



EFFICACY AND DIFFERENTIATION OF INSTRUCTION FOR GIFTED STUDENTS IN A REGULAR CLASSROOM IN UAE

الفاعلية والفروق الفردية في طرق الشرح للتلاميذ الموهوبين داخل
قاعة فصل اعتيادي في الإمارات

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DECLARATION

I declare that the content of this dissertation is my original work and has not been presented to any other institution for an award of a qualification.

I also maintain that whenever any secondary material was consulted, relevant guidelines for quotations and citations have been followed.

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ABSTRACT

The aim of the research was to determine the relationship between efficacy and differentiation of instruction for gifted students in a mainstream classroom in UAE. Teacher self-efficacy explains the willingness of teachers to adapt instructions for gifted students in regular classrooms. Survey data from 341 teachers from primary, middle, secondary and vocational schools were analyzed by the use of multiple regression. The Efficacy Scale was used to measure efficacy among teachers. Teacher's years of experience was used as the control variable. The stepwise regression showed a total of 20 percent of the dependent variable variance is essential in explaining the variance in differentiation instructions practices. The study showed that efficacy is the best predictor of the willingness of teachers to differentiate instructions for gifted students in the regular classroom. Though the study indicated statistically significant results for teacher self-efficacy as internal factors and predictors of the willingness of teachers to cater for the needs of gifted students in mainstream classrooms. The survey recommended that upcoming research should involve surveys asking respondents to list some both external and internal factors that can influence differentiation instructions for gifted students. This technique may be able to provide a wider view of what is considered obstacles to differentiation by teachers.

Key Words: Differentiation of Instruction, Regular classroom, Gifted students, Teacher self-efficacy.

خلاصة البحث

يهدف البحث إلى تحديد العلاقة بين الفاعلية والفروق الفردية في طرق الشرح للتلاميذ الموهوبين داخل قاعة فصل اعتيادي في الإمارات. يُقصد بفاعلية المعلم قدرته على تطويع طرق الشرح للتلاميذ الموهوبين داخل فصل اعتيادي. قمنا بتحليل بيانات الاستقصاء التي حصلنا عليها من 341 معلماً في المراحل الابتدائية والمتوسطة والثانوية ومدارس التعليم المهني باستخدام معادلة التحليل الإحصائي بالانحدار المتعدد (multiple regression)، كما استخدمنا مقياس الفاعلية لقياس الفاعلية بين المعلمين. استخدمنا مجموع سنوات خبرة المعلم الواحد حداً متغيراً للتوجيه، كما استخدمنا معادلة الانحدار المتدرج (stepwise regression) التي أظهرت ضرورة وجود إجمالي قدره 20% من التباين في الحد المتغير التابع لتفسير التباين الواضح في المفاضلة بين الممارسات المختلفة لشرح الدروس. أوضحت الدراسة أن الفاعلية هي أفضل مؤشر ينبئ عن رغبة المعلمين في استخدام الفروق الفردية بين طرق التدريس للأطفال الموهوبين في قاعة دراسية اعتيادية. وعلى الرغم من أن الدراسة توصلت إلى نتائج مهمة إحصائياً تتعلق بالفاعلية الذاتية الخاصة بالمعلم كونها عاملاً داخلياً ومؤشراً ينبئ عن رغبة المعلم في تلبية حاجات التلاميذ الموهوبين الموجودين في فصول اعتيادية، إلا أن الاستقصاء أوصى بضرورة أن يحتوي البحث القادم على أسئلة تُوجّه إلى المشاركين بأن يوضحوا في قائمة منفصلة العوامل الداخلية والخارجية التي يمكن أن تؤثر على استخدام الفروق الفردية بين طرق التدريس للتلاميذ الموهوبين. قد يسهم هذا الأسلوب في توفير رؤية أكثر اتساعاً لما يُعد موانع تعوق المعلمين عن استخدام الفروق الفردية.

الكلمات المفتاحية: المفاضلة بين طرق التدريس، فصل اعتيادي، التلاميذ الموهوبين، الفاعلية الذاتية للمعلم

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CHAPTER 1.0

1.1: Introduction

Education in the United Arabs Emirates had evolved considerably from the ages when students were instructed in the same way using the same arithmetic, writing and reading. Efficacy and differentiation are commonly used in education with a noticeable increase in the utilization of these concepts, but they remain elusive in too many cases. It is estimated that about 38% of gifted education in UAE occur in primary, middle secondary and vocational schools ("Program," 2004). Educationists have become concerned about why students who are not gifted do not receive optimum education in a typical classroom, placing more emphasis on subgroups of students who underperform in the primary population. There has been no focus on students who perform above the standard critical threshold. Willard-Holt (2003) encourage that differentiation strategies need to be employed to meet gifted students needs in a regular classroom. As a conscious decision of teacher's new instruction practices implementation is deemed essential, making it easy to understand the factors explaining reasons new strategies may be implemented while at the same time other people implement instructional strategies used before new methods became widespread. Past studies have pointed out diverse factors, which influence decision of teachers whether or not new policies should be implemented such as the

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manner in which new strategies should be presented the moment it is introduced in training, the implementation cost based on the effort and time of the teacher and correspondence with the existing practices of teaching (Ponder and Doyle, 1977). Sparks, 1988 suggested factors that affect the decision-making process of teaching staff; the difficulty of utilizing the practice and the innovation perceived importance. This research assessed teacher efficacy as a factor that impacts the willingness of teachers in differentiating instruction content, process and product of gifted students in a regular classroom. Though this topic has been investigated in the past, it may be pertinent the studied topics are related to the changing educational climate brought by the students recognized as gifted receiving services in a classroom. To gain insights on human factors, which influence teachers to differentiate instruction for students for students who are gifted, school administrators need to promote differentiated instruction and design staff development programs. A differentiated teacher needs to plan the instructions founded on students but not on the pre-planned fixed curriculum. Teachers need to understand that students are not the same and differ in many perspectives to allow them design and prepare curriculums based on the interests of students and the ability to use diverse channels of offering the lessons with various difficulty. Acknowledging the significance of differentiated instruction in different classrooms in UAE, the present study aimed to investigate the efficacy and differentiation of instruction for gifted students in a regular classroom in UAE.

1.2: Background

The implementation of the Child Protection Act has focused principally on teaching strictly in the area of expertise by teachers, standards, accountability of teachers, and closing the gaps in within the population (special education students, low socioeconomic populations,

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minority students). There is a concern for students not able to meet the minimal learning expectations with little concern for students who excel past the minimum threshold in UAE. There has been no incentive and inspiration for students who have attained or exceeded proficiency.

1.2.1: The Child Protection Act and Differentiation

To discuss student education at any level, it would be careless not to mention the effects of The Child Protection Act and the Federal Law No. 29/2006 on the Rights of Students having Special Needs, and the general rules and principles of special education programs. Van Tassel-Baska and Stambaugh (2005) states that due to pushing for accountability, teachers are pressured to increase the scores of students and meet the needs of classrooms that ever reflects the increasing diversity. The challenges that prevent the provision of appropriate instructions influence gifted students. There may be some problems that are associated with gifted students; for instance, lack of mandate by the government to provide service support for gifted students and negative attitudes by teachers focused on gifted students. Research has indicated that few differentiation strategies are presented in regular classrooms. The lack of differentiated instruction in UAE is further complicated because there is no monitoring of teachers systematically, especially when working with gifted students. More research provides that there be little differentiation being offered t gifted students, a pattern that has remained unchanged for over a decade in UAE despite efforts of personal development.

1.2.3: Gifted Students in Regular Classrooms

Approximately 32% in primary and students and middle secondary and 35% of vocationally gifted students receive their education in the regular classroom. Renault, 2002 describe that students who are gifted can succeed in regular classrooms as long as teachers are specialized in teaching gifted students or the students can access specialists who provide assistance either in classroom or at their residence. Renault further warned that without the services of a specialist in teaching students who are gifted in regular classrooms, they always become a smoke screen that bright students get more work and extra assignment based on educational and traditional learning models. Gifted students may seriously be under served without specialized learning standards and personnel. Students who are gifted are commonly taught using the same standards in teaching all other students in regular classrooms (Willard-Holt, 2003). Willard-Holt further claims that the standard in UAE does not challenge gifted students. The performance and motivation of gifted students reduce after prolonged exposure to a curriculum that is not challenging enough. This scenario is a concern as schools look to trim the budgets, for example, cutting special services like gifted. Some differentiation strategies need to be employed so as to meet the requirements of gifted students, for instance; multilevel learning stations, tiered assignments, product choices, flexible grouping and curriculum compacting.

1.2.4: Impediments to Differentiation

According to VanTassel-Baska and Stambaugh (2005), there are some barriers to educating gifted students in UAE. Ineffective teaching in UAE is attributed to lack of knowledge on the subject matter. The situation may be improving due to the call of the Federal Law No. 29/2006 on the Rights of Students having Special Needs for teachers to be highly

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qualified. Another area of concern is teachers having limited management skills in the classroom. The development of teachers on differentiation needs to include training in management skills in the classroom. As long as students who are gifted are not offered similar basic information, they may not be able to perform assessments of the state. Earlier studies in UAE have indicated that teachers against the special provision for gifted students are not against individual provisions guaranteed to students having athletes and sports ability. Such negative characteristics undermine efficient differentiation and professional development efforts. Carrington and Bailey, 2005 carried out a study in the states of Dubai, Sharjah, and Ajman and provided that gifted students be least preferred by their teachers compared to other groups of students. Teachers have also cited the problem in planning time, lack of utilizing and finding resources and absence support from administration for differentiating practices. However, many impediments are seen in the absence of training among practicing and pre-training teachers. Measuring the needs for development of teachers with gifted students in differentiation instructions is essential when there is a high teacher turnover because differentiation strategies that can be used by a beginning teacher in education career.

