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Differentiated Instruction in the Mainstream English Language Classroom in the UAE Public Secondary Schools: Exploring Teachers' Beliefs and Practices

التدريس المتميز في صفوف اللغة الإنجليزية بمدارس التعليم الثانوي الحكومية
بدولة الإمارات العربية المتحدة: استكشاف قناعات المعلمين وممارساتهم

by

Ahmad Bourini

**A thesis submitted to the Faculty of Education
in fulfilment of the requirements for the degree of**

DOCTOR OF PHILOSOPHY

at

The British University in Dubai

May 2015

**Thesis Supervisor
Dr. Yasemin Yildiz**

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Thesis Supervisor

Dr. Yasemin Yildiz

Approved for award:

**Prof. Nicos Sifakis
External Examiner**

**Dr. John McKenny
Internal Examiner**

**Prof. Abid Abu-Tair
Chair of Examiners**

**Prof. Abdullah Mohammed Alshamsi
Chair of Research Degree Committee**

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Abstract

The purpose of this study was to explore English language teachers' beliefs and practices related to differentiated instruction in the secondary EFL mainstream classroom. The study examined the preconceived misconceptions they held about student diversity and the barriers and enablers they encountered in implementing differentiation. The study was largely based on the assumption that the knowledge and beliefs teachers hold about instructional practices impact the pedagogies they follow with students of different levels of readiness, interests and learning profiles. Differentiated instruction is grounded in Vygotsky's (1962) sociocultural theory, constructivism, Tomlinson's (1999) theory of differentiated instruction, Gardner's multiple intelligences and the learning styles, and the study is guided by this theoretical framework. The study was conducted at public secondary schools in the United Arab Emirates (UAE) using a triangulation mixed methods design. The quantitative part included a questionnaire administered to ($n=196$) English language teachers from the ten education zones in the UAE. Six qualitative semi-structured interviews and six classroom observations were conducted to profoundly explore in-service teachers' beliefs and implementation of differentiated instruction. Descriptive and inferential analyses were performed using SPSS. Qualitative data obtained from interviews were coded and thematised as a means of searching for related themes. The findings from the study showed that while most teachers believe that students learn differently and their diverse needs must be addressed accordingly, many of them had possessed limited knowledge and several misconceptions about differentiated instruction and its implementation in the language classroom. Results also indicated that most participating teachers considered formative assessment, using technology, and graphic organizers as major enablers of differentiation. Conversely, time constraints, inadequate flexibility in curriculum, and insufficient training in differentiation were identified by teachers as major obstacles to addressing student diversity.

ملخص

التدريس المتمايز في صفوف اللغة الإنجليزية بمدارس التعليم الثانوي الحكومية بدولة الإمارات العربية المتحدة: استكشاف قنوات المعلمين وممارساتهم

تهدف هذه الدراسة إلى استكشاف قنوات معلمي اللغة الإنجليزية وممارساتهم بشأن التدريس المتمايز بصفوف اللغة الإنجليزية بمدارس التعليم الثانوي في دولة الإمارات العربية المتحدة، بالإضافة إلى استقصاء ما لديهم من مفاهيم غير صحيحة محتملة حول الاختلافات بين الطلبة، وكذلك العوامل المساعدة على تطبيق التمايز ورصد العوائق التي يواجهها المعلمون في تنفيذ هذا النوع من التدريس. وقد اعتمدت الدراسة إلى حد كبير على افتراض أن معرفة المعلمين وقناعاتهم المتعلقة بالممارسات التدريسية تؤثر في الاستراتيجيات التي يتبعونها مع الطلبة من مختلف المستويات من حيث الجاهزية والاهتمامات وسمات التعلم. ويستند التدريس المتمايز إلى نظريات عدة، منها النظرية الاجتماعية الثقافية لفايجوتسكي (1962) والنظرية البنائية، ونظرية التدريس المتمايز لدى توملنسون (1999)، ونظرية الذكاءات المتعددة لجاردنر (1983) بالإضافة إلى أنماط التعلم. حيث تشكل هذه النظريات في مجملها إطاراً مرجعياً للدراسة، وقد تم إجراء الدراسة في المدارس الثانوية الحكومية بدولة الإمارات العربية المتحدة باتباع تصميم الطرائق المدمجة في البحث، حيث تضمن الجانب الكمي استبانة أجاب عنها 196 من معلمي اللغة الإنجليزية بالمناطق التعليمية العشر في الدولة، بينما اشتمل الجانب النوعي على ست مقابلات شبه منظمة وست زيارات ملاحظة صفية بهدف الاستكشاف المعمق لقناعات المعلمين وممارساتهم المتعلقة بالتدريس المتمايز، وقد تم إجراء التحليلات الوصفية والاستنتاجية للبيانات بوساطة برنامج الحزم الإحصائية للعلوم الاجتماعية SPSS، بينما تضمن التحليل النوعي ترميزاً للبيانات التي تم الحصول عليها من المقابلات ومن ثم تصنيفها حسب الموضوعات ذات العلاقة.

وأظهرت النتائج الناجمة عن الدراسة بأنه في الوقت الذي يعتقد غالبية المعلمين، وهم من ذوي الخبرة والكفاءة بأن الطلبة يتعلمون بطرائق مختلفة، فإن كثيراً منهم يمتلك معرفة محددة ومفاهيم مغلوطة عن التدريس المتمايز وتنفيذه في صفوف اللغة الإنجليزية. كذلك أشارت النتائج إلى أن المعلمين يعدّون التقويم البنائي والمنهاج المرن وتوظيف التكنولوجيا والمخططات الرسومية من أهم الوسائل المساعدة على التمايز، وفي المقابل تمثلت أهم المعوقات من وجهة نظرهم في عدم كفاية الوقت والتدريب المتخصص في التدريس المتمايز.

DEDICATION

To the memory of my father

who would have been so proud of my achievement

To my mother

who has taught me to fulfill my dreams and surrounded me with her prayers

To my brother Mohammad

who has always been so supportive and encouraging

To Munira

who has always believed in me more than I have believed in myself

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ABBREVIATIONS

ADEC	Abu Dhabi Education Council
BBL	Brain-Based Learning
CBS	Common Beliefs Survey
CEPA	Common Educational Proficiency Assessment
DIOP	Differentiated Instruction Observation Protocol
ECF	English Curriculum Framework
EFL	English as a Foreign Language
ELLS	English Language Learners
ESL	English as a Second Language
FL	Foreign Language
HCT	Higher Colleges of Technology
ICT	Information and Communication Technologies
IDEA	Individuals with Disabilities Education Act
IELTS	International English Language Testing System
L2	Second Language
MAG	Madares Al-Ghad (Future Schools)
MBRSLP	Mohammad Bin Rashid Smart Learning Program
MIT	Multiple Intelligences Theory
MoE	Ministry of Education
NCLB	No Child Left Behind
NSM	New School Model
OECD	Organization for Economic Cooperation and Development
RQ	Research Question
SL	Second Language
SPSS	Statistical Package for the Social Sciences
TOEFL	Test of English as a Foreign Language
UAE	United Arab Emirates
UAEU	United Arab Emirates University
VAK	Visual-Auditory-Kinesthetic
ZPD	Zone of Proximal Development
ZU	Zayed University

CHAPTER ONE

INTRODUCTION

1.1 Introduction to the Problem

In recent decades, the issue of ‘Differentiated Instruction’ has captured the attention of educationalists and researchers across the world. It has gained increasing interest in the general education context as a tool to help teachers observe student individual differences and to ensure all students progress towards achieving the targeted learning outcomes (Aliev & Leaver1993; Dadour & Robbins 1996; Dahlman, Hoffman & Brauhn 2008; Dornyei 2001; Leaver, Oxford & Ehrman 2003; Gardner 1988; Valiande & Koutselini 2009; Vibulphol 2004). In view of this trend, and with a classroom that is more diverse than ever, differentiating instruction is increasingly viewed as the panacea most teachers, including those teaching English as a foreign (EFL) and second language (ESL), are looking for (Logan 2011; Tomlinson1999).

Differentiated instruction is a philosophy of teaching and learning that lays emphasis on modifying and adapting instruction to meet the individual and diverse needs of students in the classroom. Ford (2011 p. 1) states that “[each] student comes to school, not only with unique academic needs, but also with unique background experiences, culture, language, personality, interests, and attitudes toward learning”. Therefore, following a one-size fits all instruction has not proved to be successful (Tomlinson & Strickland 2005), and teachers need to adjust their instruction to observe the individual needs of their students through differentiation. In essence, teachers’ beliefs shape their instructional practices. Consequently, their beliefs about student diversity in the mainstream classroom have been vastly investigated and documented in Western literature. Thus far, however, there has been little to no empirical research studies that have explored EFL teachers’ beliefs about differentiation in the Gulf region including the UAE, to the knowledge of the researcher. With more students struggling with learning the language skills; and sometimes with increased teaching loads, and insufficient knowledge and support, teachers may view meeting the demands of classroom diversity a formidable task that is extremely challenging to achieve.

The current mixed methods study explores EFL teachers' knowledge and beliefs and examines common misconceptions about differentiated instruction in the mainstream diverse classroom in the UAE secondary schools, where students have different levels of academic achievement, and varied interests and learning styles. The first idea that generally comes to mind when speaking of differentiation is linked to catering to the needs of two groups of students: those with learning disabilities and the gifted, probably because this is how differentiation first began (Tomlinson 2001). All students, however, are to be provided the chance to learn in the best way possible and the opportunity to succeed (Anderson 2007). The focus of the study is not on beliefs about inclusive classrooms (albeit very important) where students of different learning disabilities are included to learn together. Rather, the scope of the study encompasses cognition about teaching English language learners (ELLs) in the mixed level mainstream classroom at public secondary schools regardless of their readiness level, interests, learning profiles or disabilities.

Nonetheless, the study still acknowledges that in view of the Ministry of Education's (MoE) policy of including special needs students in the mainstream classroom, there could be a number of under-identified gifted and learning disability students. Many of the teachers, who show dissatisfaction about the inclusion of students with special needs, find identification and teaching so challenging, mainly due to insufficient training on inclusion and differentiation strategies in the mainstream classroom (Anati 2013). Furthermore, gathering information about enablers and barriers to implementing differentiation from the participating teachers' perspectives provides a better understanding of their perception of instructional practice.

The present study includes six chapters. The first chapter presents the background of the problem, statement of the problem, purpose and significance of the study and limitations and delimitations of the study. In Chapter Two, the researcher discusses the related literature. He introduces the framework of the study that comprises the focus areas. Chapter Three introduces the research design and methodology used in the study. It provides details of the data collection methods, research questions, instrumentation and data analysis techniques. In Chapter Four the findings of the questionnaire are presented in relation to the research questions. Statistical analysis of the collected quantitative data using Statistical Package for the Social Sciences (SPSS) is provided to highlight the

outstanding features and content analysis of qualitative data was carried out for in-depth information. Chapter Five discusses the results obtained in relation to previous research on differentiated instruction and theoretical framework. Implications and recommendations for future researchers, practitioners and educational policy makers are provided. Finally, Chapter Six presents the conclusions drawn from this research.

1.2 Background of the Study

The major responsibility of any education system is to produce active responsible future citizens. This responsibility starts in the classroom when the child feels responsible for his/her learning with a flexible and enjoyable curriculum and with a teacher who supports and respects the characteristics of students and the needs of the society (Wane 2000). However, the tradition of instruction which prevails in many education systems worldwide has proved to be ineffective in different ways especially in focusing on content-based curriculum and common testing systems. More importantly, many teachers in those systems may be highly qualified but still teach in a way that does not address the real needs of students (Murnane & Steele 2007). In addition, the negative washback effect of the tests has often led to producing learners with high test scores but with weak life skills (Guba & Lincoln 1989; Valiande & Koutselini 2009). Wagner (2008, p. 3) found out in his research that in many schools "teaching to the test is the only curriculum". Hence, for many educators around the globe, the theory of differentiated instruction proposed by Tomlinson (1999) leads to a workable solution to the problem. The focus according to this approach shifts into instructional practices that respect the interests, readiness levels and learning profiles of students and modifying the curriculum.

The success of teaching depends greatly on teachers' beliefs about teaching and learning, as the beliefs the teacher holds interact with pedagogy and, in turn, impact their practice positively or negatively (Anderson & Bird 1995; Bandura 1986; Borg 2009; Gitsaki & Bourini 2013). According to Bauch (1984), beliefs are modified into attitudes that influence the practitioner's decisions. In the same vein, Borg (2003, p. 81) states that "teachers are active thinking decision makers who make instructional choices by drawing on complex, practically-oriented, personalized, and context sensitive networks of knowledge, thoughts, and beliefs". By and large, language teachers are not an exception to this rule. Many teachers in the English classroom try to implement differentiation because they think it is effective (Fairbairn & Jones-Vo 2010). Then they discover that it is a very

challenging and daunting task to do. Therefore, some of them may start to show resistance to application in the classroom. The challenge according to Willis and Mann (2000) largely lies in the teachers' beliefs as an internal factor. It also exists in their knowledge as another factor that is inextricably intertwined with beliefs. Wormeli (2005) argues that teacher resistance to differentiated instruction lies, most often, in the misconceptions they hold about the approach.

1.3 The Educational Context of the Study

The UAE government provides free-of-charge education to all Emirati male and female students at all stages: According to the school educational system in this country, there are three cycles: Cycle One comprises five Grades (1-5), Cycle Two three Grades (6-9), and Cycle Three/Secondary three Grades (10-12). English in these is still taught as a foreign language. The Ministry of Education and ADEC are in charge of providing and overseeing the government reform initiatives and teaching and learning according to national and international standards. According the National Qualifications Authority (2013), the UAE holds the first place among the Gulf countries in public spending on education with more than AED 10 billion in 2009 (about 28% of the federal budget).

Research on English language teaching in the UAE primary and secondary schools has demonstrated that many English language teachers are well-qualified and highly experienced. However, a considerable number of teachers still use traditional pedagogies including content memorization and teacher-centred instruction. They show over-reliance on textbooks and summative assessment and ignore diversity (Crabtree 2010; Hatherley-Greene 2012; Souleles 2013). Such practices, among others, contribute to student disengagement and failure of many high school graduates to master the required skills that help them pass the standardized tests and get admitted to the academic programmes in higher education institutions. Figure 1 below shows the total admitted UAE students in federal universities. According to the MoE Strategy 2010-2012 report, out of the 9208 national students who applied to these universities in 2009/2010, only 546 (6%) could join their selected academic programmes directly. The other 94% needed foundation courses and remedial work in English, math or science (Forstenlechner & Rutledge 2010). To minimise the problem, the UAE government devoted 30% of the Ministry of Higher Education's budget (AED 1.3 billion in 2013) to the foundation programmes in attempt to

improve the English proficiency level to degree course standard (The National 2010). However, the problem is still persisting.

