Criteria Decision Making Model For Evaluating The Effectiveness Of School Administration For Senior Students In Abu Dhabi Public Schools.

Abdulraheem Alhosani

Abstract: In the educational context the leadership is very important to enhance the schooling staff's performance and student achievement because the ways the leaders make effective decisions that enhance the students' progress, working conditions, and their influence on teacher knowledge and skills as well. However, to have such great educational features in the school society, the decision must be made effectively and scientifically. Therefore, an analytical system to create ranking orders is required to help leaders make their proper and effective decisions based on effective criteria presented by experts. At present, the AHP is identified with Saaty's AHP. It is a formal method to derive ranking orders from pairwise comparisons. Thus, researcher has focused on schooling staff criteria; principal and teacher practices, counselors, and their impact in the senior student achievement by evaluating and analyzing three educational zones in the Emirate of Abu Dhabi and found that different criteria have different values at the different schools impacting the students' achievement.

Key words: AHP, counselors, curriculum, decision, education, leadership, policy, practices, principal, regulation, school, students, teachers.

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ijser.editor@ijser.org

1. INTRODUCTION

Effective education leadership makes a difference in improving learning by making effective decisions. Decision making is one of the most important activities in which school administrators engage daily. Because decision making is so important and have significant effects on the operations of schools and students achievement, globally and particularly in United Arab Emirates (UAE) in order to the success of Abu Dhabi 2030 plan. Thus, it has been suggested that school administration is an important segment in school decision making (March, 2010) and problem solving.

The UAE leadership prepares nation's youth particularly for Abu Dhabi Plan 2030 and generally for the 21st century (Abu Dhabi Economic Vision 2030, 2008) that makes scholars and researchers to think about the impact of the education leadership decisions in the students' achievement, which is the main subject of this study. It is a part of the researcher's pilot study that will be conducted with principals, teachers, counselors, and administrators of Abu Dhabi, Al Ain, and Western Zone Schools. It may be extended to all seven emirates (states) in future time as the final researcher's dissertation. Ultimately, for this purpose, a questionnaire has been conducted to gather data from different education leaders including the counselors about the criteria that impact the senior students.

In this research study, senior students are defined as students whose study in the final year of high school. Whereas, education leaders are defined as upper levels of school organizational hierarchy and have authority including decision-making, over the subordinate levels. Moreover, education leadership is considered as those positions ranged from the school principals, teachers, and counselors, (Hodgkinson, 1991) and have impacts on solving students learning problems. Such criteria have been studied and the proposed model was designed based on the previous literatures. The proposed model with five educational criteria requires of using an analytical tool such as AHP to evaluate and analyze the educational leadership gaps and defect areas that impact students achievement in educational environments.

In an educational context, different styles of leadership can be successful and be recognized in individuals who may not hold formal leadership positions (Louis, &, Dretzke, & Wahlstrom, 2010) but he/she may make an effective decision. (Louis et al., 2010) have analyzed that decisions of schools leaders have an impact on student achievement basically through their influence on teacher motivation, working conditions, and their influence on teacher knowledge and skills. Moreover, some studies focus on analyzing principals' ability that motivates teachers' behaviors rather than analyzing the principal's direct support to teachers (Halverson, Grigg, Prichett, & Thomas, 2007).

By using the AHP for evaluating and analyzing the education leadership practices that to select the best schooling area in the Emirate of Abu Dhabi that impact the student achievement based on the questionnaire that filled out by the experts and their judgments from three different zones in the Emirate of Abu Dhabi; Schools in Abu Dhabi City, Al Ain Schools, and Western Zone Schools. The values have been used in the process of pairwise comparisons as nine point scale (Table 4) suggested by (Saaty, 1980). Based on the analysis section, Abu Dhabi Zone has preferable

value that impacts student achievement positively. The results are included in the analysis section of this research study and information of this paper is divided into six sections.

The first section, introduction, describes the overall phenomenon of education leadership and the measurement tool is used to evaluate and analyze the results. The second section, literature review, will highlight five criteria based on the previous studies conducted about the education leadership and student achievement. The third section of this study focuses on the research methodology, the proposed model, and the way the data have been collected. The fourth section emphasizes on the analysis that includes the evaluation, analysis, and the results of three educational zones, including the ranking order for each zone. Conclusion is the fifth section that finalizes this research paper followed by the final reference section.

1.1 Statement of Problem

Youth, students, in the high schools should have a unique situation with regard to the teaching and learning strategies (Arrington, 2014), curriculum objectives, the quality of teachers, the standards of teaching, and the way the educational decisions are made in order to have high standards in education, to build the consistent national economy, to enhance the standard of living, and to improve the UAE-global relationship. It is important to define the curriculum as the cumulative tradition of organized knowledge and the body of subjects decided by staffing school and set out by teachers for students to cover the requirements (Tanner & Tanner, 1980). (Marzano, 2005) stated that the sufficient knowledge of the curriculum to know that appropriate content is being delivered to all students, is crucial.

As the researcher investigated about the senior students' achievement, realized that in some cases senior students have to do several tests for different subjects in one day. This is due to several situations: 1) the goals and objectives of the subject are unexpectedly long and teachers strive to complete the requirements during the given period. 2) The absence of the teacher causes the accumulation of the uncovered part that to be combined and presented among the other subjects when the teacher is present. 3) The curriculum content is designed in order to prepare students for the next grade and next stage of education (the university). However, all reasons are based on the way school policies and regulations are organized, the way the curriculum is designed, and how the decision for several tests in one day have been made. Consequently, students suffer from the lack and poor in terms of knowledge and are not prepared for the final exam. Therefore, many students have been strongly trying to find a private qualified teacher to assist them to improve their skills, enhance their knowledge, and qualify them to get the remarkable achievement in the Final Ministry of Education Nation-Wide Test, (FMENWT) in order to qualify undergraduate students to have admission in the top accredited national or international universities.

This paper will be organized to be composed of the following sections: the Literature Review as in section 2, Research Methodology will be organized in Section 3. In section 4 the analysis will be conducted. Finally, in section 5 the conclusion, in which the researcher's opinion and the directions of future research will be discussed.

1.2 Research Objectives

The purpose of this study is to examine the impact of education leadership decisions on senior student achievement in the Emirate of Abu Dhabi schools during 2012-2014. The following research objectives were addressed:

I. To identify the most effective criteria that significantly impacts the students' achievement.
II. To evaluate the effectiveness of school administration in student achievement.
III. To establish the most effective model uses criteria that measure what is important to enhance students' achievement.

To achieve these objectives a survey will be conducted with a small sample of schooling staff. Human beings represent their lives in the form of narrative (Bruner, 1998). By analyzing the views of the survey, the research can make sense of how the education leadership impacts the students' achievement.

1.3 Significant of Research

The main significance of this study lies in the fact that no existing studies have been conducted to explore the impact of education leadership on student achievement in UAE general and particularly in Abu Dhabi. This study will also explore the opportunity to identify the impact of education leadership on senior students in the Emirate of Abu Dhabi schools during 2012-2014. This study is also meaningful in terms of understanding how education leadership perceives their influences on teaching practices and student achievement. So, it will better enhance their leadership practice in a cycle of schooling continuous improvement.

2. LITERATURE REVIEW

The focus of this literature review is primarily on the impact of education leadership's decisions on students' achievement. This literature review will start by searching and reviewing the recent issues, the lecture notes, the text books (Satty, 2012), and the aspect of school leadership related to student achievement.

This study will research, analyze, evaluate, and summarize the current of gathered data in the field (several schools under umbrella of ADEC) utilizing the Analytic AHP that can best be appreciated to organize knowledge for decisions (Satty, 2012). This study mainly depends on the studies have previously been conducted by researchers and data gathered from three educational zones in the Emirate of Abu Dhabi for achievement of students during 2012 - 2014. Staying truth to the concept of this paper, which is about the school leadership's decision making, the intent of this literature review is to identify inconsistencies, gaps, and contradictions in the literatures.