1.2.5: Efficacy

Irrespective of geographical regions in UAE, minor modifications can be made **for** primary, middle secondary and vocational graders in regular classrooms. Teachers spend their instructional time to prepare for state-mandated tests that may have an adverse effect on differentiation for gifted students. Both experienced and pre-service teachers having high efficacy are more likely to experiment with teaching methods and learning materials more than teachers who are less efficacious. Self-efficacy in a teacher scenario is referred to as the belief

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that teachers can impact the achievement of a student even in situations that challenge and unmotivated students (Tschannen-Moran & Hoy, 2001). The feelings of self-efficacy are important to behavioral change (Henson, 2001) thus teachers having high efficacy levels look to change behaviors.

1.3: Research Problem

Research has found that experience and pre-service teachers having elevated levels of efficacy experiment more with teaching methods and materials more than teachers with low levels of efficiency. Self-efficacy is referred to as teacher's belief of having the capability of impacting achievement of students in challenged and unmotivated situations. Implementing instructional innovations need both significant and minor changes in instructions including different instructional strategies and new curriculum. The changes that are essential in maintaining and implementing mastery learning needs a minimal transformation in instructional procedures utilized by teachers. Henson (2001) has shown that teachers with a high level of efficacy experiment more with teaching methods and teaching materials. However, there is no evidence depicting the claims generalize gifted students teachers using different differentiation strategies. The study by Westberg and Daoust (2003) however indicate that teachers having passed through staff development show no increase in the use of differentiated strategies for gifted students. Thus, the idea of "*one-size-fits-all instruction*" has been criticized by researchers in UAE and some studies have proved the efficacy of different strategies of differentiation on the achievement of gifted students. However, some teachers in UAE use traditional teaching methods with a little or no in cooperation of differentiation instructions in regular classrooms. Since some teachers use traditional teaching methods and have a negative attitude towards gifted students, this may endanger effective strategies of differentiation and prevent professional

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development efforts. This impact teacher is efficacy by providing appropriate instructions to students who are gifted. There is also conflict existing between the manners in which teacher self-efficacy need to relate to practices in the classroom. It has not been delineated clearly the connection between teachers willingness and teacher efficacy to differentiate for students who are gifted. Is efficacy more predictive of achievement of gifted students?

1.4: Research Questions

To understand the correlation between efficacy and differentiation for instructions for gifted students and the role efficacy has on the willingness of teachers to differentiate students who are gifted, the study will answer the following research questions:

1. What is the relationship between self-efficacy among teachers and teacher's differentiation for instructions for gifted students?
2. Does the implementation of differentiation for instructions influence the promotion of learning outcomes among gifted students in UAE?

1.5: Significance of Study

Differentiation of Instruction for Gifted Students has been among the hot topics commonly taught in courses of staff development. The teachers in Ajman and Sharjah and Dubai study in 2002 underwent more staff development than staff teachers ten years earlier . However, there were no teacher classroom practices changes. Teacher's job is to change beliefs of teachers and educate so as to bring transformations in behaviors of teachers. The aim of teacher's development in differentiated instructions is to change beliefs, skills, and knowledge that are essential in bringing changes in classroom practices to serve gifted students better. The

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knowledge of differentiation instructions and efficacy is important in designing teachers development training because they have behavioral changes that teachers are expected to have in the regular classroom. Since self-efficacy among teachers has shown promise, carving out the following study on efficacy and differentiation of instruction for gifted students in a regular classroom would be of great importance and value. This research would be necessary based on the changes brought by The Child Protection Act and the Federal Law No. 29/2006 on the Rights of Students in instructional focus.

1.6: Defining Terms

These terms will frequently be used, and the definitions are provided for more clarity.

- Gifted Students: These are students having the exceptional achievement, ability, and creativity.
- Differentiation of instruction refers to the kind, level or pace of instructions provided based on learner's interests, styles or needs. It also includes modifications of process, content, and product.
- Homogeneous Classrooms are classrooms containing some students with similar abilities. The term contrast heterogeneous classrooms containing students having diverse skills.
- Teacher Self-efficacy includes the belief of a teacher in having the ability of impacting achievement of students even in situations involving unmotivated and challenging students.

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1.7: Structure of this Dissertation

The research structure is divided into six chapters that have nine parts. Chapter 1 of the research is an introduction providing an overview and presents the study background, research problem, research question and the significance of the survey. Chapter 2 is literature review including a comprehensive theoretical background on the effects of no child left behind on gifted education, gifted students in the regular classroom, differentiation defined, rationale for differentiation, limitations of research on differentiation, prevalence of differentiation for gifted, staff development and teacher efficacy and the relationship between every research concepts will also be revised in this chapter. Chapter 3 and Chapter 4 will have corresponding research hypotheses, the research methodologies, and the research model that describes of study variables, data collection, analysis methods and sampling design. Chapter 5 will comprise results and discussion describing the data analysis started to evaluate the study research. This chapter accounts the sample results, characteristics, non-response bias checking, preliminary data analysis and detailed research outcomes. The chapter also discusses the research findings. The last chapter is Chapter 6 and is the conclusion that summarizes the research and it also considering the findings implications as well as managerial and theoretical contributions. Furthermore, it concludes with the limitations of the research and the future research recommendations.

Summary

The research is about the efficacy and differentiation of instruction for gifted students in a regular classroom in UAE, and it is important though there are many research and studies on the efficacy and differentiation of instruction for gifted students in a regular classroom, there is little research in UAE that is relevant, especially investigations of the past topics in teacher's efficacy.

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Research on the effects of teacher self-efficacy towards gifted students has been carried out.

More research has been conducted on the factors affecting the willingness of teachers to differentiated instructions. What has not been well explored is the manner in which gifted instructions has influenced teacher efficacy towards gifted students in regular classrooms.

Therefore, the aim of this research is to fill in the research gap existing in this regular classroom in UAE according to the efficacy and differentiation of instruction for gifted students. Given the research questions provided above the study contributes to the literature in education from both academic and practical perspectives. The study from a university standpoint contributes to the literature in education literature in many ways. The research contribution involves modeling the connection between teacher's efficacy and differentiation of instruction for gifted students in a regular classroom. The study results may shed light on the facets that influence the decision of teachers to differentiated instructions for gifted students. Teacher efficacy towards students who are gifted was measured by the use of some instruments that assisted in measuring the differentiation practices to address the differentiation practices for gifted learners. This research from a practical perspective will profit schools and teachers in various ways.

CHAPTER 2

2.0: Literature Review

This review investigates the pertinent writing involving what is evident with respect to the impacts of Child Protection Act behind on skilled training, the role of separated direction on educating talented in the consistent class, considers that influence educators' capacity to diverse guideline as a rule, and at last two human variables that might be indicators of instructors' ability

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to separate guideline for skilled understudies: educators' demeanors toward talented understudies and instructor self-viability.

2.1: The impacts of The Child Protection Act on Gifted Learning

Most talented are being taught inside the standard class (NAGC, 2009; Sisk, 2009) by educators who lack the knowledge and experience to address the right needs for their students (NAGC, 2009). Sisk concludes that very frequently these consistent teachers are excessively worried about scores level state commanded government sanctioned tests. He further clarifies that test arrangement includes an over- reliance on practice and survey utilizing discharged analysis things from earlier tests. Instructors' worries with the scores are the consequence of the risk of their institution being forced with approvals if their institution does not gain Adequate Yearly Progress. The quantity of skilled understudies being instructed in the standard class had risen fundamentally since 2003 when the rate of talented kids taught inconsistent classrooms differed between 30-3% relying upon the level of training: basic, center, or secondary schools ("Program," 2004).

In an article distributed in The Washington Post in 2007, Gold and Goodkin cautioned that the Overpowering center to convey understudies to a degree of least capability had made a greater dependence on instructive methodologies that are improper for high-capacity understudies. They further clarify that fundamental training intended for low- hard workers have influenced gifted learners by obliterating their enthusiasm for studying. The issue of concentrating on youngsters achieving least capability to the detriment of the higher-capacity learners was accounted for in 2004 in The Wall Street Journal. Golden additionally clarified that endeavors to guarantee that every single learner achieve the base accomplishment edge have

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brought about assets once focused to great -capacity scholars being transferred to projects that discourse the execution of students in peril of not finishing the government-sanctioned investigations used to quantify consistency with NCLB.

Tomlinson said something on the NCLB impacts on talented students when she expressed that lack of motivator for institutions to take care of the requirements of learners who had as of now met capability. She clarified that the country's consideration and assets were being coordinated toward non-capable learners trying to get them deliberately toward capability. He noticed that our country has a past filled with attempting to adjust two fundamental convictions: fairness and perfection. She has contended that, while seeking to guarantee fairness, NCLB has concentrated on pattern execution which won't advance most extreme development – just insignificant implementation (Tomlinson, 2002). Holt (2003) included that most government norms do not mentally challenge talented students. Willard-Holt energized that measures do not need to prompt institutionalization and that while talented students may invest less energy acting given standards, they thus have the chance to report the guidelines in more unusual profundity.