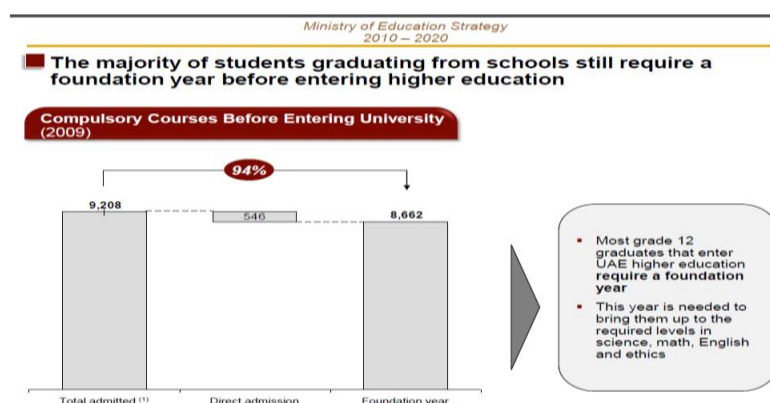


Figure 1: Total Admitted UAE students in federal universities (MoE Strategy 2013, p. 12)

Getting a band 5 score in the International English Language Testing System (IELTS) test, 61 in iBT TOEFL test, or the equivalent 180 in the national Common Educational Proficiency Test (CEPA) is the minimum language requirement for a student to join the academic programme directly in one of the three main federal higher education institutions in the UAE. These institutions are United Arab Emirates University (UAEU), Zayed University (ZU), and Higher Colleges of Technology (HCT) - (Your Guide to Higher Education 2013-2014). Table 1 shows the Admission Criteria for Direct Entry to a programme as per university. Unfortunately, however, most of the Emirati students are unable to make it without a one or two year's extensive foundation programme after secondary school, designed to elevate the students' English language proficiency and study skills. 'What raises the proficiency level of the secondary school students in English to a level that enables them to skip the foundation year?' is a timeless and debatable question that educationalists, policy makers, and administrators in the UAE ask persistently.

Institution	Program	CEPA	IELTS (Academic Module)	TOEFL (iBT – Internet Based)
UAEU		For placement	Minimum Band 5	61 or above
HCT	• Applied Baccalaureate	180	Overall Band 5; no band below 4.5	64 or above; no skill below 16
	Applied Diploma	160 or above		
ZU		For placement	<ul style="list-style-type: none"> Minimum Band 5, In addition to a ZU Exam; or Minimum Band 6 	Minimum 61, in addition to a ZU Exam; or iBT 80 or above

Table 1: Admission Criteria for Direct Entry (2013-2014)

The Ministry of Education 2010-2020 Strategy adopts a strategic improvement initiative that aims to “eliminate the Foundation Year by integrating it into the school curriculum” (MoE Strategy 2010-2020). Thus, there have been several attempts to diagnose the problem and the focus was on the teachers’ instructional practice as one of the key factors. This initiative has placed more responsibility on secondary school teachers regarding how to raise the students’ proficiency in the four skills (reading, writing, speaking, and listening) to a level that ensures bridging this big gap.

One of the sources that inspired the researcher to conduct the study was his work at the UAE Ministry of Education as an educational supervisor, curriculum specialist and professional development coordinator who used to observe teachers constantly in the classroom. Through hundreds of observations, the researcher developed an impression that a lot of students in the mixed-level classroom were generally not engaged enough in learning the language efficiently. A big part of this disengagement is likely due to the inability of teachers to meet students’ individual needs and due to reverting to one basic whole classroom instruction most of the time without snagging lots of student attention. However, this impression needed investigation.

English language teachers may deliver their lessons in a mixed-level classroom environment maintaining adequate rates of collaborative learning activities. Nonetheless, scaffolding and differentiation might be inadequate and fall short of achieving the required level of competency among students. Moreover, teachers who are unprepared to meet the various needs of their students tend to teach to the middle level of their class, typically due to a misconception that this saves time and effort, or because they are not armed with the appropriate instructional tools (Davis 2012). This results in many students turning out to be frustrated and not challenged enough (Gilmour 2013; Tomlinson 1999). To differentiate effectively, the teacher should have thorough understanding of the content; knowledge of students’ individual needs and learning styles; and competency in the proper strategies of differentiated instruction and assessment amongst other things (Tomlinson & Imbeau 2010). Additionally, all mainstream teachers need to be aware of L2 development and the complexity of learning a second language in view of diverse learning difficulties (Spolsky 1989).

Abu Dhabi Education Council (ADEC), the entity in charge of the education sector in the Emirate of Abu Dhabi, was established in 2005 seeking to develop education by employing innovative educational policies in accordance with international standards. ADEC created the educational policy of the Emirate of Abu Dhabi in 2008 and introduced the New School Model (NSM) in 2010 in early stages. Interestingly, the NSM emphasised student-centredness and the principles of differentiation in curriculum and pedagogy. According to Policy 1720 of the Model, “[Teachers] will be responsible for delivering student-centred instruction through continuous assessment, differentiated instruction, and scaffolding of the curriculum to enable all students to achieve the learning outcomes” (ADEC Policy Manual 2014, p. 1). Moreover, the NSM stresses that “teachers use assessment data to develop differentiated instructional strategies that lead to more effective student learning” (p. 64).

In addition, the MoE English Curriculum Framework (ECF) of standards refers to the importance of differentiated instruction as a fundamental principle “to accurately determine individual student proficiency levels and develop increased proficiency regardless of grade level” (Unpublished English Curriculum Framework 2011, p. 10). Although ADEC schools adopt a different curriculum from that of the MoE in the secondary stage, teachers and students use the Ministry’s textbooks as one of the resources, due to the fact that all Emirati students sit for the same exam in the end of Grade 12. However, it is not obvious enough whether EFL teachers believe in differentiation and its practicality when dealing with vast classroom diversity.

1.4 Statement of the Problem

According to the recent trends in teaching, differentiated instruction has been identified as a way to solve the problems of low achievement and proficiency in the ESL/EFL classroom (Fairbain & Jones-Vo 2010; Tomlinson & Imbeau 2010). Conversely, lack of differentiation negatively affects student progress and achievement (Whiting & Ford 2009). A growing interest in differentiating instruction is evident in the policy and curriculum documents of ADEC and MoE to assist the teachers to address the needs of all students and to help them achieve the learning goals. In reality, however, there is a gap in the research related to whether English language teachers in the UAE schools have sufficient knowledge and the capability to practice differentiation in action. More specifically, to the knowledge of the researcher, there have been no previous studies in the

Gulf region including the UAE that have clearly explored English language teachers' beliefs, preconceived misconceptions, obstacles and practices of differentiation in the language classroom.

The study emphasises that exploring teachers' beliefs about student learning deepens understanding of strengths and weaknesses about practicing differentiation. Thus, it is particularly significant to explore the beliefs or misconceptions they hold about student diversity in action. It is also important that the study endeavors to quantitatively and qualitatively investigate teachers' practices and the challenges and enablers of differentiation.

1.5 Research Questions

The review of related literature reveals that teachers generally assume that they are experienced enough in employing differentiation strategies (Heacox 2002; Subban 2006; Tomlinson & Strickland 2005). In this respect, Tomlinson and Allan (2000) maintain that "the truly expert teacher understands, however, that even after a dozen careers in the classroom, she could still learn more about her subject and her learners and how to link each learner to the subject with power and joy" (p. 13). The study aims to answer the following overarching questions which were derived in view of the literature review and the theory of differentiated instruction:

1. What beliefs or misconceptions do secondary school EFL teachers hold about differentiated instruction in the mainstream classroom?
2. What barriers or enablers do EFL teachers encounter in implementing differentiated instruction?
3. Do teachers implement differentiated instruction in the EFL classroom?

1.6 Purpose of the Study

The purpose of this study is to explore the beliefs and preconceived misconceptions, if any, EFL teachers' in the UAE secondary schools hold about differentiation. Particularly, the focus is to determine the extent to which in-service teachers had a developed understanding, knowledge of, and beliefs about differentiated instruction concept, elements, strategies and effectiveness of implementation. The aim is to find out the teachers' ability to differentiate the content, process and products according to students'

diverse interests, readiness levels and learning profiles using a differentiated lesson plan. Additionally, the study is an endeavor to explore the obstacles and facilitators of teacher performance in view of theoretical considerations and some practical applications. In essence, this exploratory study is meant to be a further contribution to the knowledge of differentiated instruction as an interdisciplinary approach to teaching in view of the sparse literature on this problem.

1.7 Significance of the Study

A key assumption that theorists and educators adopt about the influence of beliefs and knowledge on human action is reflected in the suggestion that “understanding teacher cognition [or beliefs] is central to the process of understanding teaching” (Borg 2006, p. 1). In general, this fundamental assumption has led many researchers and policy makers to give more emphasis to the issue of teacher beliefs and their influence on instruction (Aguirre & Speer 2000; Pajares 1992). Therefore, in the present study, investigating the teachers’ beliefs about differentiation will give a profound understanding and knowledge of the teaching process in the EFL context.

There is a myriad of research devoted to teaching strategies and techniques that help implement effective teaching practices (Smith 1995; Walls et. al, 2002) including strategy-based instruction in which student makes sense of the language and communication (Rubin 1990). The literature about effective practices reveals that the teacher’s instructional practice is the most influential factor on student achievement, where the impact is two to three times, compared to other factors including leadership and school environment (Rand Education 2014). Therefore, it is not possible to improve the learning outcomes without improving the instructional practices of school teachers (Mortimore & Sammons 1987; McKinsey & Company 2007). Additionally, the literature reveals that success of students of diverse levels and abilities is best achieved through differentiation which raises students’ motivation and commitment (Benjamin 2006; Tomlinson & Imbeau 2010).

The literature also reveals that there seems to be an obvious dearth of investigation of the beliefs pertaining to implementing the strategies of differentiation in the EFL classroom (Hall, Strangman & Meyer 2003). It could be assumed that these beliefs influence teaching practices, which is an area that needs to be explored before studying their

effectiveness. Generally, studies on language teachers' beliefs or cognition focus on investigating in-service teachers' actual practices in the context of self-reflection (Borg 2006). The present study, however, explores EFL teachers' beliefs using external observation in addition to interviews and a detailed questionnaire. Moreover, as Borg (2009) states, much of the second language (L2) research on teacher beliefs has been done in contexts where English native teachers are working with adult learners and typically in the tertiary level. Nonetheless, "there has been much less work in primary and secondary school contexts where nonnative speakers of English work with larger classes of learners." (p. 4). Hence, the significance of the present study highly arises from the need to understand beliefs in the secondary stage where the scope is not restricted to English native teachers.

Quite plainly, there is no evidence that EFL teachers in the context of this study have developed awareness in differentiation or acted accordingly, which necessitates investigation. Exploring this area and answering the research questions will add to the research on understanding the beliefs and performance of EFL teachers in the UAE, as facilitators and providers of learning experiences. In addition, the results of the study could support the reform initiatives in the Ministry of Education that aim to bridge the gap between the output of secondary education and the requirements of the academic programmes in tertiary education. The results might also assist teachers to build their expertise when teaching the mixed-level classroom.

1.8 Definition of Terms

For the purpose of this study, the following terms are defined.

- *Differentiated Instruction* is the process of varying instruction to ensure that "what a student learns, how he/she learns it, and how the student demonstrates what he/she has learned is a match for that student's readiness level, interests, and preferred mode of learning" (Tomlinson 2004, p. 30). Differentiated Instruction is based on the belief that one size does not fit all, and each student in the regular classroom possesses unique qualities. Hence, the teacher needs to vary techniques and tailor instruction in order to reach all students and attend to their diverse needs (Gregory & Chapman 2002; Tomlinson 1999).

- *Beliefs* are "psychologically held understandings, premises, or propositions about the world that are felt to be true" (Richardson 1996, p. 102). In an educational context, they refer to the knowledge, perceptions and attitudes of teachers, which may restrain or promote change (Richardson 1990). Similarly, Richards (1998) pointed out that teacher beliefs are "the information, attitudes, values, expectations, theories, and assumptions about teaching and learning that teachers build up over time and bring with them to the classroom" (Richards 1998, p. 66).
- *Misconceptions* are perceptions or opinions that are incorrect due to faulty thinking or misinterpretations. A misconception can also be a belief that does not conform to actuality (Eryilmaz 2002). Misconceptions originate from a practitioner's conceptual misunderstanding and limited prior experience or from interacting with the social and physical world (Meyer et al. 2005).
- *Zone of Proximal Development (ZPD)* is the distance between what a learner can do independently and what he/she is capable of doing with assistance from a more knowledgeable adult or capable peer (Vygotsky, 1978). In other words, it means "what the child is able to do in collaboration today he will be able to independently tomorrow" (Vygotsky 1987, 211). This term is widely used in studies related to ESL/EFL learning and differentiated instruction (Dunn & Dunn 1993; Frawley & Lantolf 1985).
- *Scaffolding* refers to "the role of teachers and others in supporting the learner's development and providing support structures to get to that next stage or level" (Raymond 2000, p. 176). This is relatively equivalent to the definition by Benson who considers scaffolding "a bridge used to build upon what students already know to arrive at something they do not know" (Benson 1997, p. 126).
- *Learning profile* refers to a record of a student's preferred mode of learning as an individual. It is linked to the way the students' learning styles, visual, auditory and kinesthetic (VAK), their culture and intelligences influence learning and instruction (Tomlinson and Allan 2000).

1.9 Delimitations

The study has several delimitations. First, the study focuses only on secondary school teachers in public schools. This may limit the applicability of the study to secondary school teachers in general. Private school teachers may hold similar beliefs or misconceptions about differentiated instruction or encounter the same barriers or enablers of differentiation. However, they are not included due to the great challenges the researcher may encounter in accessing them all and in including them in the scope of the study. Additionally, private schools adopt different educational systems in terms of school structure, curriculum, teachers' cultural and professional background, and student socio economic backgrounds.

Another delimitation of the study is its focus on differentiation and its implementation in the mainstream classroom from the point of view or beliefs of the EFL teachers, although other variables may also affect the teacher's instructional practices. It is worth mentioning here that focusing on exploring the teachers' beliefs and instructional strategies in the differentiated language classroom does not underestimate the significance of the learners as the centre of the teaching and learning process. Rather, the study looked into how teachers addressed students' needs and interests (which is the core of differentiated instruction theory) and how students act and interact during the observed learning situation.

The researcher delimited the coding of transcript to the data related to the beliefs and core concepts and strategies of differentiated instruction. A third delimitation is that the study does not confine itself to special needs students in addressing differentiated instruction as many studies do. All students in the mainstream classroom are included in the scope of the study.

1.10 Limitations

The study has some limitations due to several constraints. First, the inferences extracted from the results of the study were limited to the particular type of participants. Due to constraints related to time and length of thesis, findings and inferences are not applicable to teachers of other cycles of the primary and secondary stages (Grade 1-11) who are not included within the scope of the study. This also applies to participants in the interviews and classrooms observations. Including a bigger number of interviewees and observees

would extend the discussion to a point beyond the limits. As the purpose of the qualitative part of the study is discussing the issue at point more deeply, the researcher limited himself to six interviews and a similar number of classroom observations. Another limitation is related to teachers' knowledge of differentiated instruction as a new strategy to many of them in addition to understanding the meta-language pertinent to this area. On several occasions during the study, the teacher had to resort to simplification or paraphrasing of concepts to convey the message to the questionnaire respondents and interview participants.