2.1 Principal's Practice

(Hallinger and Heck, 2002) stated that the principals' exercise is a measurable factor that has relatively small and indirect impact on school effectiveness and student achievement, and that this effect is significant. However, (Lambert, 2003) identified that the roles of principals involved to serve as coaches, providing support, encouraging teachers toward active participation in decision making, and sharing responsibility for vision development and goal setting with staff members. Schools where the leadership capacity of principals is strong are considered to be in the high leadership decision making level.

Some of leadership's decisions that are taken without the input and influence of others and they are solely responsible for the decisions made, but rather that they take a principal role in making decisions toward schooling learning and teaching policies (Michael, 2005).

The impact of school leadership on student achievement has been the topic of many researchers that to identify the effect of the principal on student achievement (Marzano & Waters & McNulty, 2005). This debate has been conducted to identify if particular characteristics of principals that have a direct effect on student achievement and to create a profile of such education leaders whose leadership positively affects student achievement.

Moreover, several meta-analysis studies about the indirect impact of principals involving several countries have been conducted by (Witziers, Boskar, and Krager, 2003). Additional studies have been initiated by (Hallinger and Heck, 2002), suggested further investigation of the indirect effects of principal leadership on student achievement and (Witziers, Boskar, and Kruger, 2003) suggest that principals produce only an indirect effect on school effectiveness and student achievement.

2.2 Teacher Practices and Educational Environment

(Elmore & Fuhrman, 2001) stated that to determine the factors that enhance student achievement, attention is paid towards the role of the teachers, with focus directed on how teachers teach and on the expectations that teachers maintain for student learning. Exploring the preparation paths of teachers, as well as the qualities, effective teachers display in their work with students provide insight of the role that teachers play in enhancing student achievement (Jane, 2009).

(Fullan, 2001) stated that educational environment as a mechanism and dynamic for the exercise of teacher leadership. Supportive interaction among teachers in school-wide educational environment enable them to assume various roles with one another as mentor, mentee, coach, specialist, advisor, and facilitator. However, teacher practice is more than just learning support; it also includes shared values, a common focus on student learning, collaboration in the development of curriculum and instruction, and the purposeful sharing of practices (Jane, 2009) to enhance the school output and to improve students' achievement.

(Chrisman, 2005) stated that, improved student achievement seems to be the product of how well a school operates and depends on the school staffing relationship with students, quality of leadership, quality of teacher, discussing educational objectives with teachers, and the effectiveness of instructional programs and practices. (Marzano, 2007) recommends that relationships exist between the qualifications of a teacher and students achievement in the classrooms.

In commence of "the 20th century", (Dewey, 2010) defined the classroom is a place where the students, teachers, and principals meet in an interest, so each has to refer his own action to that of others, and to consider the action of others to give point and direction to his own. (Pryor, 2004) suggested that teachers consider liberty as a focus for their classrooms. This liberty in the classroom reveals itself as more self-directed activities and student decision making that considers the benefit of the whole society of the classroom, as well as themselves (Arrington, 2014).

This type of classroom provides a positive teaching-learning relationship environment where students can simultaneously create, defend, argue, take risks, make mistakes, and express views as an individual while still being respectful, cognizant, concerned, and contributive of the community of which they are part and that create an equality of opportunity in every situation (Anonymous, 2007; Kesici, 2008). Teachers aside with the schooling staff, in such classrooms work to build structures that simultaneously support individual student rights, protection, community, collaboration, cooperation in order to enhance students' achievement.

2.3 Counselor's Practice

Although, studies shown that the school counselors have indirect impacts on student achievement, they have been assigned inappropriate tasks that keep them not to be involved in the central of goals and objectives of the school and curriculum (Dewey, 2010) and in the way the students schedule is prepared. As a result, principals may not recognize the unique skills set of the counselor and often believe that the school counselor should do whatever administrative tasks are needed, such as managing schedules and coordinating standardized tests (Arrington, 2014). (Spillane, Hallett, & Diamond, 2003) counselor's tasks and responsibilities should be shared and collaborated with other school leaders and parents and guardians as well.

School counselors are responsible to involve parents and guardians "from multiple cultural groups as active collaborators in school decision making" (Lindsey & Roberts & Campbell-Jones, 2005). This entails proactively pursuing relationships and partnerships with parents and guardians (Amatea & West-Olatunji, 2007; Bryan & Henry, 2008; Davis & Lambie, 2005; Holcomb-McCoy, 2007) and inviting them to become a part of the school community (Erford, 2007).

School counselors can help construct these collaborative partnerships and relationship by increasing their visibility inside and outside of the school building and being active in the school's community (Vera, Buhin, & Shin, 2006) as well as being accessible and having a flexible schedule for part time, phone calls, and meetings classmates (Davis, 2005; McAuliffe, Grothaus, Pare, & Wininger, 2008). In addition, a counselor is to be as helpful mediator (Holcomb-McCoy, 2007), and can also coordinate educational programs to provide parents and families with new resources and ideas for raising the success and student achievement.

As families are invited and involved, the school gains from their talents and expertise as well as helping to meet the families' needs. Families are likely to feel valued and to appreciate the school's efforts to build relationships with them (Senge, 2006). As parents feel welcomed into the school, they may be more likely to make the decision to become involved in their child's education (Marzano, 2007).

2.4 Curriculum

Educational environment is more than just support; it also includes shared values, a common focus on student learning, collaboration in the development of curriculum and instruction, and the purposeful sharing of practices (Hightower, et. Al., 2002). Researchers such as (Elmore, & Fuhrman, 2001) and (Coutinho, Nartowicz, and Penabad, 2006) reported that the pressure that is associated with test has resulted in negative consequences, such as activities.

(Cawelti, 1999) identified that the focused delivery of curriculum designed to address the needs of students is one of the several teacher actions that contribute to students' performance and achievement. This includes frequent assessment and the establishment of learning goals (Marzano, 2007) in order to have high educational standards.

If schools are to establish effectively high educational standard values, to promote continuity and coherence (connectivity to next grade and next stage), and fulfill the educational requirements locally and globally, they have to work and engage with families and the local community, voluntary groups, local agencies and business, in order to achieve the high educational standard and provide an essential context within which schools develop their own curriculum (National Curriculum, Handbook for secondary teachers in England).

2.5 Policies and Regulations

Educational policy discussions in the United States of America (USA) suggest that there is a huge amount of support for expanding the educational policy, by which teachers' participate in leadership and decision-making tasks (Senge, 2006). The researchers suggest that increased teacher influence in schools has the potential for significant positive effects on school policy and culture improvement and students achievements as well (Erford, 2007).

(Marzano, 2003) stated that schooling policy may do anything to show interest in students whose have a positive impact on their learning including greeting students and meeting with parents outside the schools, such as at outdoor activities and extra-curricular events meeting teachers out with students in the lunchroom and commenting on important events in students' lives, such as participation in sports, drama, behavioral activities, or other after school activities.

Students' expectations of appropriate behavior are phenomena that personally and culturally influenced and conflicts are likely to occur when the school policy for students and schooling staff is nebulous and teachers and students come from different cultural backgrounds (Weinstein, Tomlinson-Clarke, and Curran, 2004). Misreading communication patterns of culturally diverse students can lead teachers who are unprepared to meet the educational needs of these students to see them as having a need to special education (Voltz, Brazil and Scott, 2003).

There is still much to be learned about how leaders can successfully meet the educational needs of diverse students, populations with regard to the policies and regulations (Marzano, 2007). In addition, a very large

proportion of educational policy research concerning, such as admission policy, disciplines, class size, forms of admission and exam instruction, school dress, student grouping practices, family involvement, discipline and punctuality, class and lectures attendance, and school size have been conducted using evidence about and from such students. According to (Levin, 2000), policy contexts change substantially over time but tend to be the same for many leaders at the same time.