2.2: Gifted Learners in the Regular Class

In 2004, Adams carried out an investigation that additionally researched the view of gifted learners, this time on the scholastic and communal impacts that happen when students are gathered homogeneously against heterogeneously. The report revealed that the students trusted that they profited far much better in homogeneous gathering. However the learners had blended feelings when gotten some information about societal advantages. This analysis was directed utilizing a combination of verbal interview, and the rest of the members were studied using open-ended composed polls that asked the same inquiries employed as a part of the oral interview. The

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analysts consolidated the two information accumulation strategies for examination. They inferred that talented students ought to be given a blend of identical gathering and unrelated gathering alternatives.

The research distributed by Rizza, Owen and Gentry in 2002 uncovered some critical contrasts in gifted learners being attended in customary class versus those attended in talented magnet schools. To the next amazing, Bernal (2003) asserted that at the point when incorporation is polished, gifted students do not get a fitting instruction, significantly less and training equipped to meet their propelled capacities. To come back to the long-running open deliberation on talented students ought to be taught is past the extent of this study.

Rogers composed a combination of the writing in 2007 from 1861 to date in whereby she emphasized five lessons recommended by earlier exploration on skilled and gifted:

Lesson 1: competent and gifted students require everyday encounter in their particular regions of ability.

Lesson 2: Chances ought to be given all the time to talented scholars to be extraordinary and to engage in work autonomously in their areas of enthusiasm and ability.

Lesson 3: Gifted learners ought to be given different types of subject and grade based speeding up as their instructive needs demand.

Lesson 4: Gifted students ought to be given chances to mingle and to study with Like capacity associates.

Lesson 5: Gifted learners ought to get instructional conveyance for every particular subject The territory that is separated in space, a measure of survey and practice, and association of substance presentation.

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Rogers called attention to that even educators who wish to execute these exploration based practices for skilled learners will need to reconsider a significant portion of their beforehand held convictions. As per Rogers, they must be focused on creating the maximum capacity of all students, including the talented, to give the kind of guideline showed in the above lessons. Rogers expressed that particular type of learners gathering should be used to separate suitably for gifted students. She explained by suggesting that each educational approach must distinguish the collection alternatives most appropriate for their framework taking into account the existing students, the demeanors of instructors about talented scholars and the states of mind of chairpersons and the group concerning the credible gathering alternatives. He further clarified that the efficient execution of an arrangement to discourse the requirements of skilled learners depends on in the breadth and adequacy of talented instruction preparing gave to general and skilled asset educators. Addressing the necessities of our country's three million talented understudies, the greater part of whom are instructed in the standard classroom (NAGC, 2009), using separation of direction alone is flawed. Sisk (2009) has expressed that without expert advancement, what's more, an eagerness to address the requirements of talented students on the educator, customary classroom instructors are challenged to separate adequately given the urgency for the responsibility that went with the NCLB execution.

2.3: Defined Differentiation

Tomlinson (2005) indicated that differentiation is a composed adaptable method nevertheless for proactively changing educating and figuring out how to gather children where they are and support them to accomplish most extreme development as learners.” In a copyright material published in 1999 and later written in her book called *The Differentiated Classroom*: its

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aim being responding to the Necessities of every learner, Tomlinson (2005) alluded to the changes in accordance with instructing and learning as changes in substance, procedure, and items in view of students' availability, premiums, and learning outlines. Tomlinson characterized "content" to be what is instructed, "process" in the same way as the exercises whereby students converge together to comprehend what is instructed, and "items" is seen to be how the students apply what they have learned in class. By 2000, a fourth measurement was again incorporated by Tomlinson to be adjusted, and that is the learning environment, characterized as the way the classroom feels and supports the learning process (Tomlinson, 2000). To help during the time spent separation, an educator must depend on an extensive variety of instructional and administration systems (Tomlinson, 2005).

Renzulli included objectives of differentiation. Renzulli's goals include

1. Content – put more profundity into the educational programs through sorting out the educational programs ideas and structure of learning;
2. Process –involves the use numerous methods of instructions and materials upgrade and rouse the students learning style;
3. Item – enhance the subjective improvement and the students' capacity to convey what need be;
4. Teaching classes– upgrade the solace by modifying gathering designs and the substantial zone of the earth;
5. Instructor – use aesthetic alterations to assign individual learning of subjects to educational programs and personal interests, accumulations, diversions, and energy about issues encompassing substance regions.

Heacox (2002) additionally recorded an arrangement of objectives of separation:

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- To create testing and connecting with an assignment for every learner.
- To create instructional exercises in light of the main subjects and Ideas, noteworthy procedures and attitudes, and various approaches to show learning.
- To give flexible ways to deal with substance, direction, and items.
- To react to students' preparation, instructional necessities, interests, and learning inclinations.
- To set up learner- receptive, educator encouraged classrooms.

Although Heacox's objectives don't in all instances mainly tackle every measurement of differentiation like Renzulli's, words and expressions, for example, "instructor's part as a facilitator, alteration of substance, procedure, and items, and "changed instructional organizations" explicitly address the same parts of separated direction alluded to by researcher Renzulli. Inside the consistent work, Heacox alluded particularly to the five varieties tended to by Renzulli's; process, content, item, teacher and classroom.

2.4: Differentiated Classroom Versus Traditional Classroom

In 2005, Tomlinson introduced a diagram differentiating the attributes of the differentiated classroom with those of the traditional classroom. These qualities convey gathering hones, an assortment of resources, the utilization of evaluating learners utilizing the idea of different intellects; premium based studying decisions, instructor as an organizer, various projects, time employed adaptable as a part of an agreement with student need, furthermore, arranging guideline taking into account understudy need, among others. The diagram introduced by Tomlinson stood out the conventional classroom from the differentiated classes by showing 17 sets of depictions. Tomlinson's demonstration has compactly differentiated the studying environment regularly set up in the traditional classes with the differentiated levels. She assists

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clarified that by imagining the sets as a continuum, an instructor can play out a self-appraisal by setting an "X" at stake where they evaluate their present practice level.

In 2002, Heacox displayed 17 sets of complexity between the differentiated classroom and a traditional classroom on scales in what she is shown as her Classroom Trainings Inventory. While the viewpoints tended to in her Inventory utilize marginally diverse phrasing than that used by Tomlinson, the views tended to show much similitude: educating taking into account students' adapting needs, utilization of enlightening assets, decision of exercises, differed pace of guideline in light of student's needs, diverse exercises in view of requirements and learning inclinations, preassessment, decision of item, and so on.

In spite of the variety in wording, it was discovered that Heacox, Renzulli, and Tomlinson shared the same opinion in their writings. The most standing likeness was the one depicted in the differentiated classroom versus traditional classroom portrayed by both Heacox and Tomlinson. In 1953, the issue of instructive management was committed to differentiated guidelines including articles tending to the necessities of "moderate students" and "talented learners" (Freese, 1953). The research and the shared opinions for most analyst were very helpful to the students, and this meant greater performance in their studies and experience.

2.5: Basis for Differentiation

As per Hall, the part of separated guideline is to amplify learners' development and accomplishment by engaging the student where they regard foundation information, preparation, dialect, premium, and inclinations in learning. Vygotsky characterized the area of proximal improvement as the distinction amid the level where students can implement critical thinking

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freely and the stage where a student can execute their studies with direction from elders as referred to in Harland in 2003.

More particular to the necessities of skilled learners, Passow (1998) expressed that even for experienced students to build up their abilities, separation is crucial. Dinnocenti proceeded by clarifying that teachers of talented students must create and use the five measurements: process, content, item, classroom, and educator with a specific end goal to address the issues of profoundly proficient learners. These affirmations are bolstered by Burns et al. (2002) who, as a component, sought to imbue talented instruction teaching method into the general classroom, since they realize that when administrations for skilled understudies do exist, they are typically just low maintenance plans.

In 2007, Smith, a previous school administrator and present VP at The School Board, contended that a thorough instructional project would oblige the necessities of all learners. In light of the stand taken by Smith, Kettler called Smith's remarks "not well educated" and opposing to instruction study. Kettler's essential contention is with the idea that separated guideline that addresses the issue of learners working years over his evaluation level is not even separation required for a battling scholars. McIntosh called differentiation an essential vital that is broadly embraced and upheld as best system that gives the best education encounters to all learners given their preparation, premium, and potentially their education style. McIntosh supposed that differentiation is ideal hone at all stages: custom curriculum, general training, and talented instruction. McIntosh additionally alluded to the expanding quantity of exploration reports that backing the adequacy of separation as a strategy to build students accomplishment.

2.6: Restrictions of Research on Differentiation

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In 2003, Tomlinson et al. suggested that hypothesis and study show that it is imperative for educators to change educational modules and guideline in light of learners' status, premiums, and learning outlines. Tomlinson proposed a rundown of qualities regular to powerful separated guideline:

1. Compelling separation of educational modules and the guideline is proactive, instead of being responsive.
2. Compelling separation utilizes adaptable utilization of little educating learning bunches in the lecture theater.
3. Compelling diversity changes the resources used by people and little gatherings of understudies in the classroom.
4. Compelling diversity employs flexible pacing as a method for tending to learner needs.
5. Viable separation is information focused.
6. Viable separation is learner centered.