1.11 Summary

The study was driven by the need for better insights into the beliefs of secondary stage English language teachers and their practices regarding differentiation. The present chapter set the scene for the study by providing an overview of the research problem and illustrating the background of the study. It provided information about the significance and purpose of exploring teachers' beliefs and implementation of differentiated instruction. The chapter also stated the statement of the problem and the research questions that guided the study. Relevant key terms were defined so that the reader could understand the technical meaning as intended and used by the researcher. The limitations and delimitations of the study were discussed. The next chapter discusses the theoretical background and existing literature related to teacher beliefs about differentiation and instructional practices in the language classroom.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

To fully realize the significance of teachers' beliefs about observing student diversity in the EFL classroom, it is valuable to review the approaches, theories and philosophies underlying teacher cognition and practicing differentiation. This chapter reviews the literature that pertains to the key concepts and various aspects of differentiated instruction theory as well as the beliefs and current practices in different contexts including that of the UAE. The review begins with shedding some light on the background and origins of studying teachers' beliefs by researchers; discussing conceptual issues related to teacher beliefs; and the way they impact on instructional practices followed by the theoretical perspectives that form the foundation of differentiation.

Existing research indicates that differentiated instruction is grounded in the sociocultural theory (Bakhtin 1981; Leont'ev 1981; Tharp & Gallimore 1988; Vygotsky 1962; Wertsch 1991), cognitive constructivism and social constructivism (Dewey 1929; Kolb & Fry 1975; Montessori 1946; Vygotsky 1978), learning styles (Dunn & Dunn 1984) and multiple intelligences theory (Gardner 1983). Furthermore, the chapter reviews research on the origins and principles of differentiation introduced by Tomlinson (1999), a key theorist in the field, and the common challenges and misconceptions about this area. The literature review ends with a summary of the previous studies and some related works in the Arabian Gulf including UAE.

2.2. Teacher Beliefs

2.2.1 Background to studying teacher beliefs

One of the most crucial areas in understanding teachers' performance with respect to differentiating instruction is the area related to teacher beliefs. Research on language teacher beliefs drew on the research of beliefs in educational contexts, which extends back to four decades when Dunkin and Biddle (1974) introduced a model for studying teaching effectiveness in the classroom based primarily on the properties of teachers and learners. Through this approach, the authors tried to make links between teacher behaviour and different variables: presage variables (consisting of teachers' formative experiences, personal attributes and training experiences); context variables (community characteristics

and learners' personal attributes); process variables (interactions between teacher and learners) and product variables (evidence of learning outcomes). These attributes distinguish the individual teacher's characteristics as a means of explaining how teachers behave in different contexts.

After 1975, researchers and theorists (Clark & Peterson 1986; Clark & Yinger 1977; Fang 1996; Richardson 1996) started a shift from the focus on teachers and students' classroom behaviour into a paradigm that emphasized the teachers' cognitive processes. The idea behind the conversion into studying teacher cognition came because of discussions in the USA in 1975 where academics agreed that machines without thinking do not do teaching. Rather, it reflects a relationship between thought and action (National Institute of Education 1975, p. 1). In this respect, Borg (2006) drew more attention to this shift as he argued that focusing on behaviours at the expense of beliefs was based on programming teachers to behave in a certain way to achieve the learning outcomes. Therefore, that way started to be seen as ineffective as it ignored the individual ideas and ways of doing things on the part of teachers. Behind their behaviour, teachers had their own beliefs, understanding and knowledge that drive their instructional practice (Kagan 1990; Richards 1998). Borg (2006) argues that many reform projects have failed to get teachers to change in spite of the generous budgets and efforts because they focused on behaviour without understanding what teachers really believe. He supposes that understanding what teachers do is important but it is also important to understand what they believe, and to understand what they actually do. However, the complexity of studying beliefs persists as they are not directly observed and cannot be easily measured in practice. Therefore, understanding how beliefs affect attitudes and practices entails making inferences about teachers' underlying assumptions (Pajares 1992) and requires robust contributions to research in this area.

2.2.2 Conceptual Issues

There has been a lot of debate about the definition of the construct belief. Although the term is commonly used in various disciplines such as psychology, philosophy and pedagogy, there is no consensus among researchers with respect to its meaning and conceptualization. Moreover, the term has gained a blurry usage that needs a lot of clarification (Borg 2006). These problems related to definitions and conceptualizations of beliefs also lead to difficulty in studying teachers' beliefs. Therefore, theorists and

researchers still need to agree on a specific meaning to resolve the complexity associated with the issue (Borg 2001; Mansour 2009; Pajares 1992). Dewey (1933) is one of the first scholars to recognise its significance in education. He assumes that belief is essential as “[it] covers all the matters of which we have no sure knowledge and yet which we are sufficiently confident of to act upon and also the matter that we now accept as certainly true, as knowledge, but which nevertheless may be questioned in the future” (p. 6).

Pederson and Liu (2003) define beliefs as “mental constructions based on evaluation and judgment that are used to interpret experiences and guide behaviour” (p. 61). Kagan (1990) views teachers’ beliefs from relatively a different perspective as “the highly personal ways in which a teacher understands classrooms, students and the nature of learning, the teacher’s role in the classroom and the goals of education” (p. 423). Other researchers like Richards and Lockhart (1994) assert that teachers’ beliefs depend on the goals, values, and the beliefs they hold about the content and process of instruction, and their understanding of the systems in which they operate and their specific roles.

Pajares (1992) indicates that beliefs have been confused with other frequently used terms like values, thoughts, perceptions, attitudes, opinions, explicit theories, implicit theories and ideology. However, the main confusion is centred on explaining the difference between beliefs and knowledge. Pajares (1992) defines belief as an “individual’s judgment of the truth or falsity of a proposition, a judgment that can only be inferred from a collective understanding of what human beings say, intend, and do” (p. 316). Likewise, no single definition of knowledge can be found. But from a philosophical perspective, knowledge refers to what Plato calls “justified belief”. To distinguish knowledge from beliefs, Richardson (1996) introduces a distinctive feature called ‘truth condition’. From her perspective, knowledge satisfies the ‘truth condition’ and provides evidence on that whereas beliefs do not need a ‘truth condition’. According to Griffin and Ohlsson (2001, p. 361) knowledge and belief qualitatively represent two different aspects in the mind. While knowledge represents a proposition, belief represents the truth-value associated with a proposition.

Borg (2003; 2006; 2009) has made a significant contribution to this area. He prefers to use the term ‘teacher cognition’ to refer to “the unobservable cognitive dimension of teaching – what teachers know, believe, and think” (2003, p. 81). More specifically, Borg defines

teacher cognition as “teachers’ beliefs, knowledge, attitudes, images, assumptions, metaphors conceptions, perspectives about teaching, teachers, learning, students , subject matter, curricula, materials, instructional activities, and self” (2006, p. 41). For the purpose of the present study, the terms ‘beliefs’ and ‘cognition’ are used in an interchangeable manner.

2.2.3 Teacher Beliefs and Instructional Practices

Investigating language teacher cognition (i.e. knowledge and beliefs) can be a possible way to understand, promote and trace their development through time (Borg 2013; Johnson & Golombek 2011; Williams & Burden 1997). Language teachers’ beliefs could impact students’ proficiency of the four main skills (i.e. listening, speaking, reading and writing), learning environment, motivation, progress and attainment. Therefore, researchers have investigated such areas as pedagogical content (Andrews 2001; Johnston & Goettsch 2000); instructional practices of pre-service and in-service language teachers in the language classroom (Borg 1999; Peacock 2001; Schultz 2001); prior experiences (Burns 1992; Hayes 2005) and the dynamic system of language teacher beliefs (Feryok 2010).

Teachers are often viewed as "rational professionals who make judgments and decisions in an uncertain and complex environment" (Shavelson & Stern 1981, p. 456). The decisions are highly based on a system of thoughts and beliefs that teachers acquire and develop over time. That is why, studying teachers’ beliefs as an acknowledged element in understanding teacher performance has gained considerable focus in recent years. There have been numerous calls to investigate the beliefs of pre-service and in-service language teachers as they inform educational practice in a way that existing research does not (Pajares 1992; Richardson 1994; Weinstein 1989; Woods, 1996). Yet, understanding the origins of teacher beliefs about practice must be taken into account.

Teachers’ beliefs originate from different resources: personal experience, experience with formal knowledge and pedagogy, and experience with schooling and instruction (Richardson 1996). Personal experience embraces what the teacher goes through in his/her life, which contributes into the formation of the morals, emotions, personal beliefs about self and others, understanding the relationships in the school community and other cultural aspects (Clandinin 1986). Lortie (1975) used the term ‘apprenticeship of observation’ to

refer to the situations where teachers develop perceptions and teaching practices based on their direct observations and experiences as students. In other words, he contends that most of these prospective teachers teach like their teachers:

Teaching is unusual in that those who decide to enter it have had exceptional opportunity to observe members of the occupation at work; unlike most occupations today, the activities of teachers are not shielded from youngsters. Teachers-to-be underestimate the difficulties involved, but this supports the contention that those planning to teach form definite ideas about the nature of the role. (p. 65).

Other teachers may derive their beliefs from culture, traditions, family values and academic research. Fang (1996) also incorporates more factors that are associated with school that come into play in forming teacher beliefs: the administrative support, school atmosphere, attitude of colleagues, professional development and rules and regulations adopted in the school. Teachers are considered the implementers and major stakeholders of change and reform in any education system, and they play a key role in developing instruction in the classroom (Bourini 2013, cited in Chaudhary 2013). In contradiction, however, many teachers show resistance to change when they stick to the traditional ways of teaching at the expense of deeper understanding and mastery of skills on the part of learners. Modern approaches to teaching and learning, such as differentiated instruction are not in agreement with what many teachers believe, which calls for more reflection, exploration and then more action to modify beliefs and practice (Prawat 1992; Zeichner, Kenneth & Tabachnick 1981).

The beliefs that an individual holds are indicators of the decisions he or she makes throughout the course of their practices (Bandura 1986; Borg 2013). Tobin, Tippins, and Gallar (1994) emphasize that “teachers’ beliefs are a critical ingredient in the factors that determine what happens in classrooms” (p. 64). In the same vein, Borg (1999; 2006) argues that such instructional decisions about teachers’ practice as lesson planning, learning outcomes, assigning classroom activities and classroom assessment are highly impacted by the beliefs they hold about instruction. Moreover, understanding the beliefs and principles the teachers operate from is necessary to understand how teachers approach their work with students in their attempts to achieve the learning objectives (Richards, Gallo, & Renandya 2001). Therefore, it is expected that teachers may impose their beliefs about teaching and learning on students (Horwitz 1988), which influences the outcome. To illustrate the nature of relationship between teacher cognition and other factors including

teacher learning and instructional practices, Borg (2003) introduces *Figure 2* below emphasizing how the teacher's cognition plays a pivotal role in their practices.

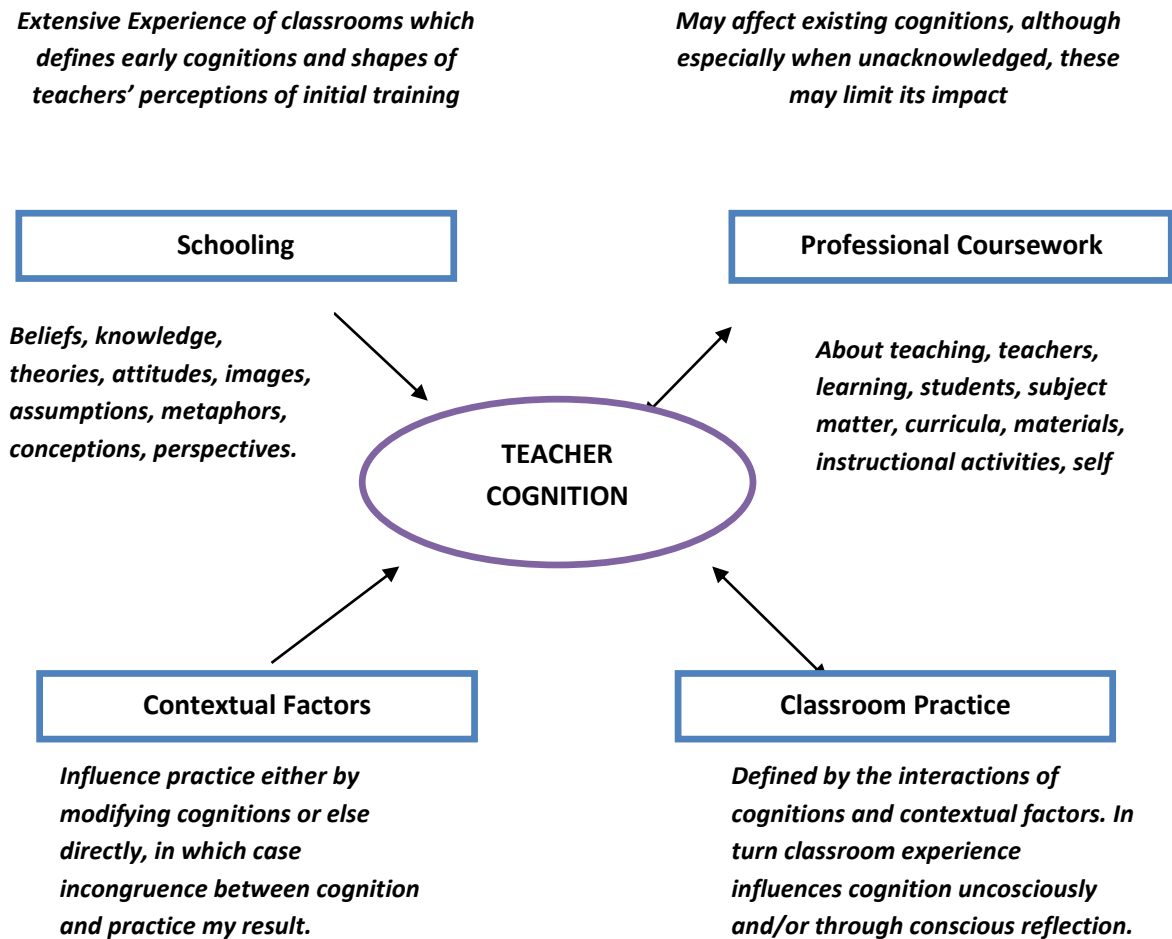


Figure 2:Teacher Cognition (Borg 2003)

Based on this, Borg (2003; 2006) provides a useful framework for studying language teachers' beliefs that enriches understanding of cognition, practice and teacher development. He draws on the work of several researchers (Calderhead 1996; Carter 1990; Clark & Peterson, 1986; Kagan 1990; Richards 1998) to relate the instructional practices and what teachers do in the English language classroom to what they know, think and believe. In view of the conceptual challenges pertinent to teacher cognition, Borg (2006) highlights some major issues in the framework that should form the basis for studying language teacher cognition in the future including:

- the nature of language teacher cognition;
- the scope of language teacher cognition research;
- the relationship between language teachers' cognition and classroom practices;
- the impact of context on language teacher cognitions and practices;
- The nature of expertise in language teaching; and
- Methodological issues in the study of language teacher cognition. (p. 271)

Although the magnitude of research on language teacher beliefs is growing worldwide, many teaching contexts, especially those related to second language (SL) and foreign language (FL) outside the USA, have not been sufficiently examined by researchers (Borg 2006). The present study takes into considerations these points in exploring beliefs of teacher on differentiated instruction in an attempt to add to empirical research in the field of language teacher cognition. The issues related to the relationship between teachers cognition and classroom practices, impact of context and expertise are particularly highlighted.