(Grothaus, & Cole, 2000), confirm that family involvement in children's education enhances the students' success with higher achievement, increased rates of attendance, better homework completion, more course credits accumulated, and an increased likelihood of high school graduation and college attendance (Bryan, 2005; Bryan & Henry, 2008; Day-Vines & Terriquez, 2008; Epstein, 2005; Epstein & Sheldon, 2006; Epstein, Sanders, & Sheldon, 2007; Erford, 2007; Holcomb-McCoy, 2007). On the one hand, with regards to parent's participation, schools provide valuable information about the educational environment, curriculum contents, and best practices for maintaining and continuing a child's education at home (Holcomb-McCoy, 2007).

Table 1. Criteria, sub-criteria and references

Main Criteria	Sub-Criteria	References
Principal's Practice	I. Model II. Values III. Trust IV. Ethics	(Hallinger, & Heck, 2002), (Lambert, 2003), (Michael, 2005), (Marzano & Waters & McNulty, 2005), and (Witziers, Boskar, and Krager, 2003)
Teachers' Practices	I. Behavior II. Class management III. Quality of Teachers	(Elmore & Fuhrman, 2001), (Jane, 2009), (Fullan, 2001), (Chrisman, 2005), (Marzano, 2007), (Dewey, 2010), (Pryor, 2004), (Arrington, 2014), and (Anonymous, 2007; Kesici, 2008).
Counselor's Practices	I. Attend parent / Teacher Meeting II. Consult in Development of Students Schedule	(Dewey, 2010), (Arrington, 2014), (Spillane, Hallett, & Diamond, 2003), (Lindsey & Roberts & Campbell-Jones, 2005), (Amatea & West-Olatunji, 2007), (Bryan & Henry, 2008), (Davis & Lambie, 2005), and (Holcomb-McCoy, 2007)
Curriculum	I. Extra Curricula Activities II. Connection Across Stages III. Connection Across School Grades IV. Meet the Needs of Local and Global Requirements	(Hightower, et. Al., 2002), (Elmore, & Fuhrman, 2001), (Coutinho, Nartowicz, and Penabad, 2006), (Cawelti, 1999), (Marzano, 2007), and (National Curriculum, Handbook for secondary teachers in England)
Policies and Regulations	I. Meeting with Teachers II. Exam III. Admission IV. Disciplines & Trust V. Meeting with Parents	(Senge, 2006), (Erford, 2007), (Marzano, 2003), (Weinstein, Tomlinson-Clarke, and Curran, 2004), (Voltz, Brazil and Scott, 2003), (Marzano, 2007), (Grothaus, & Cole, 2000).

3. RESEARCH METHODOLOGY

The researcher's initial task was to define the problem, to determine the objectives and kind of knowledge required. Then, he has established criteria and sub-criteria for the research process associated with the literature review (Torraco, 2005) with alternatives. This process was recommended based on the qualitative and qualitative approach to be used in this paper. Then, the model (Fig 2) has been designed based on the historical data gathered from the previous researches within the same field.

Then, the researcher has synthesized the priorities across all criteria and sub-criteria in order to determine the priorities. The AHP adopts an additive aggregation with normalization of the sum of the priorities. In this case the judgements may be inconsistent, and the researcher has measured inconsistency and improved the judgements to obtain better consistency and to

develop the overall priority ranking as a main concern of the AHP.

Consequently, based on the AHP method applied (Fig 1) and the data gathered, the researcher figured out that the use of the quantitative and qualitative approaches (Tashakkori & Teddlie, 2003) is the best option but this will require a theory of measurement through procedures starting from entering data and forming pairwise comparisons that rely on the judgements of experts to derive priority scales for all criteria and sub criteria.

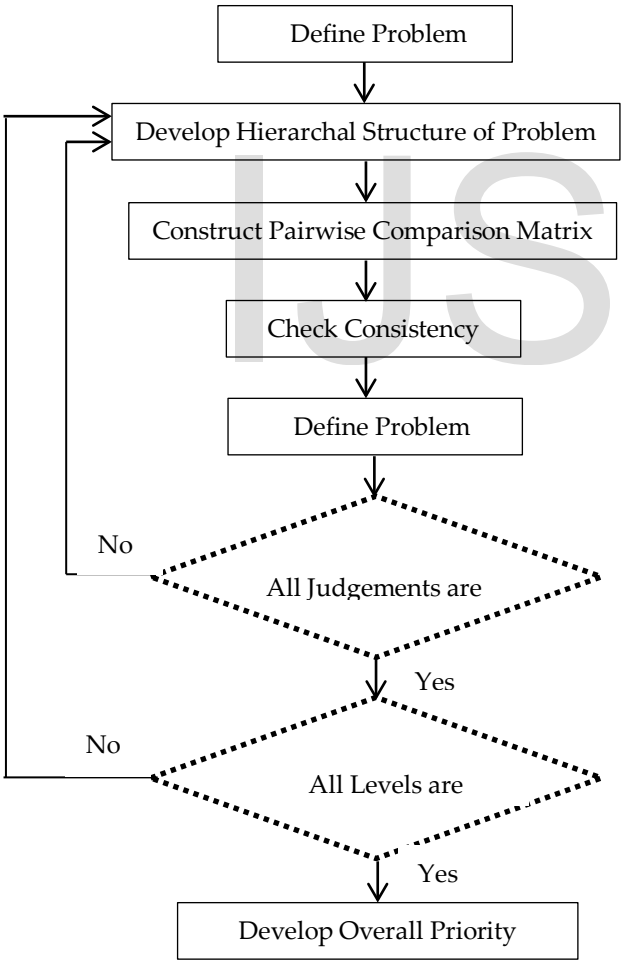

Fig 1. The Process of AHP method applied

3.1 Measurement Tool

Thus, it is important to have a measurement tool which enables researcher to measure a multi-criteria decision making method as AHP. It is basically involves three major functions: structuring complexity, measuring on a ratio scale, and synthesis (Forman & Gass, 2001) and checking the consistency. Concerning complexity, (Saaty, 2001) found that human beings solved complicated problems by putting them into hierarchy structures that classify complex systems into several hierarchical levels and then simplify elements of each level into clusters with respect to the element. The second function, measuring on a ratio scale, (Saaty, 2001) states that it is used to get ratio scales from both discrete and continuous paired comparisons in multilevel hierarchy structures. About the third function, synthesis, (Saaty, 1994a) explained that people need a way to synthesize over many dimensions because complex and crucial decision situations often involve too many dimensions for humans to synthesize intuitively.

AHP uses a ratio scale, which, contrary to methods using interval scales (Kainulainen, Leskinen, Korhonen, Haara, & Hujala, 2009), requires no units in the comparisons, which are recorded in a positive reciprocal matrix (Tables 6 to 24). One of AHP's strengths is the possibility to evaluate quantitative as well as qualitative criteria and alternatives on the same preference scale (Ishizaka & Labib, 2011) that is the research method used in this study. The calculation of mean or geometric mean can be easily calculated by hand and has been supported by a large segment of the AHP community (Aguarón & Moreno-Jiménez, 2000, 2003; Leskinen & Kangas, 2005).

3.2 Significance of AHP

(Triantaphyllou & Stuart, 1995) stated that the AHP and its use of pairwise comparisons has inspired the creation of many other decision making methods. Besides its wide acceptance, it also created some considerable criticism; both for theoretical and for practical reasons. Moreover, the

AHP has been inspired by several previous discoveries. AHP has been widely used in several contexts: for instance in banks (Haghighi, Divandari, & Keimasi, 2010; Seçme, Bayrakdaroglu, & Kahraman, 2009), manufacturing systems (Iç & Yurdakul, 2009; T.-S. Li & Huang, 2009; Yang, Chuang, & Huang, 2009), operators evaluation (Sen & ÇInar, 2010), drugs selection (Vidal, Sahin, Martelli, Berhoune, & Bonan, 2010), business site selection (Önüt, Efendigil, & Soner Kara, 2009), software evaluation (Cebeci, 2009; Chang, Wu, & Lin, 2009), evaluation of website performance (Liu & Chen, 2009). The aim of using the AHP is to find a set of priorities (p1, p2, p3,…,Pn) that to match the comparisons in a consistent matrix.