Tomlinson referred to research to accept each of the attributes recorded. In spite of Tomlinson's examination grounded cases, not every analyst agree there is a satisfactory study in the range of differentiation. Lobby (2002) alluded to the hypotheses and performed of differentiation, however, expressed that the adequacy of the procedure needs observational acceptance. Corridor clarified that at the season of the written work of his survey, the writing was done primarily out of actual reports and cases provided by educators. White and Ridley (2004) expressed that separation is a prescribed technique to encounter the necessities of skilled and capable understudies in blended capacity classrooms additionally included that while noticeable creators/analysts had risen in the field of competent and competent instruction, a lot of their audit of the writing was in any case in light of sentiments and needs scrutinize. While there gives off

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an impression of being a lack of observational studies including differentiation. Hertberg-Davis (2009) alludes to a few findings managing differentiation, comprising research that expressed the taking after:

- High- risks testing coming about because of No Child Left Behind has prompted fewer students focused exercises for more repetition learning techniques (Brighton, and Callahan, 2003).
- Teachers do pretty little differentiation for talented learners in normal classrooms (Archambault, Dobyys, and Salvin, 1993; Westberg and Daoust, 2003).
- When educators differentiate, they have a tendency to concentrate on battling learners in the convictions that skilled understudies needn't bother with separation (Brighton, Hertberg, Moon, Tomlinson, and Callahan et al., 2005).
- Educators with coursework in talented instruction are more compelling in coordinating educational programs and guideline that agree with the necessities of extreme capacity students (Robinson as referred to in Hertzberg 2009).
- Even little measures of diversity can affect understudy accomplishment also, students states of mind toward studying (Brighton et al., 2005). In 2007, Anderson expressed that more research is starting to rise that backings the ability for separated direction as a method for helping different learners, however, he likewise alludes to the crevice in the examination on the imperative and auspicious point of separation.

2.7: Differentiation for Gifted Students

In dealing with a classroom comprising diverse types of student's consensus lies in the familiar proposition that differentiation is key to success. Hertzberg-Davis in the year 2009

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proposed the notion that learning for the student is made effective when the learning is geared towards the needs of the student. With this particular assertion in mind it becomes defeating to argue against the philosophy of differentiation. Students that are gifted are the primary focus of this study. For the sake of this research, the researcher assumes that all manner of differentiation is a practice that is desirable in trying to meet the needs of all the students and especially for the students that are gifted. The types of differentiation that are covered include the differentiation of the instruction and curriculum.

Researchers Hertberg-Davis further propose that the elimination of programs that are traditional gifted and replacing them with the students that are education gifted with the aid of the instruction and curriculum accrued from the regular classroom ought not come as a surprise as it is something that is expected. The researcher went on to propose the supposition that the regular the classroom is inadequate for the purpose of educating the students that are gifted. She suggested the idea of the classes that are differentiated as the perfect place where the talents of the students that are gifted can be recognized and brought to the light. She suggested that the classes that are differentiated are the places where the donations from all the students can be accepted and appreciated regardless of whether they are gifted or not.

The researcher notes the kind of difficulty that teachers go through in trying to pull into the center the different gifts among the students and to substantiate them. Teachers have a hard time trying to identify all of the students' differences and make them an essential part of the learning process. The researcher noted that many teachers work in an environment that focuses on the role learning and not on the competencies of the learners. For the purpose of state mandated training the role of the task of differentiation is one that is time consuming and that

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appears to be an impediment to logic. Differentiation is looked at as a task that impedes proper preparation and the entire process of training.

According to Tomlinson (1995) it is expected that with the greater number of diversity in the school learning environment it is anticipated that the present single approach to learning would fall short of addressing the needs of the vast variety of the classrooms in terms of the different gifts. The researcher in effect proposes the use of the various types of approaches to address the various needs of the diversely gifted students. Tomlinson was talking about the student readiness, the learning profiles and the interest of the learners. In the area of availability the researcher Tomlinson has provided a list of adjustments that the teachers can use to create tasks for learning:

- Smaller leaps to Greater leaps
- Elaborate structures to more open structures
- Less amount of liberty to more liberty
- Simple forms to Complex forms
- Concrete and vice versa
- Transformational and basic
- Multi-facets to fewer facets
- Slower to quicker

Tomlinson went on to describe the fact that there are times when the gifted students benefit from quickly advancing through the study material while there are times when the students benefit from moving slowly through the material. Sometimes the students benefit more from going through the material slowly to be able to get a tighter grip on the material under scrutiny. There are examples of strategies of instructions that Tomlinson gave as a means of helping

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teachers to implement the process of differentiation in the classroom environment for the benefit of the students:

- Using the process of Compacting
- Contracts of learning
- Centers of Interest
- Utilization of the Programs of the computer
- Instructions that are complex
- Investigation of the group
- Contracts for independent learning
- Materials that are supplementary and texts that are multiple
- Multiple intelligence orientation of products and tasks
- Teacher and student negotiated criteria for product

The work of Tomlinson was of the opinion that for the teachers to address the different needs of all the learners across the board and to reach out to the students with the different gifts and abilities then they need to employ the use of various skills and approaches that meet the need for learning profiles, interest and readiness. Burns et al. put the strategies that seek to meet the diverse needs and skills of the learners and puts them into four categories. The first strategy is the strategy for units of the curriculum improvement.

The second strategy is the assignments based on the learners' interest and the methods of improving the talent of the students. The third strategy is procedures that act as a guide to the teachers towards identifying the abilities of the learners and their unique skills. Identification of the students' different abilities is the first step towards coming closer to helping the learners to enhance their expertise and abilities. The authors agreed with much of the literature. Besides the

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research the authors also agreed on many of the themes of gifted pedagogy. The authors agreed that to address the needs of the students that are gifted in the society is fundamental in serving the few students that are gifted with the programs that are full time.

Troxclair (2000) advocates for the use of the method of differentiated mode of teaching to reach out to the needs of the different students in the classroom environment. She advocates for the teaching via the method of the differentiated model of teaching to reach out to the various strengths and weaknesses of the students in the classroom although most of her work is geared towards the teaching of social studies. To create time that can be used to enrich and accelerate the rate of learning for the students that are gifted the researcher spoke of the need to address the students that are gifted in the regular classroom using the compacting of the curriculum.

Winebrenner (2001) in her book that addresses the way to reach out to the students that are gifted in classrooms that are heterogeneous spoke of the different dimensions of differentiation. According to the researcher there are five elements of differentiation and these are: environment, assessment, product, content, and process. According to this literature review, regardless of the student population that is being addressed dimensions of differentiation are similar and identical.

2.8: Differentiation prevalence for the gifted students

The study takes the approach of Tomlinson (1997) that proposes that there can only be one response to the question of whether or not the matter of differentiation is significant in addressing the challenges of the learners with diverse gifts and abilities in a classroom that is conventional. Tomlinson (1997) says that the needs of the gifted ought to be met in the classroom. She says the needs of the gifted ought to be met in the classroom due to the fact that it is in the classroom that they are receiving most of their instructions and spending majority of

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their time. The perspective that is brought into the picture by Herbert-Davis that stresses the amount of differentiation that is taking place in the classroom is a component that is significant for any research concerning the matter of differentiation in the classroom.

A 1993 nationwide study by Archambault et al. was conducted to find out the instructional practices that are used with the students that are gifted and talented in the classrooms that are homogeneously and heterogeneously grouped. The research sought to find out the way that the teachers modify the practices of instruction in a bid to meet the needs of the students that are gifted within the classrooms. The behaviors of the teachers were looked at by the use of factors like: thinking and questioning, the provision of choice and challenges, modifications of the curriculum, centers of enrichment, written and assignments of reading, and seatwork. The finding that required direct attention was one that said that there were only minor modifications that were made to the teaching of gifted students that hardly did anything to cater to their different needs. The researchers found out that there needed to be drastic measures to be taken to see to it that the needs of the gifted students are met in line with the rest of the students.

Archambault, Dobyns, and Salvin (1993) carried out a research in the United States. The study was conducted the studies in the form of a series of observations that are structured. The observations were carried out in 46 classrooms. The study was carried out to challenge an idea that was accepted widely and the idea proposed that students that are gifted are usually not tested by the instruction that is provided in the classrooms along with the other regular students. The presumption was put out to suggest that gifted students needed not to be given any specialized treatment in the acknowledgement of their gifts and different abilities as opposed to the rest of the regular students.

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Westberg and Archambault in the year 1997 carried out a research 6 rural schools, 2 urban schools and 2 suburban schools.

The study was conducted to determine the environmental and the teacher factors that lead to the better use of the strategies of differentiation. The researchers also sought to determine whether or not there existed a gifted program for the gifted students and match the use of these programs for the talented students to their day to day use in the classroom. The purpose of the study was described as a description of the way the teachers carry out the implementation of the practices of differentiation and in accommodating the needs of their students of high ability and the factors that influence the practice. There were several generalizations that were realized in the course of the study. The study found out that the teachers had received training in their areas of specialization.

While most of the teachers lacked degrees many of the teachers had received specialized training for practices in special education. The teachers that were investigated for the research expressed the willingness to get trained in special education. The teachers were willing to carry out experimentation with the new approaches to teaching. The researchers found out that the teachers in the study were part of voluntary and self-initiate type of collaboration with other colleague teachers and made out ways to create time for collaboration.