2.3 Theoretical Perspectives

2.3.1 Sociocultural Theory

In view of the constant development in educational practices and the increasingly diverse classrooms, it is significant to follow a theoretical framework in which the students form the centre of learning in an interactive environment. Differentiation is key to ensuring each student is learning and socially interacting to achieve the learning outcomes. The theory of differentiated instruction is highly based on the sociocultural theory engendered by Vygotsky (1962) and Wertsch (1991), where the focus is on the connection between cognition and culture. It emphasizes that knowledge of the world and the way higher mental functions develop are mediated by social interaction with the material world and people. Sociocultural theory is particularly based on the ideas of seminal psychologist Vygotsky (1978, p. 57) who also prefers to use the term “cultural psychology “to refer to the cultural and cognitive development of the child:

Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals.

Vygotsky (1978) believes that higher mental functions of the child, such as thinking, reflecting and problem solving, are developed by social interaction with the help of adults such as the parents or teachers. It is through these interactions that the child constructs

certain knowledge about his/her own world. These functions become part of the child's internalization process. Vygotsky assumes that culture makes two main contributions to a child's cognitive development. First, a child obtains most of what he or she thinks from culture. Second, the surrounding culture provides children with the tools of intellectual adaptation that help them how to think.

Knowledge, according to the sociocultural theory, is best constructed when learners work collaboratively and support one another to make sense of the material being taught. This is what Lave (1988) calls "community of practice", which refers to social interactions and sharing knowledge among groups of learners as a medium of developing their skills. Lave and Wenger (1991) who proposed situated learning as a model of learning suggest that learners do not primarily acquire structures or models to understand the world but they take part in frameworks that have structure. They further suppose that in learning through participation in a community of practice, "participation refers not just to local events of engagement in certain activities with certain people, but to a more encompassing process of being active participants in the practices of social communities and constructing identities in relation to these communities" (p. 4).

From his theory of higher mental functions, Vygotsky (1978) extended his approach to cognitive development which also underpinned differentiated instruction. He rejected the idea of some theorists that the entire child's development happens spontaneously without being affected by education. He disagreed with those who maintained that instruction could change development at any stage without laying emphasis on the child's age or abilities. Although he was influenced by the work of Piaget as a development psychologist, Vygotsky was critical of his supposition that development could not be hindered or accelerated through instruction. He contended that social and cultural contexts considerably influence a child's intellectual development. According to Piaget's developmental theory, children cannot undertake certain tasks unless they are in the proper developmental stage. In other words, children should be psychologically mature enough to be taught the concepts. He argues that a child's thinking moves into new capabilities at certain ages: 18 months, 7 years, and 12 years. This contradicts Vygotsky's theory which views instruction as a process that could be effective without necessarily being oriented towards development.

Many of the current studies on differentiated learning and instruction highly draw on the work of Vygotsky and other socioculturalists (Tharp & Gallimore 1988; Wertsch 1991, Van der Veer & Valsiner 1991). Tharp and Gallimore (1988, p. 6) state that the sociocultural perspective “has profound implications for teaching, schooling, and education. A key feature of this emergent view of human development is that higher order functions develop out of social interaction”. They draw on Vygotsky in arguing that examining the external social world of the individual learner is very crucial to understand the child’s cognitive development.

2.3.2 Sociocultural Theory and Language Development

The concepts of Vygotskian sociocultural theory (including ZPD, mediation, and regulation) and their application in the educational field have been extensively cited by L2 researchers and educationalists (Amerianand & Ahmadian 2014; Diaz-Rico & Weed 2010; Donato 1994; Frawley & Lantolf’s 1985; Swain, 2000; van Compernelle & Williams 2013). Employing these concepts in ESL/EFL contexts provide perspectives “to examine language learning as a social practice, consider students as active participants in constructing learning processes, and investigate the interaction between different factors involved” (Kao 2010, p. 113). The literature review below discusses the interrelatedness of these theoretical perspectives and their contribution to research on language learning and teaching and provides implications to the various ways students learn.

Historically, much of the research on second language acquisition based on the sociocultural theory drew widely on Frawley and Lantolf’s (1985) article on second language discourse (van Compernelle & Williams 2013). Shortly after that, hundreds of studies, articles and books have appeared in the literature (e.g. Appel & Lantolf 1994; Brooks & Donato 1994; Negueruela 2003; Pavlenko & 1997; Roebuck 1998; Robbins 2003; Thorne 2003; Verity 2000). Most of these research studies have, however, used sociocultural theory as a tool for providing an interpretation of the questions related to second language acquisition more than as a theoretical perspective that informs second language pedagogy.

The relationship between theory and practice in L2 education continued to be blurred until research studies on how Vygotsky’s concepts were incorporated into L2 pedagogy in a coherent manner (Negueruela 2003; van Compernelle & Williams 2013). Vygotsky

(2004) emphasized the unity of theory and practice through his concept of 'praxis'. He explained how the split between theory and practice was impractical:

Previously theory was not dependent on practice; instead practice was the conclusion, the application, an excursion beyond the boundaries of science, an operation which lay outside science and came after science, which began after the scientific concept operation, was considered completed. Success or failure had practically no effect on the fate of the theory...Now the situation is the opposite. Practice pervades the deepest foundations of the scientific operation and reforms it from beginning to end. Practice sets the tasks and serves as the supreme judge of theory, as its truth criterion. It dictates how to construct the concepts and how to formulate the laws (p. 304).

Put simply, 'praxis' is where theory forms the basis that guides practical activities, but at the same time practice assists in forming and shaping theory (Lantolf & Poehner 2011). Theory and practice according to praxis show a reciprocal relationship between them. For Vygotsky, this relationship, however, entails the need for immediate or direct intervention by designing pedagogical programmes in well-structured educational environment that assists in understanding the process of cognitive development.

According to the Vygotskian sociocultural theory on language development, language learning occurs due to the social and cultural interactions in view of contextual factors, not merely through communicative interaction (Diaz-Rico & Weed 2010). Vygotsky argues that teachers should know the cultural contexts of their students' background if they want to understand the way their students' minds develop, which greatly underpins the theory of differentiation. He maintains that in addition to the belief that language has a key role in the cognitive development, language internalization occurs in social contexts (Diaz-Rico & Weed 2010; Vygotsky 1978). Internalization refers to transforming the external actions into internal psychological ones and through an interaction between the social and internal domains at different levels (Robbins 2003). There are two major aspects of internalization: "knowing how" and "appropriation". For instance, pouring a cup of coffee or milk is a tool of the society that is originally beyond or outside the child. The child will master this skill through the activity within the culture of that society. An example of the aspect of appropriation is when a child uses a tool like a pencil in a unique way. Internalizing the use of this pencil will enable the child to use it in his way to draw things that other people in the society have not drawn before (Santrock 2004).

From a conventional pedagogical perspective, employing the sociocultural theory in the formal educational contexts of language teaching requires direct intervention from a teacher who is physically present in the classroom and practices frontal teaching. This

incorporates a dominating lecture style instruction and explicit teaching of concepts and activities where students have the role of recipients of instruction. Teacher-directed frontal teaching is the most common style of practice amongst teachers. Compernelle and Williams (2013) argue that frontal teaching style represents a shallow understanding of the pedagogy of sociocultural theory. They assert that a deeper view of pedagogy in L2 is reflected in a broader type of intervention that takes into account the relationship between L2 instruction, assessment and educational objectives. Here, the teacher's style of instruction is more of intervention based on a blend of task-based teaching, project-based instruction, performance assessment and technology based teaching among other types.

According to sociocultural theory, a teacher should learn about the historical and cultural backgrounds of his/her students in order to be able to understand their mind development. Moreover, language teachers provide more learning opportunities for their students and get them engaged in the classroom activities by providing such collaborative techniques as peer and group work. These strategies will increase exposure to language and enhance communication. Socioculturalists encourage heterogeneous grouping in the classroom by mixing the more proficient students with the less able ones as a means of enriching their experiences in a way that respects the different levels and the right of equality in learning (Diaz-Rico & Weed 2010).

2.3.3 Mediation

Primarily, sociocultural theory places emphasis on the function of mediation of human mind (Wertsch 2007), which influences the conceptualization of language pedagogy and the ways it is implemented in the language classroom. Vygotsky (1986) argues that humans do not interact directly with the world around them. Rather, human higher mental functions are mediated by physical and symbolic tools. While physical tools function as supporting means to deal with the external physical world, using symbolic tools operates mediation by being directed inwardly or cognitively (Vygotsky 1978). Symbolic tools (artificially made in human culture) include symbols, numbers, signs, mathematical expressions, music, art and language which is the most prevailing and influential tool (Kozulin 2003; Wertsch 2007). People use language to mediate their connection to the environment and the world around them, to other people (interpersonal) and to themselves (intrapersonal). In order to act as mediators, symbolic tools need to have a meaning. This

happens only when they convert into psychological tools that are appropriated and internalized in the learner's cognition. Kouzlin (2003, pp. 15-16) stresses that:

Symbolic artifacts (signs, symbols, texts, formulae, graphic organizers) that when internalized help individuals master their own natural psychological functions of perception, memory, attention, and so on.... Each culture has its own set of psychological tools and situations in which these tools are appropriated.

Psychological tools help learners master their cognitive and learning functions in a variety of contexts and for different tasks (Lantolf 2000). Human mediators (teachers) who may design assorted tasks that respect the needs of diverse learners and use different tools in an attempt to create a supporting environment for learners to achieve a specific goal represent another form of mediation.

2.3.4 Regulation

Another form of mediation based on the sociocultural theory and related to language learning acquisition and differentiation is called regulation. Lantolf and Thorne (2007, p. 199) contend that new words of the language the child learns “not only function to isolate specific objects and actions; they also reshape the biological perception into cultural perception and concepts”. Developing regulation, according to Lantolf and Thorne (2007), goes through a three-stage process: object-regulation, other-regulation and self-regulation. The first stage shows how the child is controlled by using the objects in certain contexts to think. The child may use his/her fingers (as objects) to count at the early stage of learning calculating. In the second stage, the child asks for assistance from more knowledgeable people like his/her parents, teachers and more able peers to solve a problem or deal with a difficulty. Other-regulation conforms to the concepts of ZPD, scaffolding and differentiated instruction which will be discussed later in this literature review. The third stage (self-regulation) is linked to the concept of internalization where the child does not need external support. Rather he/she will achieve the task on their own (Lantolf & Thorne 2007, p. 203)

2.3.5 Zone of Proximal Development

The major theory underpinning differentiated instruction is the theory of Zone of Proximal Development (ZPD) proposed by Vygotsky (1962). Based on sociocultural theory and cognitive development, ZPD explains the relationship between learning and development (Deulen 2013). In this context, ‘proximal’ means ‘next’ and ZPD is the area between the zone of actual development (the level of independent performance or what a learner has

already mastered) and the zone of potential development (the level of assisted performance or what that learner can attain with the support provided by the teacher). Put differently, ZPD, according to Vygotsky (1978) is “the distance between the [learner’s] developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 131). He asserts that what is considered a ZPD stage today will become an actual development stage tomorrow for any child who moves from relying on assistance to being more independent. To elaborate, the child, according to the Vygotskian theory can achieve better with the help of a knowledgeable adult or an experienced peer than he or she can achieve by himself or herself, moving from the current level of development to the potential level of development. This theory has been the basis for different studies (Blanton 1998; Morelock & Morrison 1999; Riddle & Dabbagh 1999).

Differentiated instruction employs ZPD to construct various activities to suit the different needs/levels of students. Morelock and Morrison (1999) explain that each student has his/her own ZPD, which is the zone that makes them feel contented performing challenging work with continuous support from the teacher and informed peers. This harmonizes with Vygotsky’s view that the most effective learning takes place when the new content and skills being taught are just a step away from emerging. In this case, he argues that the learner does not obtain new knowledge. Rather, he achieves progress in development relying on the assumption that learning guides development. Moreover, the assistance required to develop skills for each student within his or her ZPD varies as per their age.

2.3.6 Scaffolding

After Vygotsky, the term ZPD was expanded by the cognitive psychologists Wood, Bruner and Ross (1976) who coined the term ‘scaffolding’ to refer to the support a teacher or a more skilled person provides when he or she does things for learners that they are not ready to do by themselves. More specifically, Bruner (1986) used the term after an examination of parent-child talk in the early years. It was used as a metaphor to describe how the teacher, well-informed adult or peer assists the learner in an attempt to support learning of a task or mastering a skill that the learner is unable to master independently. According to the process of scaffolding, the teacher’s role is primarily to assist the

learners with the tasks that are beyond the reach of each learner. The teacher provides continuous feedback making use of the students' errors to achieve the expected outcome (Lipscomb, Swanson & West 2010).

When it comes to moving from the theory to practice of scaffolding, the efficacy of the role of instructor highly depends on the appropriateness of intervention (Hedegaard 1996; Benson 1997; Wells 1999). This requires the teachers to be aware of the individual levels and needs of their students to ensure cognitive development. They are also demanded to fade, or gradually reduce, their guidance till they eventually remove their support. Benson (1997, p. 5) adopts Bruner's use of 'scaffolding' and argues "if scaffolding is properly administered, it will act as an enabler, not as a disabler". At another level, the activities chosen should be relevant to the target competences. Careless selection of materials and tasks may lead to reverse results.

According to Lepper and Hodell (1989), effective scaffolding largely depends on such components as the nurturing style of the teacher or knowledgeable adult in addition to the knowledge of the learners themselves. Considering the differences among learners is also another essential component. More specifically, Lepper and Hodell (1989) classified the effective features of scaffolding into two main categories: cognitive and emotional. Cognitive scaffolding features include a variety of instructional strategies: selecting tasks that are challenging, but not impossible to do by students; giving hints, context clues and leading questions; using direct instruction and think-alouds; and using indirect hints to trigger thinking and problem solving. Emotional scaffolding features include such strategies as: ignoring some of the errors committed by students; and providing a safe learning atmosphere where mistakes are allowed and learning experiences are fun (Bean & Stevens 2002).