3.3 Measurement Procedures

Thus, the decision hierarchy matrix from the top with the goal (criteria decision making model for evaluating the effectiveness of school administration for senior students in Abu Dhabi public schools) of the decision has been structured, the objectives from a broad perspective, through the intermediate levels with five criteria and 18 sub-criteria (Figure 2) to the lowest level as three alternatives have been constructed. All pairs of elements in the matrix were compared with respect to the higher level of criterion. The matrix involves one position to enter the number from expert' judgement and its reciprocal, as well, have to be entered in another position of the matrix. One was entered in its appropriate position and automatically its reciprocal was entered in the transpose position (Tables 6 to 23). Then, a set of pairwise comparison matrices has been designed based on the nine point scale (Table 4) and each element in an upper level was used to compare the elements in the level immediately below it. The priority vector has been calculated. This step has been made as following: a) the sum of entries has been calculated. b) Then, each entry was divided by the sum of the same column. c) The Priority vector was calculated by taking the average of each row as in the previous step (b). d) Each priority vector has been multiplied by entry that was provided by the experts and the sum of each raw was found out. e) Then, for each element in the level below, researcher has added its weighed values and obtained its overall priority. This process continued the weighing and adding until the final priorities of the alternatives in the last bottom level have been obtained. f) Lambda (λmax) was calculated by taking the average of final priorities.

Briefly say that, in the AHP the pairwise comparisons in a judgment matrix are considered to be adequately consistent if the corresponding consistency ratio (CR) is equal or less than 0.10 (Satty, 2012). The CR coefficient is calculated as follows: First the consistency index (CI) needs to be estimated. This is done by adding the columns in the judgment matrix and multiply the resulting vector by the vector of priorities obtained earlier. This yields an approximation of the maximum eigenvalue, denoted by 8max. Then, the CI value was calculated by using the formula: CI = (λmax - n)/(n - 1). Next the consistency ratio CR was obtained by dividing the CI value by the Random Consistency index (RCI) as given in Table 2. If the CR value is greater than 0.10, then it is a good idea to study the problem further and re-evaluate the pairwise comparisons.

3.4 Model

The model (Fig 2) has been created based on the literature review data gathered from the previous researchers. It is to determine the impact of education leadership in the senior students' achievement in Emirate of Abu Dhabi; Abu Dhabi Schools, Al Ain Schools, and Western Area Schools. The model includes 18 pair-wise comparison that described as five main criteria and eighteen sub-criteria; Principal Practices with 4 sub-criteria, the second criterion as Teacher Practices with 3 sub-criteria, the third criterion, Counselor Practices with 2 sub-criteria, Curriculum with 4 criterion as fourth one, and finally, Policies and Regulations is as the fifth criterion with 5 sub-criteria. There are 5 pairwise comparison matrices related to the main criteria

with respect to the main goal which is shown in Tables 6, 12, and 18.

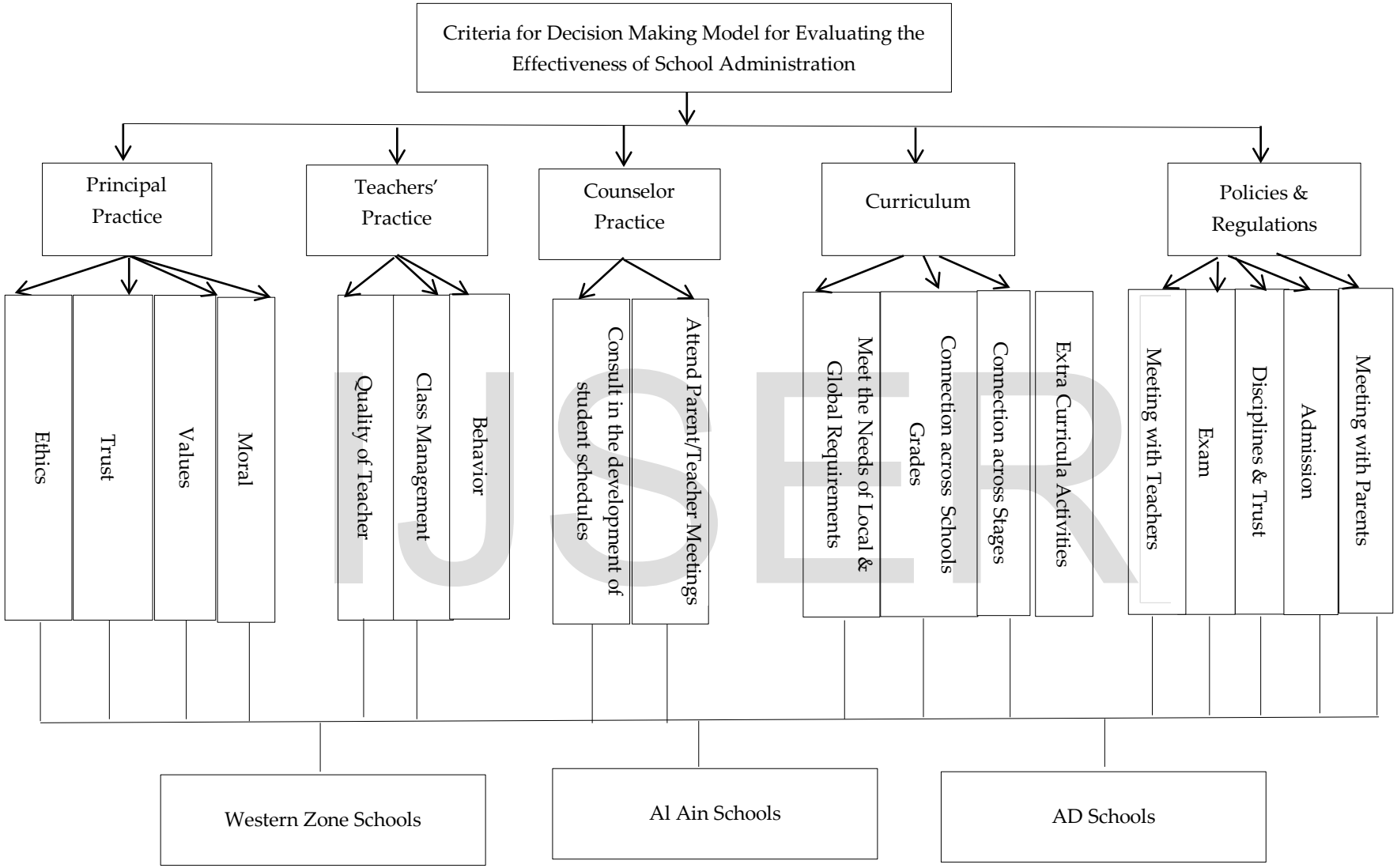

Fig 2. The Criteria for Decision Making Model for Evaluating the Effectiveness of School Administration for Senior Students Achievements in Abu Dhabi Public Schools

3.5 Data Collection

This research utilized a questionnaire to gather primary data for analysis. The questionnaire was distributed to seven individual principals and eleven individual teachers and one counselor by the phone calls and their personal emails. Some of them have mentioned that the email is not an essential. It was planned to send the questionnaire through on line survey which is quick and also suites the case background and the author's objectives but the researcher wasn't confident of the process due to the experts' background utilizing such process electronically.

The author has prepared the questionnaire with regard to the selected criteria and sub-criteria. The questionnaire was prepared in English language. The responses have been arranged by phone calls from experienced principals, beginners and experienced teachers. Table 3 illustrates the number of schools, experts, and the number of pair-wise comparisons. The responses were experience and beginners; principals, teachers, and the counselor from three schools in Abu Dhabi City, two schools from Al Ain City, and one School from Western Area.

