Evaluation
H02: Social and emotional learning has no effect on students' behavior in grade 5.	Rejected
HA2: Social and emotional learning has a positive effect on the behavior of students in grade 5.	Accepted

Research Question 3: Is there a need for social and emotional education in grade 5?

As the two previous hypotheses proved their certainty, i.e., social emotional learning proved to have a positive effect on students' academic performance and behavior in grade 5, then the need for social emotional learning is presented in the strive of schools to improve their students achievements and behaviors, and school's responsibility to provide children with safe, caring, and well-managed learning environments through social and emotional learning integrated into their educational programs.

The results of the survey that was conducted with teachers and administrators stressed on the importance of integrating social emotional learning in school's programs. Respondents considered that social and emotional learning (along with other factors) is a very important factor to students' achievements. Respondents highlighted on the importance of introducing different aspects of social emotional learning, as they think that responsible decision making, self-awareness, and self-management are very important aspects of social and emotional learning to be learnt by students, while they think that relationship skills and ability to empathize with others are important aspects of social and emotional learning to be learnt by students.

Respondents also indicated that school gives about the right attention to students' social and emotional learning (73.33%) as compared to the development of academic skills and content knowledge, which infers that school recognize the importance and need for social emotional learning in their programs.

By these means, analyzing the third hypothesis proves that the null hypothesis is rejected.

Hypothesis	Evaluation
H02: There is no need for social emotional learning in grade 5.	Rejected
HA2: There is a need for social emotional learning in grade 5.	Accepted

6. Limitations and Future Directions

This study investigated only the effect of SEL on students in Grade 5, which means that the results could differ for other grades, therefore the results could not be generalized.

The survey that was conducted included a small sample of 30 respondents, thus, generalizations of the results could not be made.

Another limitation is the time restraints as it contributed in the limited sample for the survey and the narrowing down of the experiment to only comprise students in grade 5.

This study showed the importance of social emotional learning in improving students' academic performance and behavior. These finding revealed the positive effect of social emotional learning in education.

Therefore, it is recommended to provide students with social and emotional learning (SEL) programs integrated into the school's educational programs in order to offer well-managed environments that would promote better academic performance.

Findings also showed that some schools do not use any such programs or strategies, and some respondents did not know whether their school used any initiative to improve students' behavior. Thus, there must be a clear plan and demonstration for educational and development programs communicated to teachers and administrators or school coordinators.

Results of the survey highlighted on the role of teachers to promote a successful social emotional learning and they stressed that there is need for teachers to possess qualities and skills including responsible decision making, self-management, and self-awareness. By these means, there should be an assessment for the teachers' qualities and skills to examine their eligibility to promote social emotional learning. The schools should carry on training programs for teachers in SEL application to be professionally developed

to implement SEL and seminars that highlight the importance of using SEL in educational programs.

And as teachers have an important role in promoting SEL to students, the school should support teachers to participate in developing a plan for SEL implementation.

The results of the survey also showed that parental support and engagement is an important component in SEL implementation, therefore, parents can learn more about their school's SEL initiative to promote their child's SEL, and to adopt practices that support SEL skills of their child at home. Moreover, schools should allow parents to participate in informational meetings at their children's school to get informed and learn more about SEL.

7. Conclusion

The results of the intervention of social emotional learning on students in grade 5 showed improvements in academic achievements and behavior of students' of experimental group. The certainty of Hypotheses 1 and 2 indicates that applying social emotional learning contributed in significantly increasing students' grades while the students who were not submitted to the experiment incurred a decline in their grades, hence, in their academic performance, while no change in the behavior of the control group was observed. The results showed that social emotional learning has a positive effect on students' academic performance and behavior.

This study showed that students, who are submitted to SEL, achieved 9.47% higher results with a significant difference compared to those who did not. They also improved 17.38% with a significant difference between the quiz 1 and the quiz 2 after implementing SEL. This study also confirms that applying social and emotional programs has a positive effect on the behavior of students, an improvement in behavior was noticed in the experimental group.

The certainty of the first and second hypotheses highlighted on the importance of using social emotional learning in education. Respondents of the survey confirmed that applying social emotional learning is essential in providing students' success and in affecting students' achievements, and they highlighted on the importance of having such programs infused in the educational programs of their school. This implies that there is a need to use social emotional learning in schools especially in grade 5.

The participants also confirmed that there are factors that contribute in the success of the effect of SEL on students, including the teachers' role and the school's endeavor. Teaching quality is cited as the most important factor to students' achievements. In addition, a significant number of participants indicated that school gives about the right attention to students' "social and emotional learning", as compared to the development of academic skills and content knowledge, which implies that SEL is regarded as an important mean to provide better achievements of their students. However, results indicated that the school gives the most attention to "school safety".

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