Another feature that characterizes scaffolding in the language classroom is impermanence. Scaffolds, as Chang et al. (2002, p. 7) assume, are temporary, and the teacher should gradually withdraw the scaffolding he/she or the knowledgeable peer offers for a certain learner until their abilities and proficiency develop to the prospective level. After ensuring that the learner has mastered the skill independently, the teacher can reduce the support and provide a more challenging task. Vygotsky asserts that scaffolds are removed as soon as the learner has developed "more sophisticated cognitive systems, related to fields of

learning such as mathematics or language, the system of knowledge itself becomes part of the scaffold or social support for the new learning” (Raymond 2000, p. 176).

In the English language mixed-level classroom, teachers often find themselves in the middle of a situation where scaffolding and differentiation are essential, which requires a lot of planning and a variety of materials at different levels. Hence, the teacher addresses the needs of learners of different levels effectively (DelliCarpini 2006). Berk and Winsler (1995) contend that one of the effective ways to scaffold instruction is by varying the verbal and academic support the teacher or more proficient peers provide to the less proficient until they become meaningfully engaged in learning situation and acquire the necessary language skills. To make this happen, the teacher needs to maintain persistence and continuity in applying scaffolding by repeating content and teaching strategies throughout the curriculum (Berk & Winsler 1995). Moreover, teachers should make use of the contextual factor by giving confidence to learners to have various choices to achieve the objectives in a motivating environment. Teachers need also develop new learning contexts where students can work more autonomously (Stuyf 2002).

Alternatively, scaffolding, as a differentiating tool could be one of the real challenges to instruction that focuses on the individual needs of all students in the mixed ability classroom. It might be viewed as enormously time-consuming when applied in classrooms with a large number of students. Stuyf (2002) argues that implementation of scaffolding requires the teacher to lose some of the control and allow students to commit mistakes and errors. This challenge may sometimes be used as an excuse by teachers who suffer from classroom management problems with or without scaffolding ignoring that integrating scaffolding may reduce discipline and classroom management problems. Another challenge is that teachers and curriculum manuals may not include outlines of scaffolding methods that suit a specific lesson or context. Stuyf (2002) also views lack of teacher training on how to integrate scaffolding as another barrier to successful differentiation. Furthermore, students may show reluctance in participating in the activities or resistance to assistance and development. What is more serious, according to Suherdi (2008), is when tasks or materials are not sufficiently developed to ensure students success in mastering the knowledge and skills.

Overall, researchers have recommended that teacher education programmes adopt ZPD and scaffolding as a framework that will provide teachers with the abilities and tools to develop student's skills at different ages (Brian 2004; Lepper & Hodell, 1989; Ngeow & Yoon, 2001; Richards, 1998; Weinstein, 1989; Wood & Middleton 1975). Teachers can employ scaffolding to organize the learning environment and increase the rate of success among all students provided that instructors know enough about how their students learn. Hence, it could be reasonably assumed that ensuring the occurrence of learning of language skills and concepts extremely depends on selecting meticulously well-planned teaching strategies and activities that observe the ZPD for each student

2.3.7 Constructivism

Another major theory underpinning differentiated instruction is constructivism, which is based on the idea that children best understand the knowledge when they construct it by themselves (Landau 2001). Constructivism is an interdisciplinary notion about learning and teaching that is deeply rooted in philosophy and psychology. It is primarily based on cognitive constructivism grounded in the work of Piaget (1950, 1985) and social constructivism attributed to Vygotsky (1962, 1978). Piaget's theory has two main parts: separate stages of development as per the child's age and a theory of development that shows the way a child develops cognitive skills. He provides an explanation of how children learn over different ages of their development in view of their interests and experiences. Piaget's constructivism theory assumes that children cannot grasp and use information as soon as they receive it from adults. They are more likely to construct their own knowledge and views which might not be expected by adults.

Piaget's theory covers learning theories and pedagogy by emphasizing several components: schema; adaptation processes that facilitate moving from one stage to another (assimilation, accommodation and equilibrium); and stages of development. A schema is defined by Piaget (1952, p. 7) as "a cohesive, repeatable action sequence possessing component actions that are tightly interconnected and governed by a core meaning". Put simply, schemata (plural of schema) are building blocks of knowledge in the human brain that form representations of the world (Rumelhart 1980). Wadsworth (2004, p.28) suggests that these blocks can be viewed as "index cards filed in the human brain and each one is telling an individual how to identify and react to incoming stimuli or information". The number of index cards varies according to the age of the individual.

Young children have a small number of index cards while adults, by comparison, have relatively a bigger number that are retrieved or built upon depending on experiences. Schemata are kept in the brain and retrieved when needed. For example, an individual from a certain culture who has a schema about welcoming a guest will regain the information and politeness formulas stored in his brain and apply them every time he experiences a similar situation.

Assimilation according to cognitive constructivism is an adaptation process that assists the child to use the existing schema to deal with the new experiences and cause him to reconsider and evaluate thoughts and understandings. Accommodation, in turn, refers to reframing the new experiences into the already present mental capacity. It takes place when the existing knowledge does not operate and needs to be modified to fit the new object (Wadsworth 2004). Equilibrium is the third adaptation process forming the force that drives learning development. It occurs when the individual's new information can be fitted into existing schemata and easily assimilated. Accordingly, the role of the teacher in Piaget's constructivism theory is that of a facilitator, not a lecturer, who focuses on assisting students' learning by creating opportunities for them to ask questions, interact and come to conclusions by themselves. The teacher encourages critical thinking and problem-solving through challenging tasks and collaborative learning techniques. She takes into account what different students already know in different contexts, and then adapts and builds on their knowledge in order to put it into practice (Nyaradzo & Thiel-Burgess 2012).

A lot of research on constructivism draws on Vygotsky's work as a social constructivist since his theory shares common threads with cognitive constructivists like Piaget (Robbins 2003). Vygotsky (1978) contends that meaning is the link between language and cognition and is influenced by the learner's culture. However, he assumes that Piaget overemphasizes the individual's internal processes. Vygotsky believes that cognitive development is a result of cultural and social interaction in the learning environment rather than of individual construction. The discrepancy of whether knowledge is individually constructed or socially situated has implications on how learning is conceptualized by learners (Nyaradzo & Thiel-Burgess 2012). In his theory of social constructivism, Vygotsky does not see learning as a development but as a process that brings about development. Further, social constructivism assists educators to understand how students

develop and learn. Sweller (2004) states, “knowing how students learn and solve problems informs us how we should organize their learning environment and without such knowledge, the effectiveness of instructional designs is likely to be random” (p. 9). Curriculum, instructional practices and school environment should, therefore; be designed and organized in a manner that respects students’ thought and the way they construct their learning.

Inspired by Vygotsky’s ideas, Bruner (1987) states that the educational theory of social constructivism presented by Vygotsky is “a theory of cultural transmission as well as a theory of development...Education for Vygotsky is not only the development of the individual’s potential, but the historical expression and growth of the human culture from which man springs” (pp. 1-2). It is a theory of learning based on the premise that individuals make their own interpretations of reality. The learner uses mental activities to construct knowledge about the world by reflecting upon own experiences. Based on that, each learner develops certain views and rules that help him/her understand and accommodate new experiences. Constructivism is a learner-centred or power-sharing theory where children are active meaning makers and where knowledge is reconstructed rather than reproduced, depending on the context (Bruner 1961; Duffy & Jonassen 1992; Jonassen, Mayes & McAleese; 1993; Meyer 2009; Perkins 1992; Piaget 1985). At the same time, Bruner (1987) believes that pedagogies illuminate teachers’ perceptions about how students are processing knowledge, which enhances student-centeredness and ensure cognitive development.

Constructivism has recently received a lot of attention as a prominent paradigm in pedagogy especially in science subjects although the impact of this approach on the development of language pedagogy was controversial in the beginning (Kaufman 2004). In a constructivist classroom, language is a mediator between the learners and their world because people make psychological tools, the most important of which is language, to master their behavior (Nyaradzo & Thiel-Burgess 2012). Kuts and Roskelly (1991, p. 39) state “[the] child actively constructs a world, and language helps shape the construction”. In this respect, Bruner (1987) asserts that there exists a connection between language and cognitive development

The constructivist model of language teaching stresses the shift from teacher-centeredness into student-centeredness as a modern trend in language pedagogy. This shift, according to Das and Ferguson (2012, p. 52), “[results] in changes in the focus of instruction from a transmission curriculum to a transactional curriculum”. In many contexts, the teacher assumes the role of the “sage on the stage” by transmitting information directly to the students who act as passive recipients. In the more productive constructivist context of transactional curriculum, on the other hand, the teacher takes the role of the “guide on the side”, and students are actively engaged to develop new understanding as per their potential and interests. Hiltz (2001, p. 40) explains the student-centred constructivist model of teaching:

Constructivist learning models require active input from students and requires intellectual effort and aids retention. The role of the teacher in student-centered learning is to facilitate the students' learning by providing a framework (i.e. activities for students to complete) that facilitates their learning. For example, the teacher posts activities or questions that students complete. Projects include: writing papers, essays, and reports, publishing Web pages, conducting research, answering open-ended questions, creating artwork, and organizing events.

According to the constructivist approach, facilitating students' exposure to different types of student-centred activities and different types of experiences has been placed at the focus of language instruction. This approach activates schema; ensures effective learning and helps each student to move forward and build on him/her own capacity.

2.3.8 Learning Styles

It is important to note that discussing differentiation makes it imperative to discuss the learning styles which relate to the process of adapting teaching methods to learners' preferences for learning content and problem solving. Learning styles refer to individuals' discernible methods of acquiring information and skills that suit them best (Landrum & McDuffie 2010). It is also worth noting that knowing student preferences (part of their learning profile) in progressively more heterogeneous classrooms must be the first step in differentiation (Easter 1994). Teachers need to know about their students' interests and attitudes to get them involved in the learning process. Schreiner (2010, p. 1) argues that “by identifying the learning styles of students within your classroom, and differentiating instruction by providing them with activities tailored to their optimum style of learning, you can increase engagement and comprehension”. However, this highly depends on the teacher's potential to identify learning styles practically. Moreover, the level of

sophistication of the process is dependent upon the learning environment and the culture of learning prevalent in that context.

Despite the debate of the 1970s through 1990s about the existence of learning styles, recent research shows that people learn better when they know themselves and understand their preferences (Fox 1984; Kolb 1986). Each person processes information in his/her own way in spite of the relative similarities among people in terms of their approaches to learning. Identifying student-learning styles would help the teachers facilitate learning by including elements of visual, auditory, and kinesthetic styles in the educational context. Conversely, when the teacher is unable to recognize how his/her students learn, he/she tends to assume that students are lazy and do not have the ability to learn. Students may also suppose that the teacher cannot approach the situation in a way that suits their potential and preferences. Kolb (1984, p. 196), who developed the widely-spread instrument called Learning Styles Inventory contends that one of the weaknesses in educational contexts that aspire to develop differentiation-based classroom practices is the “failure to recognize and explicitly provide for the differences in learning styles that are characteristic of both individuals and subject matters”. Dunn (2000) agrees with Kolb by emphasizing that maximising academic performance depends on the extent to which instructional approaches respond to students’ different modes of learning.

According to the learning styles proponents, people have three main different modes of perception: auditory, visual and tactile/kinesthetic. Each learner has a dominant learning style but people tend to have a combination of the three while learning (Dunn & Dunn 1993; Fox 1984; Schreiner 2010). Auditory learners learn best through hearing or listening to things being presented verbally and prefer to participate in oral discussions rather than reading about them. They like to recite information out aloud and simultaneously listen to music in the background. They tend to use checklists to remember things. During a lecture, auditory learners, can easily grasp and retain information with a high rate of accuracy and proficiency. Auditory learners are more likely to talk to themselves and to others and tend to face more difficulties with the skills of reading and writing. They feel easily distracted and prefer a quiet environment. They find it very difficult to multitask and prefer to accomplish tasks one at a time. Finally, an auditory learner prefers individual work to group activities. Depending on these attributes, a teacher who intends to integrate this style into his/her classroom will need to incorporate auditory activities by enhancing

dialogue and conversations and allow more time for verbalizing questions, brainstorming and debriefing (Ruiz 2013).

Visual learners learn best by relying on eyesight as the most finely-tuned sense. They prefer instruction to be based on pictures, videos, animations, diagrams, graphics and demonstrations. They enjoy imagining events and situations when learning about things. Their visualization skills help them possess a holistic view when retrieving information or working on a task. However, focusing on physical features at the expense of value is viewed as a disadvantage for a visual learner. Concentrating, while listening to instructions and texts, is challenging to them. In addition, visual learners are highly likely to find written language more challenging, and you often find them skipping pages looking for pictures and drawings when they hold a book or magazine to get rid of boredom. Hence, a teacher who plans to support visual learners must include visual teaching aids such as images, charts and illustrations while teaching reading, writing and other skills. She needs to integrate drawing-based activities.

On the other hand, kinesthetic learners prefer to learn through hands-on activities using their tactile or kinesthetic senses. They enjoy learning by doing and find it very difficult to sit-still when doing classroom activities. They take pleasure in role-plays, acting out actual scenarios, assembling objects, doing lab experiments and participate in other physical classroom activities. Additionally, kinesthetic learners tend to avoid lengthy written tasks that require concentration on details. When studying reading texts, they prefer to take notes and draw pictures. To integrate these learning styles into classroom activities, Ruiz (2012, p. 66) suggest that a teacher follow such strategies as:

- Use activities that get the learners up and moving
- Use colored markers to emphasize key points on flip charts or white boards
- Give frequent stretch breaks (brain breaks).
- Provide high lighters, colored pens and/or pencils.
- Guide learners through a visualization of complex tasks.
- Have them transfer information from the text to another medium such as a keyboard or a tablet.

Dunn and Dunn's (1993) model of studying learning styles posited as the most well-known instrument for assessing student's modes of preference, which feeds into differentiating instruction. They proposed that using this instrument properly helps in relating input to students' different learning styles, which would, in turn, contribute to

more accurate academic assessment. They distinguished between two groups of exceptional students: the talented and the underachieving.

In the last two decades, researchers conducted qualitative and quantitative studies to investigate the effectiveness of differentiating instruction according to learning styles as an issue which is still controversial. By and large, the results of these studies emphasized the need to approach students' learning differently depending on their individual peculiarities (Tulbure 2011). Many of the studies indicated that differentiated instruction based on the learning styles improved student achievement, attitudes and behaviour (Alberg 1992; Dunn & Dunn 1992; Easter 1994; Ford & Chen 2001; Mickler & Zippert 1993; Tulbure, 2010). In contrast, some other studies found that differentiating instruction upon learning styles had not significant influence on students' learning (Akdemir & Kosalka 2008; Massa & Mayer 2006). Landrum and McDuffie (2010, p. 6) conclude that "there is insufficient evidence ... to support learning styles as an instructionally useful concept when planning and delivering appropriately individualized and differentiated instruction". Other authors rejected the assumption that matching teaching styles to students' learning styles improves learning and considered it a sort of misconception (Pham 2013). Lilienfeld et al. (2009, p. 15) point out that teachers are required to correct learners' shortcomings "rather than to address their strengths solely", and students' weakness may not be easily identified if teachers exaggerate in harmonizing teaching styles with learning styles.