The schools were coded in English alphabetic that depends on the area and schools in which the questionnaires were conducted with teachers in six schools in the Emirate of Abu Dhabi. In Abu Dhabi city three schools: School A (two beginner teachers and two experienced principal for main criteria and sub-criteria); School B (two experienced teachers and one experienced principal for the main criteria and sub-criteria); School C (one beginner principal and two experienced teachers). In Al Ain city, two schools have been conducted; School D (one for the impact of education leadership in student achievement with the main criteria from one principal and the other one from experienced teacher); School E (one questionnaire for two experienced teachers and one for one experienced principal). In the Western Area; only one school has been conducted as School F and the questionnaire has been sent to one experienced principal and two experienced teachers, and one counselor).

The questionnaires have been conducted and returned to the researcher during only 4 days and the condition was to avoid mentioning neither the name of the participants nor the names of the schools. The researcher has met some of the principals and teachers in Abu Dhabi in the arranged venues and later on the survey has been filled up through the telephone calls from other zones. In addition, care was taken not to disrupt them during the working hours and classroom teaching time.

Table 3,

Schools and Priorities in different Areas.

Area / Alternatives	School Code	Occupation	No of Experts	No of Priorities
Abu Dhabi City	A	Teachers	2	14
		Principals	2	
	B	Teachers	2	9
		Principals	1	
	C	principals	1	7
		Teachers	2	
Al Ain	D	Principals	1	11
		Teachers	1	
	E	Teachers	2	5
		Principals	1	
Western Area	F	Teachers	2	20
		Principals	1	
		Counselors	1	
Overall Priority				5
Total	6		19	71

1. ANALYSIS

As Figure 1 depicts the process and the hierarchy of the AHP method applied for evaluating the education leadership practices. It shows that, the first step of the study is to identify the problem. The purpose of this paper is to identify, prioritize and to select the best schooling area in the Emirate of Abu Dhabi that impact the student achievement based on the experience and judgment of the experts whose work in the education field and particularly within the ADEC zone. Thus, the multi-criteria attributes are organized in a hierarchical with the highest level as the main goal (criteria decision making model for evaluating the effectiveness of school administration for senior students in Abu Dhabi public schools).

After designing the hierarchy, the data have been collected from three different zones in the Emirate of Abu Dhabi; Schools in Abu Dhabi City, Al Ain Schools, and Western Area Schools. The values have been used in the process of pairwise comparisons that were gathered from the nine point scale (Table 4) as initially was suggested by (Saaty, 1980). (Harker & Vargas, 1987) compared Saaty's 1 to 9 scales with other proposed scales and considered it to be more appropriate than others.

A questionnaire with the evaluation hierarchy framework was submitted to a related expert group. There are total of 19 educational experts from school principals, teachers, and counselors from different schools have been conducted to reply the questionnaire. There are five dimensions (criteria); Principal Practice, Teachers' Practices, Counselor Practices, Policies and Regulations, and Curriculum. The number of sub-criteria for each dimension varies between three to five elements that constructed a total of eighteen sub-criteria and three alternatives from different areas of the Emirate of Abu Dhabi (See figure 2). The AHP has been utilized to evaluate and analyze the data as the followings:

Table 5, Abu Dhabi City, School A, Pairwise comparison matrix of the main criteria with respect to the main goal.

Table 5 illustrates five pair-wise comparisons. Principal Practice is considered as the most important by the respondents with a priority weight of 42% followed by the Counselor Practices which had a competitive priority of 26%. Teacher Practices, Curriculum, and the Policy and Regulations with the weight values of %19 and 9%, and 3% are placed at the third, fourth, and fifth priority within the main goal (criteria decision making model for evaluating the effectiveness of school administration for senior students in Abu Dhabi public schools) respectively.

Table 4.

The fundamental AHP 9 point Scale for Pairwise Comparison (Satty, 2012).

1	Equal Importance	Equal importance Two activities contribute equally to the objective.
3	Moderate Importance	Moderate importance Experience and judgement moderately favor one activity over another of one over another.
5	Strong Importance	Essential or strong importance. Experience and judgment strongly favor one activity over another.
7	Very Strong or demonstrated importance	Very strong importance. An activity is strongly favored and its dominance demonstrated in practice.
9	Extreme importance	Extreme importance. The evidence favoring one activity over another is of the highest possible order of affirmation.
2, 4, 6, 8	For compromise between the above value	Sometimes one needs to interpolate a compromise judgement numerically because there is no good word to describe it.
	Reciprocals of above nonzero	If activity i has one of the above nonzero numbers assigned to it when compared with activity j, then j has the reciprocal value when compared with i.

Table 5. Main Criteria

	Principal Practice	Teacher Practice	Counselor Practice	Curriculum	Policy And Regulations	Priorities
Principal Practice	1.00	5.00	2.00	3.00	7.00	0.42
Teacher Practice	0.20	1.00	1.00	3.00	7.00	0.19
Counselor Practice	1.00	0.33	1.00	5.00	7.00	0.26
Curriculum	0.20	0.14	0.14	1.00	7.00	0.09
Policy And Regulations	0.14	0.14	0.14	0.14	1.00	0.03

CR = 0.09 < 0.10 (ACCEPTABLE)

It is imperative to mention that the experts' responses in Table 5 fulfill the acceptable Consistency Ratio (CR) requirement that less than 1% (CR=0.09 < 1%) utilizing (λmax) as

formulated in (Section 3.3). Each generated PC was tested against the acceptability criterion of CR ≤ 0.10. The percentage of the acceptable priority was found for each scale.

In Table 5, for instance, the (λmax) was calculated as {[λmax = (5.70 + 5.43 + 5.37 + 5.04) / 4 = 5.38)]. g) Then, the equation [CI = (λmax/n) / (n -1), (5.38-5) / (4) = 0.09)], has been employed to calculate the Consistency Index (CI). Finally, the Consistency Ratio (CR) was calculated using the (λ_{max}) and Random Consistency (Table 2) (Satty, 2012,. P. 83), (CR = CI/RI) substituted where RI = .1.11 for 5 factors (CR= CI/1.11) = 0.09. This step has been conducted to evaluate the CR of the judgements for the entire hierarchy that should not exceed 0.10. (Satty, 2012).

Table 6 illustrates principal four sub-criteria, of which the ethics has the highest weight of 57% that is considered as the most important element significantly impacts the students' achievement in term of the criterion, principal practices, while the sub-criterion, moral, has the lowest priority value with only 5% impacts the student achievement. It would be very tempting to say that the difference between the two above mentioned weight is 52% (i.e. 57% minus 5%) and that the figure for the ethics is therefore 52% greater than that for the moral. Trust has the second weight value of 24% and the sub-criterion, Values with the value of 13%.

Table 6, Abu Dhabi City, School A Pairwise comparison matrix of the sub-criteria with respect to the Principal Practices.

Table 6. Principal Practices

	Ethics	Trust	Values	Moral	Priorities
Ethics	1.00	7.00	6.00	6.00	0.57
Trust	0.14	1.00	6.00	6.00	0.24
Values	0.16	0.16	1.00	6.00	0.13
Moral	0.16	0.16	0.16	1.00	0.05
					CR= 0.07 < 0.10 (ACCEPTABLE)

Table 7 illustrates three pair wise comparisons within the Teacher Practices. Quality of teacher is the main concern that has an impact of 12% on student's achievement in term of teacher practice. On the other hand, the behavior has the highest value that significantly impacts the student achievement. Table 7, shows the CR of this PC is equal to 0.07, which is below the threshold of 0.1, therefore the matrix is acceptable PC.

Table 7, Abu Dhabi City, School A Pairwise comparison matrix of the sub-criteria with respect to the Teacher Practice.

Table 8 illustrates only two sub-criteria; Consult in Development of Students Schedule with 88% that is significantly impacts student achievement and Attend Parents / Teacher Meeting with 12%. The results in terms of priorities weight are much closed to the results in Table 15. The responses in Table 8 and Table15 are equal to zero (00%) that fulfill the acceptable value of CR (00%) requirement that is below the threshold of 0.1, therefore the matrix is acceptable.