Westberg and Archambault acknowledged that there could be the effects of the observer. The researcher proposed that the teachers could have altered their behavior based on the way that they were being observed. The researcher also made it the point that just like with all other types of qualitative studies there is need to look at the effects of the observer as a limitation to the study and the findings of the research. The researchers were hence of the opinion that the matter of observer bias ought to be looked at as a limitation to the research. Westberg and Archambault

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came up to the conclusion that all teachers are more likely to tailor their instructions to the similarities of the students. The researchers suggest that the truly effective teachers go out of their ways to look into the guidelines that would address the different needs of the various students in the classroom environment. The researchers are hence of the opinion that for there to be effective learning there ought to be some effort from the side of the teachers in considering closely the type of instructions that they give to their students.

2.9: Other causes for why the teachers fail at differentiating for the students that are gifted

In their research for 2005, Van Tassel-Baska and Stambaugh stated the various obstacles that lie in the way of differentiation. While it is true that the barriers mentioned by the researcher apply to different kinds of populations the researcher mentioned the barriers with particular reference to the populations that cater to the needs of the gifted students. According to the researchers there is not enough training in the management of the classroom strategies for differentiation and this is a factor that leads to the wrong implementation of the strategy. There is not enough knowledge and content management within the classroom environment that is supposed to facilitate the training of the students that are gifted.

There are not enough teachers that believe that students have different skills and knowledge in the classroom environment. Many teachers think that all the students are the same and that treating some of them as though they were different amounts to prejudice and injustice. Many teachers think that all the students have the same skills of learning profiles and interests. According to the researchers, there is not enough knowledge regarding the standards for the appropriate modification of the curriculum. There lies a lack of understanding of the needs of the

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students that are gifted students or the needs of the students of the low socioeconomic classes.

There lies a gap in the training for the students that are gifted.

The researchers came up with the finding that there lacks enough time for training of the teachers and for planning to work purposefully out a plan that aims at assisting the students that are gifted. Van Tassel-Baska and Stambaugh (2005) found out that there is inadequate support from the administration to try and help the students that are gifted. Van Tassel-Baska and Stambaugh suggest that the use of advanced content relevant. Strategies for educators makes gifted students show significant growth in the achievement of the educational standards that are set by the education institution. The improvement of the learners can only happen when the administrators and the educators recognize the barriers and obstacles and take steps to cut them down. The researchers come to a conclusion by saying that only when the educators “embrace, acknowledge, and carry out actions on differences of the students, will the students that are gifted appropriately be served.”

Van Tassel-Baska and Stambaugh (2005) explained that the differentiation for the gifted is more challenging due to some factors despite the admitting to the fact that many of the obstacles apply to the general populations other than the students that are gifted. One of the factors included the matter of the extent to which the case of differentiation is required. Another factor is the need to provide opportunities for learning that are beyond the level of the grade. One other factor is the matter of barriers to philosophy and the barriers of antipathy from many of the teachers towards the students that are gifted. One other factor that played a significant role in the matter of lack of understanding for the population that is gifted and also the lacks of the services and mandates that support the learners that are gifted in many of the states and this leads to neglect on a wider part of the students.

2.10: Teacher efficacy and Development of staff

There have been many studies that have shown that merely minor modifications for the students that are gifted are made in the regular classroom. On average, students that are gifted do not receive all the specialized attention they need to get ((Westberg & Daoust, 2003); Westberg & Archambault, 1997; Westberg et al., 1993; Archambault et al., 1993). All the researchers agree that there are modifications that can be traced in the teaching of the students that are gifted, but the modifications are below tangible and merely statistical. Westberg and Daoust (2003) notably concluded that there had been changes that can barely be measured in the classroom in the last ten years about the way that the teaching of students that are gifted is concerned.

There have been poor records of changes despite the fact that the last ten years have seen the best development in research involving the teacher training for teaching students that are gifted. Stark and Schack propose a definitions for efficacy as an individual's belief in oneself with regards to the ability to deliver. These researchers used this definition to refer to the teachers' belief in their abilities to implement certain specific elements and strategies in teaching students that are gifted. Henson (2001) found that both teachers that have not yet served and those that are experienced and that have high efficacy tended to carry out experiments with materials of teaching and methods of teaching at a higher rate than teachers who had less efficacy. Henson also came to the conclusion that the feelings of efficacy are the beginning of a change of behavior.

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The researcher's suppositions accrued from the studies that were conducted by Stein and Wang, 1988; Guskey, 1988 and Allinder, 1995. When a closer look is taken into the studies, the researcher came up with the finding that there needs to be caution when talking about the greater population of the students. The researchers were dealing with a particular population and not necessarily the population of the students that are gifted.

CHAPTER 3

3.0: METHODOLOGY

3.1: Introduction

Research methodologies are set out activities and guidelines, which assist in producing reliable and valid results (Mingers, 2001). Though it is always pleasing to choose a methodology that maximizes precision, realism and general quality (McCathy, 1990), all methods of research are somewhat not perfect in a way or the other (Dennis, Marsland and Cockett 2001). Kaplan and Duchon (1988) stated that every single approach to research would not provide the information system with the richness that a discipline needs to develop. Furthermore, methodologies are in general the approach to the procedure of the research, from the theory part of the analysis and collection of data (Hussey & Hussey, 1997). Silverman (1994) stated that "like theories, methodologies can only be more or less useful but cannot be true or false" Thus, weaknesses and limitations sole to design are meant to exist in any particular proposed, and these, without doubt, affect the interpretation and the information itself. By reviewing the literature on the differentiation of instructions, two factors were adopted, the willingness of teachers to differentiate instructions for gifted students and teacher self-efficacy. The study identified if teacher self-efficacy is the best

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predictor of the willingness of teachers to differentiate for gifted students. The chapter is, therefore, aimed at discussing the research methodology adopted in this study and the considerations that have shaped it and to summarize some of the implications of the results of this study.

3.2: Research Design

To test the efficacy and differentiation of instruction for gifted students in a regular classroom and achieve the survey objectives on the willingness of teachers to differentiate instructions for gifted students, a quantitative approach is used in the research. Malhotra (2004) stated that a quantitative approach is a research methodology that aims at quantifying data and using the statistics to analyze the data collected. A quantitative approach helps the researcher establish statistical facts on the strengths of the relations between variables. Quantitative methods are not entirely able to provide exhaustive explanations available through qualitative methods, but quantitative methods can be employed to determine the soundness and reliability of the variable measurement (Malhotra, 2004; Zikmund & Babin, 2007). Moreover, quantitative research methodologies have been used successfully in efficacy and differentiation of instruction studies (Back, 2005; Bowen & Shoemaker, 2003; Chitty et al., 2007; Han et al., 2008). The survey variables were measured by the use of survey instruments. Regression analysis was used multiple regression analysis (Huberty, 2003). Huberty describes that regression analysis is the best method whenever variables are from different sources. For the survey teacher self-efficacy and the years of teaching were from previous studies. Thus, by quantifying data to analyze the data collected, the methods used had advantages that are particularly fitting for this research. One of the main advantages is that survey-based methods collect an enormous amount of data about an individual that is responding at one time (Kumar et al., 1999). Furthermore, a survey-based approach is

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adaptable and flexible for data collection (Malhotra, 2004). Survey-based methods can gather a large sample of data efficiently and quickly at the same time (Hair et al., 2006; Sekaran, 2005; Zikmund & Babin, 2007). Additionally, an efficient survey design can provide information about teacher self-efficacy and differentiation of instruction beliefs of a respondent (Burns and Bush, 2000) and that applies to this research in that it measures the efficacy and differentiation of instruction for gifted students in the regular classroom.

3.3: Structure of Questionnaire

To determining the quality of the data collected, the structure of the questionnaire plays a very important task. A questionnaire that is structured poorly can sometimes confuse the respondent and lead to errors that are interpretative, bias the data by influencing the respondent to answer in a particular way and de-motivate the respondent from completing the questionnaire (Converse & Presser, 1986). Two significant aspects of questionnaire arrangement are questions' sequencing and outline. The sequencing of the questions aimed to assemble them by the subject matter to which they referred. Within each subject, the questions are relatively grouped into straightforward based on fact questions followed by the measure appropriate to that area. It, therefore, helps the respondent imagine about that particular characteristic of awareness of efficacy and differentiation of instruction, a context for the proper measures

Questions are drafted in the questionnaire with a part of helping to screen the audiences being targeted and a cover up statement for clearing up proposes of the study (Appendix I). Measurement of teacher self-efficacy and differentiation of instruction are all covered. The questionnaire involved demographic questions compiled into four pages and used in gathering data that will be used in regression analysis. It is true that the response rate to the survey mailed

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to teachers is usually lower than those used in employing face to face interviews and telephone interviews. Based on the instrument used in the study, the printed surveys were provided for the people involved in the study to enable them to understand better. The questionnaire was important in measuring the independent and dependent variable and collecting the demographic data. It was estimated that the study would take about 10 minutes. The questionnaire included positive and negative questions. The questions needed the respondents to reply by the use of a five-point Likert-like scale with choices including, strongly disagree, disagree, agree, and strongly agree and neutral. Questions that were stated negatively were totaled to reveal the relative negative or positive attitude of the respondents. The response that was neutral were neither considered negative nor positive, therefore scored zero. The questionnaire was thus essential in measuring teacher efficacy in classroom management, in instructional and in instructional practices As Malhotra (2004) suggests that nearly everyone like to put across their opinions, to give confidence the respondents to voice their views. Sensitive questions, such as individual information, could potentially discomfit respondents (Zikmund & Babin, 2007). Thus, to keep this feedback form clear, using unbiased wording and straightforward the questionnaire was limited to three pages; the contribution of respondents in the survey potentially increase the level of their participation (Zikmund & Babin, 2007).