In view of the latest developments in language teaching, identification of student learning styles and preferences has been encouraged. Fine (2003, p. 55) states that "when students who receive special education services are placed in regular education classrooms, teacher must identify their learning style preferences and teach accordingly to maximize learning". He argues that it is not sufficient to change only the learning environment to better the academic performance of learners; it is highly crucial to determine the differences. He reported a significant rise in the score of students after incorporating their preferred learning styles into teaching. Students performed better when they were taught through the learning style approach that differentiates instruction rather than the traditional method of instruction. Currently, the Curriculum Department at the MoE indicates in the new English Curriculum Framework (ECF 2013) that the concepts of differentiation and learning styles

need to be highlighted in the modern standard-based teaching approach in the regular classroom. The aim is to target students of all levels.

Related to the theories of learning styles and differentiated instruction is the brain-based learning theory (originated as social neuroscience) which focuses on how the brain processes and organizes learning according to the rules of meaningful learning in the mind (Caine & Caine 1994). Interestingly, the research on brain-based learning provides help to language teachers to improve the learning environment and reach more students in the classroom in view of their interests and learning styles (Jensen 1998; Jensen & Palmer 1997; Lombardi 2008; Sousa 1998). Brain researches suggest three interrelated principles that emphasise the need for having differentiated classrooms (Duman 2006). These classrooms should meet the students' different levels of readiness, interests and learning styles. The principles, according to Tomlinson and Kalbfleisch (1998) who base part of their work in this theory include:

- Learning environments must be emotionally safe and non-threatening for learning to take place. When a child feels frightened, rejected or intimidated, an overproduction of stress hormones (noradrenalin) causes that child to focus on self-protection rather than on learning.
- To learn, students must be appropriately challenged. A student must not be engaged in a curriculum that is beyond his or her level of readiness. Otherwise, the brain will overproduce key neurotransmitters that hamper learning. Conversely, if the curriculum is below the student's level of readiness, the brain will not show tendency to engage, which results in lack of concern.
- Each brain must be able to grasp the meaning of ideas and skills. The major difficulty for teachers is teaching students of diverse backgrounds, interests and skills. These students receive information through varied channels, process ideas at different rates, and possess varied preferences for forms of expression.

In view of the principles above, Tomlinson and Kalbfleisch (1998) explain what a differentiated classroom may look like. These principles could be interpreted depending on the different developmental levels of learners, different needs of teachers and the nature of each subject. According to Ozden and Gultekin (2008), the principles of brain-based learning ensure effective learning only when students practice real life experiences. Besides, learning becomes more meaningful when the brain supports it through patterning

and assisting the learners to internalize and individualize learning. Consequently, learners are encouraged to be more active, especially when the teaching material is appropriately designed and selected in light of the learners' preferences: kinesthetic, visual or auditory.

According to the principle that the mind is a parallel processor, the second language teacher needs to respect the different ways of learning among students to differentiate his/her instruction. He/She can also differentiate the strategies of teaching in the EFL classroom without assuming that there is one single method or strategy to encompass all learners in the task or activity. Therefore, teachers are encouraged to select from a wide range of strategies to engage students of different learning styles. Another principle related to differentiation is that the brain is unique (Tomlinson 2001). It entails that we should be open to teaching students of different levels and abilities in the classroom. Every student is unique because his/her brain deals with information and integrates knowledge differently. Therefore, teachers should be ready to see various interpretations and analysis of information (Christon 1999). Additionally, understanding how the brain works provides a teacher with more insights into what design the learning environment and assessment tools should have, in a way that ensures a higher possibility of success in learning.

2.3.9 Multiple Intelligences

Theorists of differentiated instruction incorporated a plethora of theories and research studies on the ways students learn depending on their cognitive competence. Differentiation considerably draws on Gardner's (1983) multiple intelligences theory which presumes that "[the] heart of multiple intelligences lies in taking human differences seriously" (Gardner, 1995, p. 7). Although the theory has sometimes been criticized for not being empirically validated, it is overwhelmingly integrated into recent research on learning (Campbell, Campbell & Dickinson 2004; Diaz-Lefabvre 2004; Goleman 2006; Moran, Kornhaber & Gardner 2006; Tomlinson 1999). It is focused on observing the varied needs of learners to make teaching a successful process.

Intelligence, according to the traditional view, is a single comprehensive entity or a fixed cognitive capacity an individual is born with (Pradhan 2010). Specialists can measure this capacity using standardized short answer tests such as Scholastic Aptitude Test and Stanford-Binet Intelligence Quotient. However, it is limited to measuring logical and linguistic competences. Multiple intelligences introduced by Howard Gardner in his book

Frames of Mind (1983) viewed intelligence in a way more compatible with psychological, anthropological and biological aspects of individuals and more attuned to a set of abilities. Gardner (1995) assumes that intelligence comprises biological and psychological potential which is realized “as a consequence of the experiential, cultural, and motivational factors that affect a person” (p. 2). He redefines the construct ‘intelligence’ to refer to “the ability to solve problems or fashion products that are of sequence in a particular cultural setting or community” (p. 7).

Gardner’s theory is influenced by other pluralists like Thurnstone (1960) and Guilford (1967) who view intelligence as a multidimensional rather than single capacity for problem solving (Tirri, Nokelainen & Komulainen 2013). They believe in the impact of multiple factors of intelligence. Nevertheless, Gardner (1993) has made new contributions by placing more emphasis on neurobiological work relating to brain organisation, contextual and cross-cultural factors pertinent to several types of intelligences. He emphasizes the interconnectedness between culture and intellect. Gardner (2004) stresses that his work on multiple intelligences aims to “inspire educationally anthropologists to develop a model of how intellectual competences may be fostered in various cultural settings” (p. xxvii).

In 1983, Gardner proposed seven interdependent ways to show intellectual ability called intelligences: Verbal-Linguistic, Logical-mathematical, Visual-Spatial, Body-Kinesthetic, Musical-Rhythmic, Interpersonal, and Intrapersonal. Later, he added two more intelligences: Naturalistic and Existential. Gardner (2006) assumes that each person possesses all of these intelligences, albeit one type may be higher than another. In all cases, all types operate in an individual, and he/she uses some or all of them in varying degrees depending on the situation. For example, a dancer needs to use the intelligences of musical, bodily-kinesthetic, spatial and intrapersonal to be proficient in her career. Gardner points out that the dancer may possess these intelligences at varied levels, yet she needs to use all of them in her performance. Put differently, multiple intelligences represent ‘different ways to be smart’ as Kagan (2005) suggests. They facilitate understanding when teachers understand their students’ abilities and intentionally employ differentiated instruction strategies (Crim, Kennedy & Thornton 2013).

Enthusiastically embraced by educationalists, multiple intelligences theory could create a

deeper understanding of individual differences and interests in the classroom. Since its emergence, it has been hastily incorporated in the curriculum of many schools in the USA and other parts of the world. The theory encourages teachers to perceive differences as simply a positive matter. Unlike the traditional concept of intelligence, Gardner's theory supposes that intelligences change over time, and they can all be improved at various rates among learners. Hence, it becomes essential for the teacher to understand students' intelligences and how they express and demonstrate their abilities so that she can adapt instruction to the needs of varied learners. This also implies that a teacher will need to use different assessment strategies and tools based on student intellectual abilities or disabilities.

Even though multiple intelligences theory has inspired many educators and theorists, it still faces fundamental questions and criticism concerning applicability, testing, curriculum, overlapping with learning styles among other things. Opponents of the theory argue that it lacks empirical testing, which makes it impractical in the classroom (Locke 2005; Visser, Ashton & Vernon 2006; Waterhouse 2006). In addition, although advocates of Gardner's theory work on assessments, Sternberg (1991) considers the lack of a valid and reliable testing instrument a kind of psychometric nightmare. In commenting on Gardner's theory, Kein (1997) points out that multiple intelligences theory has enthused instructional practice, yet it seems too broad, which makes it inadequate for planning curriculum.

Detractors of Gardner's theory believe that intelligences are similar to learning styles. Gardner (1997) responds to what he considers this view a kind of myth or dubious assumption. He maintains that learning styles are different from multiple intelligences. He explains that:

You can say a child is a visual learner, but that's not a multiple intelligences way of talking about things ... Here is a child who very easily represents things spatially, and we can draw upon that strength if need be when we want to teach the child something new (p. 60).

The major question is pertinent to the fact that there are hardly any studies conducted on differentiation without referring to this theory. As the theory of differentiated instruction is based on the teacher ability to explore students potential, employing Multiple Intelligences theory will inform the teacher about students interest and better ways of learning.

2.4 Differentiated Instruction Theory

2.4.1 Origins of Differentiated Instruction

Differentiated instruction is said to be a new term of a very old idea that dates back to the 17th century's one-room schoolhouse where teachers had to deal with students of different levels and needs at the same time. Afterwards, the emergence of grade-level schools led to the belief that no more differentiation would be needed. This continued till the early 1900s when the achievement tests were introduced; and the varying levels found among students of the same grade level made educators start considering the problem. Later, some sort of differentiation focused on the need for teachers to meet the needs of bright students (O'Meara 2010; Tomlinson 1999). Virgil Ward coined the term 'differentiated instruction' in 1960 as a responsibility towards the gifted students in the society. He believed that employing differentiated instruction was a necessity to discover and expand the potential of the gifted as they have more to offer; otherwise it would be hard for their capacity to be known (Ward 1986).

Afterward, the term differentiated instruction was conceptualized as a response to include students of mixed abilities and varied needs in the mainstream education classrooms (Tomlinson & McTighe 2006). But the focus this time was on students with disabilities who were allowed to join public schools after the passage of the Individuals with Disabilities Education Act (IDEA) in 1975 (Tomlinson, 1999; Bender, 2005). As per IDEA, it became the responsibility of the school to differentiate for the benefit of disabled students. In the next decade, more emphasis was laid on small group differentiated instruction. In 2001, differentiation movement surged with the introduction of the No Child Left behind Act (NCLB) calling for more quality education and accountability for every child in the USA; and aiming at achieving optimal academic proficiency in reading and some other skills within twelve years. NCLB urged teachers to closely work with students on closing the achievement gaps between students of different capacities and interests as per the principles of differentiation that are going to be discussed later in this chapter.

Although teachers nowadays mostly teach students of nearly the same age group, they still find it strenuous to meet all the needs which could be as varied as those of students in the one-room schoolhouse (Tomlinson 1999). By and large, uniformity rather than differentiation dominates the strategies of instruction in many contemporary classrooms

(Gable et al. 2000; Subban 2006). Subsequently, educators have started to find out that an increasing number of children coming from different cultures are attending today's schools, which necessitates prompt action to include them. Celli (2010) states that "the students populating today's schools are fundamentally different from those of previous generations. If we are serious about educating them for life in the 21st century, we must acknowledge this difference and rebalance our approach" (p. 2). The classroom has to accommodate a bigger number of students with greater rates of diversity in terms of their beliefs, social environment, learning styles and interests. Diversity also includes their language skills, ability to solve problems and to use modern technological tools, in addition to their readiness to adapt and socially interact with peers. These differences pose challenges to teachers in delivering instruction and in their attempts to meet the learning outcomes assigned for each grade level. Thus, it would be hard for teachers to identify and develop the skills of the 21st century while their beliefs and practices are still grounded into the traditional practices of the 20th century (Jukes, McCain & Crockett 2010).

Striving to develop the skills of struggling and advanced students at the same time in the same classroom, teachers improvised several methods and strategies of differentiation without probably knowing its name (Tomlinson 1999). For instance, some teachers gave different lists of vocabulary items to different students depending on their levels. Other teachers varied the homework they give to students to ensure meaningful practice for each one of them. A third group provided opportunities to their students to select the kind of the final product. Although many of these practices were congruent with today's theory of differentiation, they needed a clear approach.

2.4.2 Definition of Differentiated Instruction

In the late 1990s, Carol Anne Tomlinson, the leading and most cited expert in differentiated instruction theory upon which the present study is principally based, popularized differentiated instruction as an approach. Tomlinson (1999) defined differentiated instruction as "the process of ensuring that what a student learns, how he or she learns it, and how the student demonstrates what he or she has learned is a match for that student's readiness level, interests, and preferred mode of learning" (cited in Ellis, Gable, Greg, & Rock 2008, p. 32). A growing interest in differentiation followed with broader perspectives taking into account the actions the teacher should take in the classroom and the modifications to the planning, instructional practices and curriculum

based on students' differences in terms of culture, gender, socioeconomic status, personal interests, motivation, and competences. The practitioner according to differentiation follows a multidimensional approach which incorporates individual, group and whole-class instruction.

Bender (2012) indicates that the meaning of the term differentiated instruction has changed over time and subsequent interpretations followed from the construct posited by Tomlinson 1999. He maintains that differentiation nowadays is not tied to exclusively single narrow approach or limited learning style any more. It is not also restricted to differentiating according to special needs' students in mixed ability classrooms. Today, differentiation must encompass all students in all levels in different learning environments. Bender and Waller (2011) contend that new conceptualizations of classroom components including modern instructional technology and the response to intervention (RTI) approach have influenced the application of differentiated instruction in the classroom context to the extent that these components should not be discussed separately. Rather, these factors are interrelated and must be considered together to attain successful instructional practice.

According to Tomlinson (1999), differentiation should be viewed more as a philosophy and an innovative way of thinking, rather than a strategy. Tomlinson's work draws on the theories of socioculturalism, social constructivism, Brain-Based Learning (Caine & Caine 1994), Learning Styles and Multiple Intelligences Theory (Gardner, 1983). Differentiated Instruction is based on the belief that students in the ordinary classroom possess different qualities, and each student is unique. Hence, the teacher needs to vary techniques accordingly. Recently, there has been a surge of interest among researchers in studying the differences between students in terms of potential, levels of readiness and learning profiles (Fahey 2000; Heacox 2002; Hess 1999; Levy 2008; Tomlinson 1999; Tomlinson 2001; Tomlinson & McTighe 2006).

2.4.3 The Teacher's Role

Despite the challenges in its implementation, differentiation is a method that allows the teacher to attend to students' needs. The teacher according to the theory of differentiated instruction assumes several roles which significantly differ from that of the teacher who follows inadequate traditional methods of transmitting knowledge (Subban 2006;

Tomlinson 1999). The teacher who practices differentiated instruction plays the role of facilitator who acts proactively, flexibly and constructively to progress towards non-traditional instruction and ensure better outcome. Subban (2006, p. 5) stresses that:

Differentiated instruction proposes a viable alternative to traditional teaching strategies. It offers students the options of moving on to more complex material once they have mastered certain key skills, it offers the teacher a more dynamic, facilitating role, and it creates a purposeful learning environment that maximizes opportunities for meaningful learning.