Table 7. Teachers' Practices

	Behavior	Class Management	Quality Of Teacher	Priorities
Behavior	1.00	3.00	4.00	0.61
Class Management	0.33	1.00	3.00	0.27
Quality Of Teacher	0.25	0.33	1.00	0.12
				CR = 0.07 < 0.10 (ACCEPTABLE)

Table 8. Abu Dhabi City, School A Pairwise comparison matrix of the sub-criteria with respect to the Counselor.

Table 8. Counselor Practices

	Consult In Development Of Students Schedule	Attend Parents/Teacher Meeting	Priorities
Consult In Development Of Students Schedule	1.00	7.00	0.88
Attend Parents/Teacher Meeting	0.14	1.00	0.12
			CR = 0.00 < 0.10 (ACCEPTABLE)

Table 9, Abu Dhabi City, School B Pairwise comparison matrix of the sub-criteria with respect to the Curriculum.

Table 9. Curriculum

	Meet The Needs Of Local And Global Requirements	Connection Across Grades	Connection Across Stages	Extra Curricula Activities	Priorities
Meet The Needs Of Local And Global Requirements.	1.00	2.00	2.00	5.00	0.74
Connection Across Grades.	0.50	1.00	1.00	2.00	0.33
Connecting Across Stages	0.50	1.00	1.00	2.00	0.33
Extra Curricula Activities	0.20	0.50	1.00	1.00	0.18
				CR = 0.09 < 0.10 (ACCEPTABLE)	

Table 9 reveals that the sub-criterion, Meet the Needs of Local and Global is considered as most important by the experts of Abu Dhabi Schools with a priority weight of 74% followed by the Connection across Grades and Connecting across Stages, which have shared priority value of 33%. The Extra Curricula Activities has the lowest priority in Curriculum in term of the impact of leadership in student achievement. It is pertinent to mention that the responses in Table 9 fulfill the acceptable Consistency Ratio (CR) requirement that is less than 1% which is acceptable. Within the Connecting across Stages and Connection across Grades in (Table 9) the evaluators rated the information duplication as these two criteria as important improvement opportunities to enhance the curriculum.

Table 10 shows the policies and Regulation Criterion in School B, which is part of Abu Dhabi City School, has five sub-criteria. The values of all sub-criteria are very close at the range between 17% to 23% and the consistency of 1% that is acceptable. The sub-criteria, Meeting with Teacher has the highest value (23%) and the Admission value is 17%. It is anticipated that, this close percentages in future time be changed with regard to the changes in the school policies.

In Table 10, for instance in the (λmax) was calculated as {[λmax = (5.44 + 5.44 + 5.67 + 5.38+5.34) / 5 = 5.45)]. Then, the equation [CI = (λmax/n) / (n - 1), (5.45-5) / (4) = 0.11)], has been employed to calculate the Consistency Index (CI). Finally, the Consistency Ratio (CR) was calculated using the (λ_{max}) and Random Consistency (Table 2) (Satty, 2012,. P. 83), (CR = CI/RI) substituted where RI = .1.11 for 5 factors (CR= CI/1.11) = 0.09. This step has been conducted to evaluate the CR of the judgements for the entire hierarchy that should not exceed 0.10. (Satty, 2012).

Table 10, Abu Dhabi City, School B, Pairwise comparison matrix of the sub-criteria with respect to the Policies and Regulations.

Table 10. Policies & Regulations

	Meeting With Parents	Exam	Discipline	Meeting With Teacher	Admission	Priorities
Meeting With Parents	1.00	1.00	1.00	1.00	1.00	0.18
Exam	1.00	1.00	2.00	1.00	1.00	0.22
Discipline	1.00	0.50	1.00	2.00	1.00	0.20
Meeting With Teacher	2.00	1.00	0.50	1.00	2.00	0.23
Admission	1.00	1.00	1.00	0.50	1.00	0.17
					CR = 0.10 (ACCEPTABLE)	

Table 11 shows the pair-wise comparison of five criteria within the main goal. The Principal Practices was ranked as the top priority at 29% followed by the Counselor Practices with 23%. However, the Teacher Practices in Abu Dhabi City, School C, has the lowest value of ranking. It is an interesting phenomenon that the criterion of Principal Practices in Abu Dhabi City, School A (Table 5) has 42% as the highest ranking as its counterpart criteria of School C in

Table 11, Western Area, School F, Pairwise comparison matrix of the main criteria with respect to the main Goal.

Table 11. Curriculum

	Principal Practice	Teacher Practice	Consoler Practice	Curriculum	Policy And Regulations	Priorities
Principal Practice	1.00	2.00	1.00	2.00	3.00	0.29
Teacher Practice	0.33	1.00	2.00	0.11	0.16	0.13
Counselor Practice	1.00	0.50	1.00	2.00	2.00	0.23
Curriculum	1.00	2.00	0.33	1.00	1.00	0.18
Policy And Regulations	0.33	2.00	0.50	1.00	1.00	0.15
					CR = 0.09 < 0.10 (ACCEPTABLE)	

Table 12 that shows the CR of this PC is equal to 9%, which is below the threshold of 0.1, therefore the matrix is acceptable.

Table 12 illustrates that the Principal practices, in which Ethics is considered as most important sub-criteria in impacting the student achievement with a priority weight of 53% followed by Trust which has a competitive priority of 25% within the criterion Principle Practices in Abu Dhabi City, School C. Values and the Moral were weighted as the third and

fourth with 16% and 6% respectively. It is important to say that the responses in Table 12 fulfill the acceptable value of Consistency Ratio (CR) requirement that less than 1%.

Table 12, Abu Dhabi City, School C, Pairwise comparison matrix of the Sub-criteria with respect to the Principal Practices.

Table 12. Principal Practices, AD School C

	Ethics	trust	values	moral	Priorities
Ethics	1.00	8.00	4.00	4.00	0.53
Trust	0.12	1.00	4.00	7.00	0.25
Values	0.25	0.25	1.00	7.00	0.16
Moral	0.25	0.14	0.14	1.00	0.06
			CR = 0.079 < 0.10 (ACCEPTABLE)		

Table 13 illustrates three sub-criteria within the Teacher Practices. As previously has been discussed in Table 8, the Quality of Teacher was the main critical concern in student achievement. In contrast with Table 13, this sub-criterion has an impact of only 7% on student's achievement within the Teacher Practices. On the other hand, the behavior has the highest weight with 63% that significantly impacts the student achievement. The priority of Class Management is weighted at 7%. Table 13, also shows the CR of this PC is less than 1% which is acceptable (0.09) for PC. This has been calculated as the followings:

In Table 13, for instance, the (λmax) was calculated as {[λmax = (3.18 + 3.10 + 3.02) / 3 = 3.1)]. Then, the equation [CI = (λmax/n) / (n -1), (3.1-3) / (2) = 0.05)], has been employed to calculate the Consistency Index (CI). Finally, the Consistency Ratio (CR) was calculated using the (λ_{max}) and Random Consistency (Table 2) (Satty, 2012,. P. 83), (CR = CI/RI) substituted, where RI = .58 for 3 factors (CR= CI/0.52) = 0.09. This step has been conducted to evaluate the CR of the judgements for the entire hierarchy that should not exceed 0.10. (Satty, 2012).

Table 13, Abu Dhabi City, School C, Pairwise comparison matrix of the Sub-criteria with respect to the Teacher.

Table 13. Teacher Practice, AD School C

	Behavior	Class Management	Quality Of Teacher	Priorities
Behavior	1.00	3.00	7.00	0.63
Class Management	0.33	1.00	6.00	0.30
Quality Of Teacher	0.14	0.17	1.00	0.07
			CR =9%<0.10 (ACCEPTABLE)	

Table 14 illustrates only two sub-criteria; Consult in Development of Students Schedule with 89% that is significantly impacts student achievement and Attend Parents / Teacher Meeting with 11%. The responses in Table 14 fulfill the acceptable value of CR (00%) requirement that less than 1%.

Table 14, Al Ain City, School D, Pairwise comparison matrix of the Sub-criteria with respect to the Councilor.