3.4: Design of Measures

The procedure of data collection is an essential constituent when it comes developing a theoretical structure. It acts as the link between noticeable events that happen in real world situations on one hand and abstract theoretical thinking on the other (Tull & Hawkins, 1990). There are two elements used in the process of collecting data in the circumstance of field situation, such

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as the one used in this research: the questionnaire in which the measures are put down and also the lay-down of actions put together to assess the constructs of the factors that are influencing teacher self-efficacy and differentiation to instructions for gifted students. The two elements are essential because each one of them can have either an undesirable effect or a positive influence on the quality of data collected.

A researcher wanting to design measures for constructs that are in the theory being tested has at least two options that are available to him/her. A researcher has either the option of employing measure(s) established up to that time or develop his/her set of standards,. Every researcher has a challenge of preparing a fresh set of measures for an identical put up fragments the body of the complete research because there is no common starting point of measurement. Thus, it is advisable to adopt measures that have been used in the past unless there are valid reasons, such as shortage of measures in the past. (Churchill, 1979). Hair et al. (2006) also recommend that literature can be used to operate on the construct if the research has provided adequate information on a certain topic. The usage of existing variable measurements which are logically well-built in the literature are supposed to enhance the content validity of the measurements (Gentry & Kalliny, 2008). A researcher is required to develop their construct measurement if there is no sufficient research in the past on the topic (Hair et al., 2006).

3.5: Population

Statistical practice is based on problem definition. It includes describing the population that the sample is drawn in a sample. A population includes all items or people with the characteristics that are without difficulty in understanding. Since there is hardly enough time or money to collect information from everyone or everything in a population, the aim becomes finding a

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representative sample (or subset) of that population. During the research, according to the research objective, we would prefer to analyze the efficacy and differentiation of instruction for gifted students in a regular classroom, teachers that have teaching experience will be referred as the target respondents and the population in this research. Thus, the study included a population certified through primary, middle secondary and vocational schools teachers in UAE comprising Dubai, Sharjah, and Ajman that teach gifted students in heterogeneous classrooms in subjects like math, languages and science. The web-based directories showed that the population was about 2,000 teachers, and the study made an attempt of surveying all the teachers. The school's superintendents were consulted to ask for consent to survey the teachers. A permission rate of 50% was considered essential in providing enough number of teachers needed in the sample size. Van Tassel-Baska (2004) estimated that about 37% of gifted students in UAE are educated in a regular classroom setting. A total of 185 surveys met the required qualifications, but some were considered to miss a significant amount of data that may deem them unusual because of the missing data. The researcher decided to survey a population that was popular to her/him. Thus the results from the study were generalized from the population that the sample was obtained. Newton and Rudestam (1999) provided a guideline that helps in estimating the subjects for regression analysis, a method used in this study.

Power analysis was used in computing the sample size. Using a priori power analysis, the sample size was calculated based on a pre-specified the desired power level and alpha level (Faul, Erdfelder, Buchner, & Lang, 2009). Faul, Erdfelder, Lang, and Buchner (2007) referred to power as the possibility that the null hypothesis will be rejected in case it is a fault. The G*Power3.1.2 software helped in performing the power analysis. The multiple linear regression was used in analyzing the data. A medium effect size of 0.15 was chosen, and a power of 0.80 and alpha of

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0.05 was used. The G*Power3.1.2 was well within the 185 surveys that were returned to the investigator.

3.6: Data Collection

Both secondary and primary data were used as data collection methods. Mail surveys helped in collecting primary data. Secondary data included search from School websites. The study involves the primary, middle, secondary and vocational school systems where the superintendents of the schools were contacted to request permission of surveying teachers in their systems. The school's databases assisted in getting the contact information of teachers who met the criteria to participate in the survey. The teachers were recruited using e-mail as volunteers with a total of 848 respondents who successfully qualified. Letters were sent to the schools and only 409 surveys were mailed back. Out of the received surveys, 68 were not complete or did not meet the required profile of a teacher teaching a subject to gifted students in a regular classroom. Therefore, only 341 surveys were used in analyzing the results of the study. Interview methods (personal or telephone) were therefore deemed inappropriate due to cost and time considerations. Self-administered were also not suitable for this study. Using an online self-administered questionnaire also enables the researcher to distribute numerous questionnaires to many respondents via the Internet. This method was deemed suitable for collecting data in a relatively short period. Although having many advantages, the online questionnaire has drawbacks, mainly regarding self-reporting. The researcher cannot control the accuracy of the responses of the sample subjects. This lack of control may cause misinterpretation due to respondents misunderstanding the questions which can create validity problems. Hair et al. (2006) recommend that, when possible, researchers should use scales that have been tested as reliable indicators to overcome the validity problem. Therefore, all

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constructs in this study were measured using a five-point Likert-like scale. As online self-administered questionnaire is employed in this study, the questionnaire is developed from an online survey provider – dosurvey.com.tw.

3.7: Data Analysis

The data collected from every respondent were considered to be individual cases and analyzed using Statistical Package for Social Sciences (SPSS). The total score was used in measuring the variables. Through regression analysis, the relationship between the independent and dependent variables was determined (i.e. teacher self-efficacy and willingness of teachers in to differentiate towards students who are gifted). This method of analyzing data enable researchers to focus on the implication of independent variable on dependent variables. Testing the covariance of the independent variable was also essential using the regression analysis. The regression analysis was the best approach to be employed in this research because it involves the use of statistical techniques commonly used in social sciences (Allison, 1999). Through a stepwise regression analysis, the contribution of the independent variable was determined and helped to explain the dependent variable. The Statistical Package for Social Sciences assisted in performing all the statistical calculations. The descriptive statistics like standard deviation, maximum values, minimum values, and means were also calculated. The survey results and the demographic data were analyzed using descriptive statistics. By comparing the regression analysis and the correlation analysis. Huberty (2003) came up with a list of information, which needs to be reported for the analysis. The following list of information is essential as part of regression analysis.

- Adjusted R-squared value

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- X-variable deletion
- Effect size value
- Valuation of the data conditions
- Descriptive statistics
- Data assessment for missing outliers and data
- The computer program used.
- Design of the study
- Purpose of the study

The data analysis procedures revealed a correlation efficacy and differentiation of instruction for gifted students in regular classroom Tables were then generated by SPSS.

3.8: Reliability and Validity of the Research

Validity is the degree to which the rating scale represents and what is required to yield the type of information required. Reliability involves consistency. The above concepts (validity and reliability) concern the extent to which the measuring instrument is free of error. Reliability and validity must be inspected in the questionnaire and should be carried out intensively to ensure that the data being collected is valid (Bentler, 1990). The more consistent the results are from a measuring instrument, the more reliable they are (Shannon & Davenport, 2001). Reliability and validity are essential tools for checking how trustworthy the information about customers and their purchasing behaviors are. In most cases, marketers fail to ascertain the reliability or validity of measuring instruments used (Runyon & Stewart, 1987). Most of their findings are unfortunately based on assumptions. Research recommends that the best solution be to verify the results by

quantitative means. (Runyon & Stewart, 1987). Every study contributing to the theoretical advancement of a particular subject in an academic research must show reliability and validity (Runyon & Stewart, 1987).

From the above discussion, studies have validated the determinants of customer satisfaction and relationships between customer satisfaction and customer loyalty, adopted in this research which makes it necessary to conduct reliability and validity analysis for the concepts. Thus, tests were performed to ensure that the constructs are valid in purchasing health products to ensure validity analysis and reliability. (Chebat et al., 2009; Harrison-Walker, 2001; Keng et al., 2007; Walsh et al., 2008; Zafar et al., 2007).

3.8.1: Validity Analysis

Validity tests mostly comprise of content, criterion-relation, and concept. The latter is considered vital from the customer research point of view (Bentler, 1990; Kerlinger, 1980).

Content validity is the degree to which a particular set of items represent its objectives. The theory suggests that a measurement scale has content validity when its items are a randomly selected subset of the universal appropriation of items (Bentler, 1990; Cronbach & Meehl, 1955). In this study, validity was enhanced by carefully lining up the questions. For instance, biased questions were avoided, questions were straight, short and clear, each item was planned to represent an aspect of the variable being measured, including derogatory statements and slang phrases or leading questions were avoided (Bentler, 1990).

Criterion-related validity involves the range to which the particular principles relate to scores on a test. It is studied by comparing scores to one or more external variables or measures believed to measure the attribute in the study. Criterion-related validity was formerly known as the predictive

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validity or empirical validity because it was evaluated statistically (Bentler, 1990). If the measurement scale can predict a future happening, its validity is established and analyzed (Kerlinger, 1980).

Construct validity is the most important form of validity. It refers to the degree to which a test examines a psychological concept, theory, or variable extracted from all of the logical arguments and empirical evidence available (Converse & Presser, 1986). Construct validity is therefore concerned with the connection between other conditions and a variable (Cronbach & Meehl, 1955). The exploratory factor analysis was used as a method of approving validation in this study. Exploratory Factor Analysis is a technique used to identify factors that statistically explain the variations and covariations among the measures. The overlapping variables reduce a significant amount factor analysis and can be seen as a data-reduction technique because it results in a much smaller set of factors (Kerlinger, 1980).