Presupposing that different learners have diverse needs, the teachers must proactively plan varied approaches to what students will learn in order to effectively maximize their learning opportunities and get them express learning. However, teachers in the traditional classroom follow a single approach in planning their lessons and reactively make the changes when learning is not effective or not happening as planned. In the same way, Stanford and Reeves (2009) called these two ways to differentiating: retrofitting and Universal Design. Retrofitting occurs when the teacher acts in response to students' failure to grasp certain points in the lesson. He/she starts assessing strengths and weaknesses. Then, he/she makes the modifications and accommodations and provides the required support accordingly. Universal Design, on the other hand, occurs when the teacher proactively starts with assessing and analyzing strengths and weaknesses instead of waiting for students to fall behind. After that, he/she provides support and makes modifications (Rose & Meyer 2006).

In addition, the curriculum that a teacher follows needs to be proactive to achieve its goal of maximizing learning for all students, and curricular strategies entail considerate preparation and reflection in action. Gubbins et al. (2002) assume that the teacher has to focus on three points: a) the knowledge, understanding and action that result from students' involvement with curricula; b) the extent to which the curriculum objectives match students' academic diversity; and c) the instructional and curricular activities that maintain an appropriate level of challenge of the curriculum. More importantly, Bourini (cited in Chaudhary 2013) explained that:

“[the] classroom teacher is an influential factor that determines the success of a curriculum as he would be the one who takes the responsibility to implement it and ensures meeting the students' diverse needs. He is one of the major stakeholders whom we highly consider in the process of designing the curriculum” (p. 9)

Tomlinson (2001) introduced other roles of the teacher in a differentiated classroom: an organizer of learning opportunities; and coach or mentor. Viewed as an organizer of learning, the teacher focuses more on understanding students rather than giving emphasis to knowing all the answers about the content. Further, students have learning opportunities that capture their attention and help them form a better understanding of the content. The focal priority in this case is organizing the class in a way that maintains effective activity and enhances exploration. The teacher's role as coach or mentor is to increase action in the classroom by making students more responsible for their learning. The teacher improves his instructional competences by assessing student readiness level; learning about their interests; offering varied ways for students to choose from; and offering multiple channels to student to express their understanding. Tomlinson contends that assuming these roles will assist in changing the course of the teacher's career.

Fox and Hoffman (2011, p. 6) emphasise that a teacher in a differentiated classroom assumes other essential roles which ensure engaging students 80 percent of the time. Teachers clearly plan the time of activities and protocols and divide it into chunks according to the goals and mixed levels of students. They maintain a safe environment all the time, allowing time for free questions and discussions for all students. Teachers do not practice frontal teaching all the time; they work alongside the students.

2.4.4 Differentiated Instruction Model

Differentiation of instruction is guided by such key principles as respectful tasks, flexible grouping, quality curriculum and continuous assessment (see Figure 3 adapted from Tomlinson, 2001). According to Tomlinson's theory of differentiated instruction, teachers differentiate instruction in three main areas: content, process and product in response to the students' three varied points of readiness levels, interests and learning profiles. It is hard to deal with these areas as discrete elements during teaching as they are considerably interconnected and inseparable in practice. Students process ideas while reading content, and think as they create products, and they invoke new ideas for products when they come across ideas in the material they use. Therefore, discussing the elements one at a time will be more convenient and manageable when you consider the better practices of differentiation in the mixed-level classroom (Tomlinson 2001).

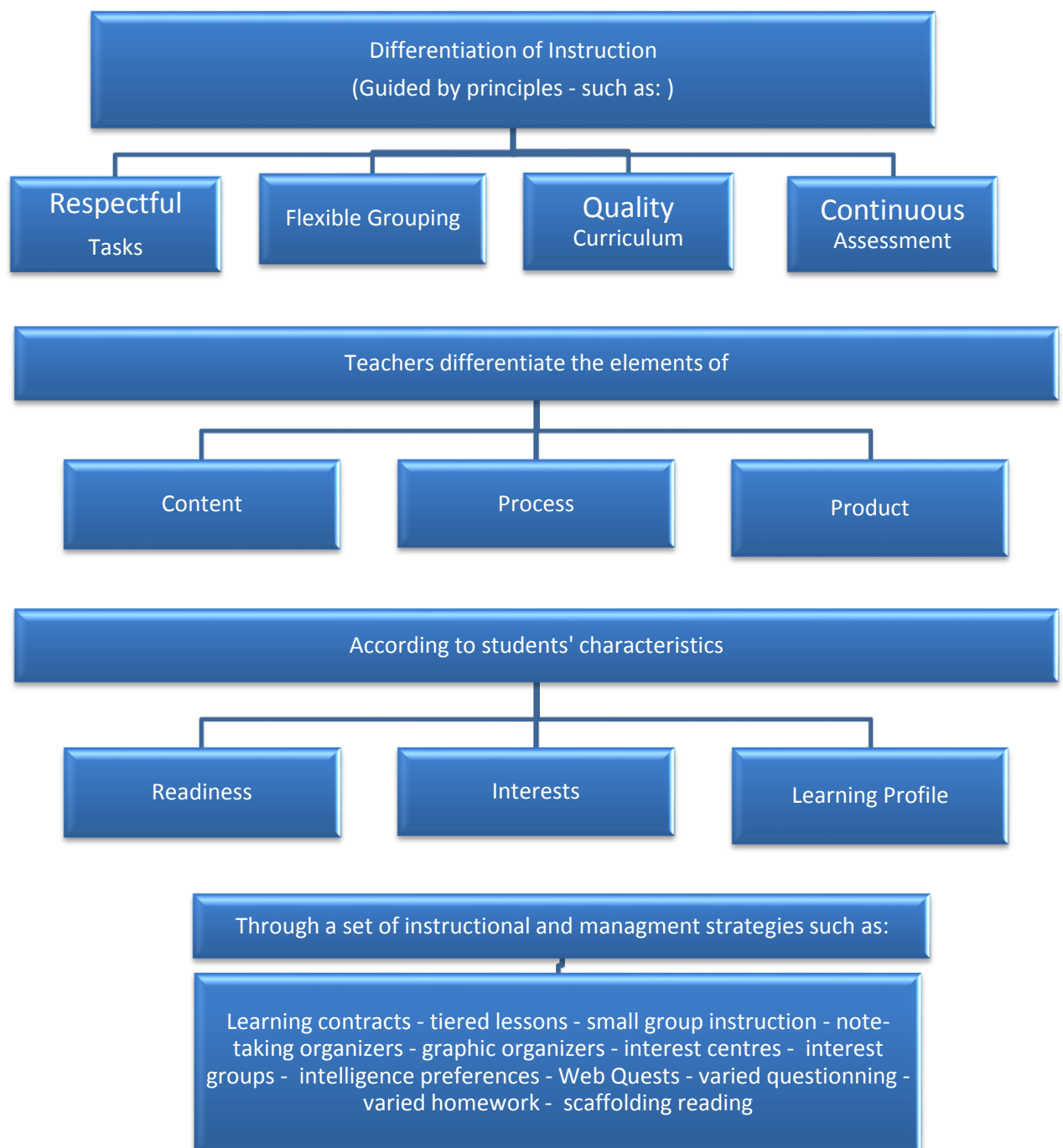


Figure 3: Differentiated Instruction Model

2.4.5 Principles that Guide Differentiated Instruction

2.4.5.1 Respectful tasks

A teacher in the differentiated classroom offers respectful tasks that are equally interesting and appropriately engaging and challenging for students. They promote purposeful and meaningful learning of the content. They are respectful in the sense that they focus on

essential understandings for all students and enhance creative and critical thinking of authentic material (Strickland 2007; Tomlinson 1999; Tomlinson & Imbeau 2010). As Tomlinson (1999, p. 53) puts it:

The activities are equally respectful in that one version doesn't look preferable to—or less desirable than—any other. The principle of equally respectful activities also is evident in that every student is squarely focused on whatever skill the teacher deems essential.

Furthermore, it is believed that the tasks should be so attractive that the students will not care about what their peers are doing. Likewise, the tasks that are respectful of the learners and curriculum should lead them all to relatively achieve the same learning outcomes (Strickland 2007). They are also respectful enough to the extent that teachers do not fall victims of misconception about limiting and lowering goals to achieve success. “The greatest danger for most of us is not that our aim is too high and we miss it, but that our aim is too low and we reach it” (Michelangelo n. d.).

2.4.5.2 Flexible grouping

Flexible grouping is one of the most commonsense making aspects and “a critical management strategy in the classroom” (Heacox 2002). Radencich and McKay (1995) describe it as “grouping that is not static, where members of the reading group change frequently” (p. 11). It includes different patterns of grouping including small groups, large groups, and pair work. In view of pre-assessment results, teacher plans students’ grouping based on the topic, individual needs, interests or levels of readiness. Giving students the opportunity of exposure to a wider range of contexts with a bigger number of peers allows the teacher to observe a student performance in multiple learning contexts. A student may be scheduled to work with students of the same readiness level and interests. However, he/she might on the next day do tasks with other peers with the same interests regardless of their readiness or skill levels (Tomlinson & Imbeau 2010).

2.4.5.3 Quality Curriculum

A third principle underpinning effective differentiation is quality curriculum. Differentiated instruction is not expected to replace quality curriculum but to form a refinement and extension to it. It is the responsibility of teachers to make sure that the curriculum they follow maintains high engagement and assists students to retain information and maximize their growth and understandings in the environment around

them (Tomlinson 2001; Tomlinson et al, 2002). Quality curriculum targets different levels of learners. While struggling students should find knowledge and skills that give them the chance to learn new tasks and proceed, advanced learners need to find extended well-designed learning opportunities that add to their knowledge and expertise. Tomlinson (1999; 2005) lists other specifications of quality curriculum including coherence, authenticity, attractiveness, dealing with profound ideas, focusing on essential skills and understanding, guiding choices and assessing progress. Strickland (2007) agrees with Tomlinson (2005) and McTighe (2005) that a curriculum should focus on big ideas and concepts, be scaffolded, standards-based, accurate, varied, connected to earlier learning, and emphasize inquiry and problem-solving, employing technology and pertinent to students' lives.

2.4.5.4 Continuous Assessment

Assessment in the differentiated classroom is a central principle influencing instruction (Kay 2005; Wiggins & McTighe 1998), and continuous or ongoing assessment is an integral part of teaching and learning that goes beyond monitoring students' performance (Simmons & Resnick 1993). Successful differentiation is based on effective ongoing assessment of student needs Tomlinson and Allan (2000, p. 5) emphasize that "[in] a differentiated classroom, student differences are expected, appreciated, and studied as a basis for instructional planning. This principle also reminds us of the tight bond that should exist between assessment and instruction". When using differentiation, a teacher considers everything that relates to a student's utterances, actions or behaviours as important information that feeds into both understanding that student and designing instruction in a way that promote effective learning. These data also ensure and enhance equity among students and makes the teacher confident that all students have had their chances to learn as per their levels.

2.4.6 Student Characteristics

2.4.6.1 Readiness

Readiness level is a student's entry point of a particular area or skill. Tomlinson and Imbeau (2010) stress that readiness is different from ability and that it is unacceptable to use the two terms interchangeably. While ability refers to a kind of fixed or permanent quality, readiness connotes a temporary condition changing with instruction. Hence,

teaching should vary according to the different readiness levels in the classroom. On the one hand, a student who shows less-developed readiness will require scaffolding from the teacher to assist him/her identify and bridge the gap in learning so that he/she can progress from this point through simpler contents activities and products that are closer to her experiences. This student will also need an adjusted pace of learning that respects her level of learning. On the other hand, a student of a more advanced level, who has already mastered the previous skills, will learn at a faster pace, and deal with more complex texts and activities (Tomlinson 1999; Taylor 1992).

2.4.6.2 Interests

Interests refer to what attracts a student's attention and arouse his/her curiosity relative to a particular topic or skill. They are linked to engagement and motivation to learn and influenced by students' personal experiences, culture and needs (Collins & Amabile 1999; Tomlinson & Imbeau 2010).

2.4.6.3 Learning Profiles

Learning profiles, also called learning styles, refer to the way students learn and their preferences for exploring the content. They are mainly shaped by gender, culture, learning styles and intelligence preferences. Student learning profiles include aspects of how each student learns, how he/she process their needs and the way he/she employs what they have learned (Tobin & Timppett 2012; Tomlinson et al. 2003). Tomlinson (1999) maintains that variance in learning profiles must be accounted for in the differentiated classroom. Some students like to work with peers while others prefer to work individually. Some students prefer to learn rules deductively, from whole-to-whole while others prefer to see examples and inductively learn the rule. In terms of intelligences, a student may prefer the analytical approach to learning while another may learn better through application.

2.4.7 Elements of Differentiated Instruction

2.4.7.1 Content

The term "content" refers to the material taught in the classroom or how the student gets access to the information. It is the input of both what we teach in the classroom and what we need our students to learn. Tomlinson (1999) states that "[content] is what a student

should come to know (facts), understand (concepts and principles), and be able to do (skills) as a result of a given assignment of study (a lesson, learning experience, a unit)” (p. 43). It includes facts, concepts, attitudes, principles and related skills. Most of these constituents, especially the ones related to the core standards, are fixed for all learners except with some students’ skills that do not match grade level. As in the case of vocabulary lists, where more advanced students have a longer list compared to the low achievers who have shorter lists.

In the reading skill, differentiating content indicates that mixed-ability/level students can simultaneously learn different information about the same theme. Considering standards, a teacher might find, during the pre-assessment phase that a number of students are capable of grasping the gist of a reading text from the first time they read a long passage. At the same time, you will find some others who are still struggling with reading simpler texts and in understanding the main idea. To solve such a problem the teacher needs to scaffold the learners’ skills by providing different levels of reading texts consistent with the different zones of development. Effective practitioners should utilize differentiation of content as a priority by employing materials and tasks which entirely relate to students’ real life. Educators and researchers (Berger 1991; Hymes 2010; Kaviani, Khany & Gowhary 2014; Khany & Khosravian 2013; Tomlinson 1999) suggest several ways to facilitate the teaching and learning of content and skills such as:

- Incorporating a range of texts and novels at varying readability levels (e.g. graded readers)
- Presenting material through visual, auditory and kinesthetic means
- Following both whole-to-part and part-to-whole approaches in presenting the material
- Reteaching students who need more support for not demonstrating mastery of the content.
- Using technological tools including related software, videos, and web based material
- Modifying content through providing various selections including simpler and more advanced passages for reading
- Authentic language learning material including brochures, movies, and field trips in addition to adapted printed material

2.4.7.2 Process

The second area based on differentiated instruction theory is “process”, or sense making. It refers to activities designed to make sure that learners use main skills to make sense out of essential ideas and information. It provides an opportunity to learners to process and

master the content and skills they have been learning. A language learner who encounters new ideas while learning needs some time to process the information in his/her brain. Somehow, the brain filters all this to make sense. Differentiating process requires that a teacher provides choices to students related to the way they express what they learn. For example, to express what they could understand about a historical event, students may choose to write a letter to the editor, make a diagram or create a political cartoon (Tomlinson & Allan 2000). Tomlinson (2001) thinks that such processing or sense making is a basic element of instruction. It is important to the extent that without it learners either lose the ideas they are learning or confuse them. Although some writers use the terms 'process' and 'activity' interchangeably, Tomlinson prefers to use the term 'sense-making activity' for process. This reminds the teacher and learner that an activity is more powerful in providing the intended meaning when it is focused on a certain area that they need to know, understand or make use of in the real world outside the classroom. When differentiating process, teachers tend to vary teaching and learning techniques, activities and strategies in an attempt to provide methods that suit the learners of different readiness levels, interests and learning styles. Examples of differentiating process activities include flexible grouping, tiered tasks, interest centres, varying the length of time students need to fulfill a task, centres/stations, think-pair-share, Web-quests and graphic organizers.