Table 14. Counselor, Al Ain, School D

	Consult In Development Of Students Schedule	Attend Parents/Teacher Meeting	Priorities
Consult In Development Of Students Schedule	1.00	8.00	0.89
Attend Parents/Teacher Meeting	0.13	1.00	0.11
		CR = 0.00 < 0.10 (ACCEPTABLE)	

Table 15 illustrates that the sub-criteria of Curriculum; Connection across Grades and Extra Curricula Activities have the equal highest weight of 28% followed by the Meet the Needs of Local and Global Requirements at 24% that is less than the counterpart in Table 9 at value of 40%. It means that this sub-criterion has more impact in student achievement in Abu Dhabi schools than Al Ain City schools. The lowest weight in this table is related to sub-criterion Connection across Stages with a value of 20%. It is also pertinent to mention that the responses in Table 15 fulfill the acceptable Consistency Ratio (CR) requirement that is 1%.

Table 15, Al Ain City, School D, Pairwise comparison matrix of the Sub-criteria with respect to the Curriculum.

Table 15. Al Ain City, School D, Curriculum

	Meet The Needs Of Local And Global Requirements	Connection Across Grades	Connection Across Stages	Extra Curricula Activities	Priorities
The Needs Of Local And Requirements.	1.00	1.00	1.00	1.00	0.24
ction Across Grades.	1.00	1.00	2.00	1.00	0.28
ction Across Stages	1.00	0.50	1.00	1.00	0.20
Curricula Activities	1.00	1.00	2.00	1.00	0.28
			CR = 0.10 (ACCEPTABLE)		

Table 16 illustrates the pair-wise comparison of five sub-criteria within the main Policies and Regulations. The Meeting with Teachers was weighted as the top priority at 35% followed by the Admission with 24%. However, the Meeting with Parents has the lowest weight with 6%. The Exam sub-criteria is the fourth

with the weight of 19% and the Discipline with 16% rated as fifth. In addition, this Table shows the CR of this PC is equal to 1%, therefore the matrix is acceptable.

Table 16, Al Ain City, School D, Pairwise comparison matrix of the Sub-criteria with respect to the Policies and Regulations.

Table 16. Al Ain City, School D, Policies & Regulations

	Meeting With Parents	Exam	Discipline	Meeting With Teachers	Admission	Priorities
Meeting With Parents	1.00	0.25	0.25	0.33	0.17	0.06
Exam	4.00	1.00	2.00	0.25	1.00	0.19
Discipline	4.00	0.50	1.00	0.33	1.00	0.16
Meeting With Teacher	3.00	4.00	3.00	1.00	1.00	0.35
Admission	6.00	1.00	1.00	1.00	1.00	0.24
					CR = 0.10 (ACCEPTABLE)	

Table 17 illustrates the pair-wise comparison of five sub-criteria within the Impact of Education Leadership in Student Achievement, as the main goal. The Principal Practices was weighted as the top priority at 28% which is less than the same sub-criterion in Table 11 by only 1% but compared with the same sub-criteria in Table 5 is less value by 14%. It followed by the Curriculum with 23%. However, the Teacher Practices in Al Ain City Schools has the lowest value of weight at only 12% that shows this sub-criterion has less impact on student achievement. The weight of Policy and Regulations comes at the fourth with the value of 16%. Table 17 also shows that the CR of this PC fulfills the acceptable requirements that equal to 1%.

Table 17, Al Ain City, School E, Pairwise comparison matrix of the main criteria with respect to the main Goal.

Table 17. Al Ain City, School E, main goal.

	Principal Practice	Teacher Practice	Counselor Practice	Curriculum	Policy & Regulations	Priorities
Principal Practice	1.000	2.000	2.000	2.000	1.000	0.28
Teacher Practice	0.333	1.000	2.000	0.111	0.167	0.12
Counselor Practice	1.000	0.500	1.000	2.000	1.000	0.20
Curriculum	1.000	2.000	0.333	1.000	2.000	0.23
Policy And Regulations	1.000	1.000	1.000	0.500	1.000	0.16
					CR = 0.10 (ACCEPTABLE)	

Table 18 illustrates that the Ethics is considered as most important sub-criteria in impacting the student achievement with a priority weight of 44% that is less than the same criteria by 13% and 9% as it was illustrated in Table 5 and Table 12 respectively. This sub-criterion is followed by Trust which has again a competitive priority of 26% that is greater than its counterparts by 2% and 1% in Table 6 and Table 12 respectively. Moreover, the sub-criterion Moral, as the fourth, is weighted at 9% that is greater than the same sub-criteria by 4% and 3% that illustrated in Table 6 and Table 12 respectively. Table 18 also shows the CR acceptable value that less than the threshold (4%) and fulfills the requirements.

Table 18, Al Ain City, School E, Pairwise comparison matrix of the Sub-criteria with respect to the Principal Practices.

Table 18. Al Ain City, School E, Principal Practices.

	Ethics	Trust	Values	Moral	Priorities
Ethics	1.00	5.00	3.00	2.00	0.44
Trust	0.20	1.00	4.00	4.00	0.26
Values	0.33	0.25	1.00	5.00	0.18
Moral	0.50	0.25	0.20	1.00	0.09
			CR = 0.04 < 0.10 (ACCEPTABLE)		

Table 19 illustrates three sub-criteria within the Teacher Practices. The sub-criteria Behavior has the highest weight with 70% that followed by the Class Management with value of 18%. Thus, in contrast, the weight of Quality of Teacher in Table 7 is 12% and in Table 13 is 7% while in Table 19 is 11%. This is due to the experts' responses and the period of experience they have been practicing teaching profession and position. Table 19 also shows the CR of this pair-wise comparison is below 1% which is acceptable.

Table 19, Western Area, School F, Pairwise comparison matrix of the Sub-criteria with respect to the Teacher.

Table 19. Western Zone, School F, Teacher Practices

	Behavior	Class Management	Quality Of Teacher	Priorities
Behavior	1.00	5.00	5.00	0.70
Class Management	0.20	1.00	2.00	0.18
Quality Of Teacher	0.20	0.50	1.00	0.11
			CR = 0.05 < 0.10 (ACCEPTABLE)	

Table 20 illustrates the pair-wise comparison of two sub-criteria; Consult in Development of Students Schedule with 80% that is significantly impacts student achievement and it is followed by the Attend Parents / Teacher Meeting with 20% within the main Policies and Regulations. The responses in Table 20 fulfill the acceptable value of CR (00%) requirement that less than 1%.

Table 20, Western Area, School F, Pairwise Comparison Matrix of the Sub-Criteria with Respect to the Counselor.

Table 20. Western Zone, School F, Counselor Practices

	Consult In Development Of Students Schedule	Attend Parents/Teacher Meeting	Priorities
Consult In Development Of Students Schedule	1.00	4.00	0.80
Attend Parents/Teacher Meeting	0.25	1.00	0.20
		CR = 0.00 < 0.10 (ACCEPTABLE)	

Table 21 illustrates the pair-wise comparison of four sub-criteria; Meet the Needs of Local and Global Requirements,

Table 21, Western Area, School F, Pairwise comparison matrix of the Sub-criteria with respect to the Curriculum.

Table 21. Western Zone, School F, Curriculum

	Meet The Needs Of Local And	Connection Across Grades	Connection Across Stages	Extra Curricula Activities	Priorities
Meet The Needs Of Local And Global Requirements.	1.00	1.00	1.00	1.00	0.24
Connection Across Grades.	1.00	1.00	1.00	1.00	0.24
Connection Across Stages	1.00	1.00	1.00	1.00	0.24
Extra Curricula Activities	1.00	1.00	2.00	1.00	0.29
			CR = 0.09 < 0.10 (ACCEPTABLE)		

Table 22 illustrates the pair-wise comparison of five sub-criteria within the main Policies and Regulations with the highest weight of 41% as the top priority for Meeting with Teachers followed by Exam with the weight of 23%. In contrast, the content of Table 16, which illustrated the weight of 35% and 6% for the above two sub-criteria respectively. In addition, the discipline is considered as the third with the value of 18%. In this table also Table 22 shows that Admission is considered as the fourth rank with the weight of 14% while it has been illustrated as the second highest priority (24%) in Table 16. Moreover, Table 22 shows the CR of this PC is below the threshold of 0.1, therefore the matrix is acceptable.