Two stages are involved in this process; factor rotation and factor extraction. (Green et al., 2000). The main function of the latter was to make an initial assessment of the extracted variables and the set of factors it is underlying. The former statistically manipulates the results to make the elements more appealing and help in making the final decision about the number of underlying factors (Bentler, 1990).

3.8.2 Reliability Tests

Reliability of scales and results was used to determine Cronbach's Alpha. Nunnally and Bernstein (1994) suggested that Cronbach's Alpha should be greater than 0.70 for items to be used together as a scale. Computation by the total alpha scale of the item under examination is deleted. The primary guidelines for alpha standards of reliability include; (a) early stage of research, alpha

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= 0.5-0.6; (b) basic research, $\alpha = 0.7-0.8$; and (c) applied settings, $\alpha = 0.8-0.9$ as provided by Nunnally and Bernstein (1994) while one task of scientific compilation is to identify and determine the relationship between variables and reliability. It is a necessary condition for research outcomes and analysis.

Some recommendations are offered to improve the reliability of the results. The maximization of the variance of the individual differences and minimization of the error variance was the primary principle underlying improvement of reliability. (Kerlinger, 1980) Three general procedures for doing this are proposed;

- (1) The error can be reduced by adding more items of the same quality. More items increase the accuracy of measurement.
- (2) Measuring instruments should be written clearly
- (3) Providing clear and standard instructions for questions. Ambiguous instructions are said to increase error variance. The above measures were taken into account when drafting the questionnaire.

Internal consistency observed from Cronbach's Alpha Coefficient was derived by testing each theory. The variables could be correlated if the set of items comprises of a consistent measure of the construct. Variables that have low inter-item correlations may not belong to the same construct and should be dropped from the instrument (Nunnally & Bernstein, 1994). It is possible to examine the range to which the variables are of consistent measures in a single construct using item analysis. A higher level of reliability is represented by the variables and more consistent, resulting in higher alpha values. (Nunnally & Bernstein, 1994) A sufficient target for research in Cronbach's alpha in this research was 0.70 or higher, which is the most basic research and is considered sufficient.

3.9: Ethical Considerations

In this study, ethics is a collection of concepts based on what is right or wrong in circumstances in question. It involves conduct, actions, and beliefs. It is concerned with rules, and moral values (Corey, 2014). Owing to the nature of the study, the researcher had to uphold the necessary ethical requirements and arrangements such as the consent for the data collection in line with the objectives of the survey from the Administration. The research was involving sensitive information that possessed potential traumatizing possibilities. Therefore, there was the need to consider the privacy of respondents.

During the research, the words and question for the interviews conducted ensured that no correspondent and stakeholder was affected physical or emotionally. Besides, the researcher also included the concerns for subjectivity and objectivity during the study. The objectives of the study remained the focal point to eliminate biased results and opinions to guarantee a fair consideration (Corey, 2014). The subject of the study was chosen carefully to ensure that the research did not take advantage of vulnerable and the easy-to-access groups. The research design was sophisticated to make sure that the quantitative and qualitative ethical research considerations were not violated.

3.10: Limitation of the Study

The study depended on some factors that could not be controlled by the researcher. The factors led to the establishment of assumptions. The study assumed that the previously conducted research evaluations were an accurate reflection of the data on the demographics of the fact-finding missions. The documented research was taken as the accurate reflection of the previous

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conditions and status relating to the current study (Shipman, 2014). The study sought to account that the archived research evaluations were stored in a system that guaranteed information retrieval at the time of need. The tourism sector depends on both the internal and foreign tourists. The information regarding the subject of the study was believed to have considered the existence of the two separate categories of tourism.

During the research, it was not easy to account adequately for the influence of the control variable such as age, gender, and level of income (Flick, 2008). The problem stretched out to the validity and reliability of the research. The limitation emanates from the fact that the preferences and choices made by individuals or group depend on factors such as the tastes, necessity, and attitudes. Moreover, these societal factors change with age, gender, and level of income. Besides, the research was unable to segregate the extent of the impacts of tourism that emanated from other activities not related to sexual violence. Moreover, the analysis could not account for the effects that originated from the international domain and regional economic status.

In summary, teacher self-efficacy towards gifted students was measured the use of available instruments. To study the differential instructions towards gifted students, the general differentiation practices were measured and modified to address the differentiation practices for gifted students. The used instrument was reviewed for validity and piloted. The questionnaire survey was mailed to the teacher's school addresses or delivered to teachers by designers. The statistical analysis was then carried out using SPSS statistical software.

CHAPTER 4

4.0: RESULTS AND DISCUSSIONS

4.1: Research Findings

The study aim is to explore the relationship existing between efficacy and differentiation of instruction for gifted students in a regular classroom in UAE. Teacher self-efficacy was chosen as an independent variable and studied in relation to the differentiation of instructions as the dependent variable. This chapter, therefore, focus on data collection techniques and the statistical methods involved in the research are reviewed.

The study involves the primary, middle, secondary and vocational school systems where the superintendents of the schools were contacted to request permission of surveying teachers in their systems. The school's databases assisted in getting the contact information of teachers who met the criteria to participate in the survey. The primary, middle secondary and vocational teachers teaching languages, mathematics and sciences were involved in the study. The teachers were recruited using e-mail as volunteers with a total of 848 respondents who successfully qualified. Letters were sent to the schools and only 409 surveys were mailed back. The survey version measured teacher self-efficacy and differentiation. Out of the received surveys, 68 were not complete or did not meet the required profile of a teacher teaching a subject to gifted students in a regular classroom. Therefore, only 341 surveys were used in analyzing the results of the study. This was 40.2% of the total 848 respondents in the survey.

The MANOVA (multivariate analysis of variance) was essential in comparing independent variables of the survey. Table 1 show the descriptive statistics of each survey used in

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MANOVA, the standard deviation and the mean for the measures of years of experience, total teacher self-efficacy, and total differentiation.

Table 1 showing descriptive statistics of the survey instrument.

Variables	Mean	Standard Deviation	N
Years of Experience	14.77	8.202	296
Total Differentiation	44.20	4.997	296
Teacher self-efficacy	86.39	10.447	296

Before carryout out the analysis, the homogeneity of variance-covariance assumption was tested by the use of the Box's Test of Covariance matrices. Since the level of significance was above 0.001 the homogeneity of variance-covariance assumption was not desecrated. The error variance using the Levene's Test of Equality assisted in checking the equal error variance assumption. The results show that the equal error variance for the tested variables was not violated.

Table 2 Showing Levene's Test of Equality

Variables	F	df1	Sig.
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Total Differentiation	0.466	1	0.496
Teacher self-efficacy	3.268	1	0.072
Years of Experience	0.329	1	0.567

When the survey outcomes of total differentiation and teacher self-efficacy were computed, they were statistically significance using adjusted alpha of 0.013.

Table 3 showing the comparison of Partial eta squared values F Values and significance.

Variables	df	Partial eta squared	F-value	Sig.
Total differentiation	1	0.026	7.829	0.005*
Teacher self-Efficacy	1	0.023	6.999	0.009*
Years of Experience	1	0.014	4.190	0.042

*P < .013

Looking at the mean score, it depicts that respondents in the survey showed a higher level of teacher self efficacy and higher scores of in total differentiation instructions. Since some teachers realized that they used differentiating instruction for gifted students, it has remained to be seen whether it made them feel more officious than teachers who reported having no knowledge of differentiation instruction practices.

Cronbach's alphas were calculated to measure the teacher self-efficacy towards gifted students as an independent variable and differentiation instructions were measures to see

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the willingness of teachers in the regular classroom. Cronbach's alphas of 0.88 were got for the teacher self-efficacy scale that measures efficacy of teachers in regular classrooms. The classroom practices inventory during the pilot studies was instrumental in measuring the level of differentiation instructions for gifted students with a Cronbach's alphas of 0.91. These measures will, therefore, be used in regression analysis.

4.2: Regression Analysis

Teacher self-efficacy as a predictor variable and years of teaching experience was used as control variables was run against differentiation instructions for gifted students as a dependent variable. The years of teachers experience was included in the regression analysis to assist in explaining the willingness of teachers to differentiate instructions for gifted students than the predictor variable. The study intuition included teacher's years of experience because it provides a logical relationship between the predictor and control variables. Additional information was run using a stepwise regression to provide additional information.

Table 4 showing stepwise regression analysis

Steps	Variable	Total R2	Adjusted R2	Additional Adjusted R2	Effect Size
1	Teacher self-efficacy	0.116***	0.113		0.131
2	Teachers year of experience	0.204** *	0.196	0.029	0.256

***p< .001

The table shows that 20% of the variance of differentiation of instruction for gifted students can be explained using the control and predictor variables. By explaining the variance of the

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dependent variable contained within teacher self-efficacy, adjusted $R^2 = 0.113$. The teacher's years of experience provided additional R^2 of 0.29. The weights for teacher's self-efficacy and teachers years of experience indicate that teacher self-efficacy is the primary predictor factor over teacher experience. A total score of 0.977 (teachers year of experience) and 0.962 (teacher self-efficacy) show that a little amount of variance may be accounted for by the predictor variables (Regression, 2012).