Connection across Grades, and Connection Across Stages with the priority of 24%. In addition, Extra Curricula Activities with a priority of 29% is considered as the highest weight**.** The responses in Table 21 fulfill the acceptable value of CR requirement at the value of 9% that less than 1%.

Table 22, Western Area, School F, Pairwise comparison matrix of the Sub-criteria with respect to the Policy and Regulations.

Table 22. Western Zone, School F, Policies and Regulations

	Meeting with parents	Exam	Discipline	Meeting with teachers	Admission	Priorities
Meeting with parents	1.00	0.11	0.13	0.14	0.17	0.03
Exam	9.00	1.00	2.00	0.25	2.00	0.23
Discipline	8.00	0.50	1.00	0.33	2.00	0.18
Meeting with Teacher	7.00	4.00	3.00	1.00	2.00	0.41
Admission	6.00	0.50	0.50	0.5	1.00	0.14
				CR = 0.09 < 0.10 (ACCEPTABLE)		

The priorities in tables (5, 11, and 17), the overall ranking have been determined by multiplying the priority vector of the criteria by the priorities for each decision alternative for each objective as illustrated in Table 23. The Abu Dhabi City Schools has the highest ranking value of 19.8%. Refer to Table 6; Principal Practices in Abu Dhabi Schools has the weight of 42% and the Counselor Practices (26%) as the second most important criteria while the Policy and Regulations is considered as the minimum value of 3% (Table 23).

The second preferred area is the Western Area with the value close and less than Abu Dhabi City by (19.8%-19.6% = 2%). However, the Principal Practices of Western Area is less than the identical one that related to Abu Dhabi Schools at the value of 13% (42% - 29%=13%). Al Ain Area with the overall priority of 18.4% is listed as the third preferred area. The priorities of this area have very closed values that between 12% as minimum for Teacher Practices and 23% as maximum for the Curriculum criterion (Table 23).

Table 23. Individual results of Three Zones Priority Vector.

	Principal Practices	Teacher Practices	Counselor Practices	Curriculum	Policy and Regulations	preferred
AD Schools	0.42	0.19	0.26	0.09	0.03	0.198
Al Ain	0.21	0.12	0.2	0.23	0.16	0.184
Western Area	0.29	0.13	0.23	0.18	0.15	0.196
Abu Dhabi Schools are preferred and appears to be the overall recommendation.						

4.1 Discussion

This chapter will include a summary of the key findings of this qualitative and quantitative research study. The purpose of this study is to explore the impact of education leadership decisions in senior student achievement in Emirate of Abu Dhabi. The subject related is to find and enhance the gaps and discrepancies that impact the student achievement. The study was divided into two phases: a qualitative phase using key information available from the previous studies in addition to the text book (Satty, 2012) and journals and in the quantitative phase using questionnaire methodology. Data derived from the previous studies were utilized to construct the model and a questionnaire instrument for the use with school staff. The qualitative portion of the study bore out the literature reviewed: principal practices, teacher practices, counselor practices, curriculum and policy and regulations and their impact in student achievement.

The lack of finding schooling staff during the data collection, the researcher has encountered many challenges. Each expert related to his own experience, with details and very personal insights and opinions, resulting in useful information for phase two but this has been conducted only via call phones. A questionnaire instrument was constructed by analyzing the experts' ethical and behavioral situation and aligning them with the five criteria, sub-criteria, and alternatives as well. There were basic similarities in some expert's assessments, but overall, there were wide differences.

The alternatives, criteria, and sub-criteria have been organized and the excel application (office 2010) has been utilized to establish a consistent foundation in terms of calculation and evaluation for this study. In addition, one table for each alternative, criteria, and sub-criteria has been initiated to support the evaluation process. The scale point (1-9) has been utilized to interpret the experts' qualitative responses as row data.

During the data collection and finding phase (mixed method approach), the researcher noted that the educational leaders very often underestimate or reduce their influence. Schools Policies and Regulations and day-to-day leadership activities and performance that models schooling individual moral, behavioral, and ethical, had the strongest effect on the educational division, learning, and student achievement. Thus, this study has been conducted to be a helpful resource of information for the scholars and educators.

The result of this study, overall priority, (Table 24) has shown that Abu Dhabi Schools are preferred entity that significantly impact the student achievement due to the Principal Practices and followed by Counselor Practices. The Western Area as the second educational zone that is preferred with the value of 19.6% that is due to the overall criteria and particularly the Principal Practices and counselors as well. Finally, Al Ain area has been ranked as the third one with the value of 18.4%.

Table 24. Overall results and findings

Alternatives	School Code	Respondents	Priority	Tables	Ranking Alternative	
					Value	Level
Abu Dhabi City	A	Teachers	14	5, 6, 7, 8	19.8%	1
		Principals				
	B	Teachers	9	9,10		
		Principals				
	C	principals	7	12, 13, 14, 21, 22		
		Teachers				
Al Ain	D	Principals	11	14, 15, 16	18.4%	3
		Teachers				
	E	Teachers	5	17, 18		
		Principals				
Western Area	F	Teachers	20	11, 19	19.6%	2
		Principals				
		Counselors				
Individual results and Overall Priority			5	23, 24		
Total	6		71	19		

4.2 Limitations

Due to the inconvenient sampling that has been conducted in the quantitative phase of this study, the researcher suffered from the data gathered by unequal number of experts for each school or/and zone. This has caused gaps due to the small number of experts responded the questionnaire. For instance, the maximum experts that have responded by school A were only four people while the maximum number of experts responded to school D only 2 people.

Furthermore, in some cases, this study was limited in scope because most of participants come from one place or one school division. The contributions of multi-educational zones experts are important in order to share the experts' know how, knowledge, and experience.

Moreover, as the teacher strives to involve the students in the decision making for the class regarding how learning will take place, the teacher and the students are limited in their decision making authority by those regulatory requirements of the organization for which they are both accountable.

This study will not be generalizable to all areas of education. Phenomenon of the cultural (multicultural environment), legal, political, and environmental issues might be factors that limit some criteria of this research. To keep this study legalized, achievable, manageable, and to expedite the research criteria process, there are only three objectives were identified and have been included in this study (Section 1.3). Although the time constrains and

lack of field resources in this study is the main concern, the researcher at this time explores and depends on the theoretical resources rather than conducting a vast field study, observation, and other research criteria.

5. CONCLUSION

The intent of this paper is to study the impact of the education leadership decisions on the student achievement. In this paper several literatures have been studied in order to have potential background and relevant information about the topic historically. According to (Torraco, 2005) suggested that literature reviews may address mature topics, or new emerging topics.

Based on these reviews, researcher has allocated the objectives of this study in order to structure the literature review by which to construct the theoretical model. In this study the quantitative and qualitative research model is designed based on the dependent and independent variables. The senior student achievement is defined as dependent and the practice of educational leadership is identified as the independent variables.

As researcher has reviewed the topics regarding the impact of several educational entities on the students' achievement, he found that, students in the high schools should have a unique teaching and learning strategies (Arrington, 2014) in the way the educational decisions are made in order to obtain high standards in education. In fact, decision making is one of the most important activities in all fields that school administrators engage daily. The success of a school is critically linked to effective education leadership decisions. Thus, in order to have effective decision made, a measurement tool is required. In this multi-criteria decision making (MCDM) study, the AHP has been used in various settings due to the facing a complex problem with multiple conflicting and subjective criteria and all are based on four steps: problem modelling, weights valuation, weights aggregation and sensitivity analysis. The implementation of these steps leads researcher to obtain valuable and desired findings or outputs that will be provided to education leaders.

The qualities and practices relevant to public school senior students' performance, results, and outcomes of this study will be provided to Abu Dhabi Education Council and educators in order to enhance the student achievement. In addition, a copy of this paper will also be shared with the schools that contributed in this research.

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