Table 5 showing the correlation matrix

	Teacher Years of Experience	Teacher Self-efficacy	Total Differentiation
Teacher Years of Experience	1.00	0.011	0.216
Teacher Self-efficacy		1.00	0.342
Total Differentiation			1.00

The low co-linearity levels between the variables show that each measure was a separate construct. By examining the Mahalanobis distances, one case had a value that appears to be larger than the critical value of the two independent variables (16.27). Looking at the large size of the sample where $N=308$ it was found that the single outlier impact had a minimal effect on the research. The Cook's distance analysis indicated no value that was larger than 1, making no action to be taken in dealing with the outliers (Pallant, 2010).

4.3: Results Discussions

Differentiation of instructions for gifted students in regular classrooms has been a contented topic in UAE by educational researchers (Archambault et al., 1993). Early research has indicated that in UAE, minor modifications are made for gifted students. The population under

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study were teachers within the primary, middle secondary and vocational schools in Dubai, Sharjah, and Ajman in UAE. The respondents in the study involved 36 men (10.5%), 303 women (88.9%) and two who did not respond to gender (6%). A control and predictor variable were run against an independent variable, the willingness of teachers to differentiating instructions for gifted students. Teacher self-efficacy as a predictor variable and teachers years of experience as the control variable were used in determining and explaining the willingness of teachers to differentiate instructions for gifted students. Using a stepwise regression analysis, additional information was obtained, and a 20% of the dependent variable variance was explained using combined effect of the control and predictor variable. The research question was therefore answered teacher self-efficacy was found to be a better predictor of the willingness of teachers to differentiate instructions for gifted students. The beta weights for years of experience and total efficacy indicated that efficacy is a primary predictor over years of teacher experience. The median effect sizes are clearly seen in the steps within the regression. The scores of tolerance indicated that a small level of variance in the predictor variable was accounted for (Regression, 2012).

An analysis by Rogers's show that students who are gifted have got different needs from that of other students and need to receive differentiation of instructions in every subject area. Tomlinson (2005), states that differentiation is a flexible and organized way of adjusting learning and teaching practices to meet and help students in achieving maximum growth as students. Differentiation is considered significant because there are approximately three million students who are gifted in UAE who are commonly educated in regular classrooms (NAGC, 2009). Students can learn better whenever differentiation of instructions is geared towards their needs. Though there is limited evidence that can assist in evaluating differentiation

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effectiveness, available literature shows that differentiation is an essential practice for gifted students in the regular classroom. (Burns et al., 2002). Sisk (2009) describe that without a willingness and professional development in addressing gifted student's needs, it is a challenge for teachers to actually differentiate in the regular classroom. This finding contradicts the work of Westberg and Daoust (2003) who found no relationship between teachers training practices and training experiences. One exception was noted: coursework in gifted education increases modifications in the curriculum for gifted learners. Thus, though the teacher may have more professional development, their practices does not reflect their additional training because teachers felt pressure in performing on the state test.

Some studies have provided some reasons for the lack of differentiation in gifted students. For example, lack of support from administration, lack of training on the differentiation of instructions and classroom management skills. Other researchers have however seen the lack of systematic monitoring as a challenge for lack of differentiation in gifted students. McCoach and Siegle (2007) describe that self-efficacy explains the willingness of teachers to differentiation of instructions for gifted students in the regular classroom. Teacher self-efficacy is a predictor of what teachers do with their skills and knowledge in the classroom (Pajares, 2002). Starko and Schack (1989) described that successful completion is the primary source of efficacy. Studies have found that teachers are not able to recognize a particular differentiation instructional strategy meet the needs of gifted students. Teachers should be confident in their ability to implement the strategy required. Henson (2001) realized that teachers are having high self-efficacy experiment with teaching methods and teaching matters than teachers who are less efficacious. After reviewing the literature, it remains to be noted whether teacher self-efficacy is a better predictor of the willingness of teachers to differentiate instructions for gifted students.

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Because of this gap that is evident in literature, the research aimed to find out whether self-efficacy is a predictor of teacher's willingness to differentiate instructions for gifted students in the regular classroom.

In summary, the primary focus of the quantitative study was efficacy and differentiation of instruction for gifted students in a regular classroom in UAE. Before the analysis was carried out, descriptive statistics were used in determining any significant difference in the responses of the survey. An average number of demographic data over the years of teaching by the respondents (N=341) was essential in finding the relationship between efficacy and differentiation of instruction for gifted students in a regular classroom. Cronbach's alphas were calculated for every scales indispensable in measuring the dependent and independent variables: the willingness of teachers to differentiate instructions, teacher's self-efficacy for gifted students. The regression analysis indicated that teacher self-efficacy teaching experience was essential as predictors of the willingness of teachers to differentiation of instruction for gifted students. The study results depicted that teacher self-efficacy was the best predictor of the willingness of teachers to differentiation of instruction for the gifted student. The results also showed the combined predictive ability of the variables showed 20 percent of the depended variable.

CHAPTER 5

5.0: Conclusion and Recommendations

5.1: Conclusion

The research gathered evidence in substantiating that most students who are gifted in UAE are educated in the regular classroom. The recession of UAE economy has allowed the decline of the pullout technique that favors gifted student's placement in heterogeneous classrooms. The focus on students to meet the minimum competency level is a challenge to

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accomplished students and hinder educating the most capable students in UAE. Since most students are in regular classrooms to differentiate instructions is a logical technique to meet gifted student's needs.

The research found statistically significant results for the internal factors studied, teacher self-efficacy as predictors of the willingness of teachers to differentiate instructions for gifted students. The year of teacher experience is a poor predictor than teacher self-efficacy towards gifted students. The variables provide a puzzle in the search for reasons that teachers may or may not be willing to differentiate instructions for gifted students in regular students, however, there are a lot left unexplained. By reviewing the literature, it indicated that studies on the relationship between teacher self-efficacy and differentiation of instruction are very few. The research showed that teachers in UAE have a positive attitude on gifted students. This was the same as the results found in the research carried out by Pierce and Adams (2003). The years of teaching experience was seen to be a poor predictor of differentiation instruction practices in the regular classroom. The casual inspection in the study compared to previous research showed that the survey instruments were sound. The study provided that efficacy among teachers be the best predictor when predicting the willingness of teachers to differentiation f instructions for gifted students in the regular classroom. The research question was well answered, and the findings were essential in providing a piece of the puzzle. The research shows that further research should be carried out to uncover external and internal factors affecting the willingness of teachers to differentiation instructions for students who are gifted. More research may also be essential in case a model that is comprehensive is developed to provide meaningful insights into why some teachers are not willing to differentiate for gifted students. The circumstances that necessitate educating students who are gifted in the heterogeneously classroom need to change. This can be

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done by training teachers to strategies for teaching use effective to differentiate instructions for gifted students. Staff development should be the primary approach to train teachers, as it is the best interest of gifted students to find reasons staff development has not been operative to change teacher practice based on differentiation instructions for gifted students. The study results showed that teacher self-efficacy is a predictor that is powerful in the willingness of teachers in differentiation instruction than years of teaching in regular classrooms. Efficacy is improved by experiences and teachers having high levels of self-efficacy experiment with more methods and materials than their counterparts with low self-efficacy. In order to close the gap on the number of respondents (80%) who participated in the study to differentiate instructions for gifted students, it would be essential in exploring the obstacles reported in the previous researchers (Van Tassel-Baska & Stambaugh, 2005; Moon, Brighton, & Callahan, 2003; and Van Tassel-Baska, Quek, & Feng, 2007). The external factors like lack of managerial support, training and planning time may be critical in adding to our understanding of willingness of teachers to differentiation instructions for gifted students. The implication of The Child Protection Act and the Federal Law No. 29/2006 on the Rights of Students having Special Needs had on gifted students also need to be considered. The study was thus essential because it actually highlights the lack of understanding of why teachers in UAE are willing to differentiate instructions for gifted students while other teachers are not willing. Only a modest differentiation amount is taking place for gifted students in the regular classroom. Since the main method that influence behaviors and beliefs of experienced teachers is staff development, it is critical for administrators to find the manner in which staff development can be improved for it to deliver the required results for gifted student's education. Teacher self-efficacy plays a critical role in changing

teacher's willingness. However, more research is needed to show the manner in which teacher self-efficacy is influenced by staff development.

5.2: Recommendations

The study results were essential in explaining the reason teachers may be willing to differentiate instructions for gifted students in the regular classroom. The research was statistically significant but not robust enough to apply the application of study. Some recommendations are provided for future research.

1. By using studies that involve asking respondents to outline a list of both external and internal factors influencing their differentiation level for gifted students and the manner in which they think each factor affects teachers' decisions to differentiate instructions may be able to provide a broader view of what teachers in UAE see to be obstacles of differentiation instructions in regular classroom.
2. The education sector can construct a model that is more comprehensive in attempting to produce a complete explanation on differentiation of instructions by teachers for gifted students in regular classroom. This study could have comprised the variables from the previous research that include both external and internal obstacles of differentiating instructions for gifted students in regular classroom.
3. By the use of mixed methods in comparing descriptions of teachers in their teaching practices using qualitative instruments relying on self-reporting can provide a more realistic picture of differentiation practices by teachers. Structured observations may also be essential in providing triangulation.

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4. Teachers can be surveyed based on their past professional experiences by emphasizing on the exposure they have on opportunities and demonstrations to practice techniques being taught. Teachers need to provide feedback on their method of teaching the moment they go back to classroom. Besides do they include additional sessions of training provided after implementing the strategies? Successful completion and vicarious experience are considered to be important in contributing teacher self-efficacy.

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