2.4.7.3 Product

The third element of differentiation theory is 'product' which refers to the way students demonstrate what they have been able to know, understand and do following a learning experience. Usually, product assignments are learned at the end of a unit or semester. They must respect the needs of individuals and groups and help them rethink and extend what they have learned. Tomlinson (1999, p. 79) stresses that "[products] are important not only because they represent your students' extensive understandings and applications, but also because they are the elements of curriculum students can most directly own". In essence, good products are not intended for mere enjoyment. They must activate thinking, application and expanding the key skills the students have learned (Tomlinson 2001). After identifying the skills and standards of the product, the teacher decides on the layout and possible format. Products possibilities include conducting interviews, writing a journal, magazine, blog, newspaper, or book, doing a demonstration, performing a play, designing a game, conducting an experiment, making a video, presenting a research, in

addition to dozens of other things. Sometimes the format is prescribed in the curriculum components for a specific purpose, (most likely the conventional products like essay writing). However, non-conventional products, especially those motivating the student to excel will make the most of the benefit of differentiated activities.

Tomlinson and Allan (2000, p. 9) list several benefits of differentiating product, including:

- Allowing students to design products related to learning objectives;
- Encouraging students to express what they have learned in different ways;
- Allowing for diverse working arrangements (e.g. individual or team work);
- Providing or encouraging the use of multiple resources;
- Giving diverse product assignments of multiple difficulty levels; and
- Using varied types of assessment.

According to the new assessment system for high schools in the UAE government schools, product assessment is introduced as a process (ECF). Teachers ask students to work in groups on a project with a topic of their choice over a long period of time. After forming groups, a teacher is expected to evaluate students' products at three phases: a) In the first phase, teachers assess product outline, and students select group members; b) During the second phase teachers follow up the process; c) By the end of the third trimester, teachers assess the final product and presentation. More than 30 percent of the formative assessment mark goes to product. A considerable proportion of the mark is allocated to social work and interaction among group members. Nonetheless, no evidence has been tracked to effective differentiation.

2.4.8 Common Instructional Strategies

Among the most common strategies for differentiating instruction are concept-based teaching, curriculum compacting, learning contracts, mini-lessons, note-taking organizers and varied support systems (Tomlinson 2001). In an English class, the teacher introduces lots of information, vocabulary items and concepts. Students, however, forget much of that content and move forward to a new theme or lesson. This may accumulate memory loss over time and lead to lack of concentration and loss of more knowledge, although students may later spend a long time trying to memorize as much information as they could.

2.4.8.1 Concept-Based Instruction

Teachers need to follow concept-based instruction that helps students develop conceptual understanding based on differentiation. They need to ensure that students “a) have a deep

foundation of factual knowledge, b) understand facts and ideas in the context of a conceptual framework, and c) organize knowledge in ways that facilitate retrieval and application” (Bransford et al. 2000, p. 16). Differentiation of content focuses on organizing concepts and skills instead of facts, which makes it more effective in the future (Tomlinson 1999; 2001). Bransford et al. (2000) supports Tomlinson’s view that when information is organized into a conceptual framework, students will be more able to transfer and apply what they have learned into new contexts of practice and real life situations. In essence, what makes concept-based teaching of content more reliable and then effective in a differentiated classroom is its relatedness to schema theory, as each student is urged to establish connections between new concepts and their prior knowledge. Consequently, integration of the new content into knowledge blocks in the mind will minimise memory loss. Tomlinson (2001) illustrates with an example of an elementary teacher who differentiates learning a unit on dinosaur extinction. To help students understand the concept of extinction, she divides them into two groups. The first group explores dinosaur extinction as a result of environmental changes and investigates the changes that may have led to their extinction. The second group alternatively studies extinction as a human-made change to the environment. They hold a comparison between dinosaurs’ extinction and the situation with other extinct creatures trying to find the similarities and differences. Both groups deal with scientific concepts and attempt to draw conclusions based on scientific inquiry. However, the first group studies the issue in a concrete single-faceted way while the second group explored it in a more abstract multifaceted way. To ensure successful content differentiation, the teacher should proactively assign the required material and tasks as per the needs of each group.

2.4.8.2 Compacting Curriculum

Compacting curriculum can be a strategy for differentiating content for high achieving and high potential students who may finish their assignments very quickly as they find them academically unchallenging. Students who have already mastered the textbook assignments that need to be studied by all students in the classroom will feel frustrated and unwilling to participate in more classroom activities. The major challenge is due to contemporary textbooks that have been ‘dumped down’ and the tendency of decreasing difficulty (Chall & Conard 1991). In response to this problem, curriculum compacting, developed by Joseph Renzulli in 1978, is used as an intervention to keep high-achieving

students engaged (Renzulli 1991). Compacting curriculum is a three-stage process. Students' knowledge and skills (e.g. grammar, vocabulary, punctuation, and spelling) in the first stage are pre-assessed by means of a formal test or informal conversation and observation to identify which parts of the curriculum they have mastered. So the teacher and student agree on compacting.

In the second stage, the teacher determines the knowledge and skills the students have not shown mastery in. Then a plan is set to ensure students achieve the goals and outcomes by learning those skills within a time limit. The plan may engage students in activities with different groups of students or focus on practicing missing skills. In the final stage, students agree with the teacher on the procedure for completing a well-selected task which is challenging enough while other students are studying the general content.

2.4.8.3 Learning Contracts

Learning contracts are working agreements collaboratively written by students and teachers allowing freedom for students to choose the content and skills they will learn; the way to learn it; and the period of time for completion. It also specifies the way the teacher and students will assess learning. From differentiation perspective, learning contracts are effective in managing the differentiated classrooms because contracts will vary with students' needs (Tomlinson, 2001). Frymier (1965) states that:

Allowing students to decide which grade they wish to strive for, which activities they will engage in, and how they will demonstrate that they have satisfactorily completed their studies permits a teacher to seize upon powerful motivating forces within individual students ... This notion shifts responsibility for learning from the teacher to the student, but at the same time offers an incentive by insuring success under known conditions. Students are challenged without being threatened (p. 20)

According to their levels, students might be allowed to specify the areas of focus content in the contract with some assistance from the teacher. Other students may select objectives and assignments from lists proposed by the teacher. But in the end each student feels safe to discuss the details of her choices with the teacher.

2.4.8.4 Note-Taking Organizers

Content can be differentiated using note-taking organizers to help students who find difficulties in reading or listening to grasp what the teacher presents to the class. In this case, using a visual organizer to take notes shows the flow of ideas and helps such students to focus on the development of main ideas and highlight important information.

Still, teachers need to make sure that such organizers suit the level of students and not boring for those who can read or do listening tasks independently (Tomlinson 2001).

2.4.8.5 Tiered Lessons

Although tiered lesson is a strategy to support differentiating all elements, it is primarily used to differentiate process and help students to reach an understanding of the concepts and generalizations in accordance with interests, readiness levels and learning preferences. A teacher who develops a better understanding of the students' potential will be more capable of following the procedures of tiered lessons relative to their readiness. Tomlinson (2001, 2010) emphasizes that tiered activities become more important when a teacher aims to make students of different levels work with the same ideas and key skills. For example, a student may face difficulties to understand the basic concepts needed for reading. At the same time, another student who can work beyond grade level will need to encounter challenges to learn the same concepts. In this case, tiered activities help the struggling student to grasp the important concepts, and extend the knowledge and understanding of the advanced student in the same area. Both will be engaged in learning the concepts and skills but with different rates of complexity. Tomlinson (1999) contends that there is no recipe for designing a tiered activity but she mentions some guidelines that help the teacher plan the tiered lesson that ensure adequate challenge to all levels. A teacher should select the concepts or skills that form the focus of the lesson. Then, based on assessments of students' readiness levels, interests and learning profiles, he knows his students before planning the activity.

When adopting tiered lesson strategy, Adams and Pierce (2004) identify eight steps. First, a teacher identifies the grade level and subject. For example, the grade level is tenth and subject is English Language. Second, she identifies the target standards (National Standards Document) to be covered. In this case, a teacher starts with standards and avoids imposing pre-designed activities into a tiered lesson. Third, she identifies the key concepts to be taught. The key concept is the 'big idea' she is targeting, based on the standard. The teacher addresses one concept at a time. Then she moves to the generalization that follows from the concept she is planning to teach and relates to what she wants her students to learn by the end of the lesson. Fourth, the teacher makes sure students have background necessary to learn the concepts. She identifies their ZPD and the scaffolding required to know which skills must be introduced first. Fifth, the teacher identifies the element she

will tier and select separately (content, process or product). Sixth, the teacher selects the students' characteristics to be tiered (readiness, interest or learning profile). Surveys of interests, learning styles and multiple intelligences inventories are used. Seventh, the teacher determines the number of tiers to develop based on the choices above. When tiering according to readiness, there are usually three tiers (below grade level, at grade level, and above grade level). Finally, the teacher develops the assessment tool (primarily formative) based on the lesson design. He/She focuses on observation and recording evidence on students' progress, levels of understanding and pace of learning the concept.

2.5 Common Misconceptions about Differentiated Instruction

With differentiated instruction increasingly taking centre stage in many educational institutions in the USA and around the world nowadays, and with hundreds of books written by advocates of differentiation, a wide range of myths and misconceptions are spreading among teachers who resist, or are unable to implement it in their classrooms. Therefore, many theorists and educators (Fox & Hoffman 2011; Rease 2011; Tomlinson 1999, 2001; Tomlinson & Imbeau 2010) attempt to provide clarification of the most common fallacies classroom teachers hold about employing differentiation strategies:

A widespread misconception is that differentiated instruction is only for special need and struggling students. The reality, however, is that differentiation targets students of all abilities and levels, from those with learning disability to those in advanced levels (Fox & Hoffman 2011). There is a general agreement that every individual possesses distinct interests, readiness level and learning profile. Additionally, there is a common misconception that differentiation is a kind of 'fad' that eventually complicates a teacher's work when it comes to practice. Tomlinson (2010) rejects this conception and claims that the idea of reshaping teaching methods to meet the needs of all students is as old as Confucius who used to differentiate his teaching strategies according to circumstances. Muslims have adopted the early teachings related to observing diversity in Islam: "We have been ordered to address people according to their ability to understand" (Hadith). Tomlinson (2010) contends that differentiation is not a group of strategies. It is an entire philosophy and a way of thinking about teaching and learning. Differentiation is all about good teaching that follows a systematic approach and is based on 'non-negotiables like

quality curriculum, on-going assessment and reflection, and well-selected environment that teachers need to maintain all the time.

Many teachers believe that they cannot differentiate instruction because it is time consuming and they are busy all the time. It is said that a teacher who has more than a hundred students in three to four classes with extracurricular activities, discipline problems, administrative duties, on-going assessments, marking homework and tests, will unlikely have the time to plan and create tiered lessons (Bennett 2012). According to the Organization for Economic Cooperation and Development's - OECD (2013), "one in four teachers in most countries loses at least 30% of their lesson time, and some lose more than half, through disruptions and administrative tasks. This is closely associated with the classroom disciplinary climate" (p. 88). Proponents of differentiated instruction contend that just like any practitioners to a new approach, teachers will view planning and implementing differentiation as time consuming in the preliminary stage till they get used to it. Wehrmann (2000) points out that differentiation requires systematic planning of instruction; and to be successful teachers need to start with taking slow and steady steps that bear a resemblance to the baby's first steps.

In addition, many teachers do not implement differentiation because they believe it is very difficult to handle. Differentiation theorists do not claim it is easy. Woodin-Weaver (2000) maintains that:

"[there's] no question that it is a big challenge, but there is no bigger challenge than trying to insert kids in a one-size-fits-all [classroom] and then having to deal with the spillover of emotional and behavioral reactions. If kids are not in a place where they can learn, they let us know loud and clear" (p. 2).

To make differentiated instruction easier, a teacher must own the tools and follow the strategies of differentiation.

Many experienced teachers think that differentiated instruction means individualized instruction. Although teachers may practice individualizing instructing when they give students the opportunity to work according to their pace, differentiated instruction is different. Tomlinson (2000) points out that in individualized classroom, a teacher attempts to do something different for all students in the classroom. In a reading lesson, each will have his/her individual assignment, which will drive that teacher to go nuts and become quickly exhausted (Wormeli 2005). In addition slicing up instruction into content and

skills fragments will make learning irrelevant. Differentiated instruction, on the other hand, does not assume a separate plan for each learner, although it gives pathways to learning in response to varying student needs in a balanced manner (Tomlinson 1999).

Another misconception is that differentiation means providing unbalanced workload to students. Some teachers may think that effective differentiation means giving the high achievers or advanced readers more books to read and additional tasks that will take more time to do. Instead, the teacher can encourage those advanced students to study the text from other new perspectives while other groups of students work according to their readiness levels. In the end, all students take the same time for doing the tasks.

Teachers who do not differentiate sometimes believe that differentiation is not fair. According to differentiated instruction theorists fair here does not mean the same. To reach the same outcomes, students follow several paths of learning according to their readiness levels, needs and interests. In other words, it is fair in the sense that a teacher employs multiple differentiation strategies to ensure each student gets appropriate scaffolding to achieve the goal.

Some teachers do not differentiate because they believe differentiation does not allow them to cover the standards for every student in the classroom. Tomlinson and Imbeau (2010) assert that differentiation does not dictate curriculum although they encourage schools to select a rich curriculum. They suppose that the multiple ways the teacher adopts will lead to covering the addressed standards.

Among the debates and controversies swirling around differentiation is the lack of reflection by teachers on their own practices. Tomlinson (2005) maintains that a teacher needs to overcome four major barriers prior to implementing differentiation in the classroom: a) not viewing and dealing with students as individuals; b) the lack of clear image of the learning outcome students must achieve after a unit of study; c) the absence of background knowledge and focusing on the role of the teacher as the centre of the teaching-learning process; and d) the lack of ability to teach flexibly. Deslie (2000) contends that differentiation is moving hurriedly, but not smoothly, from special education into regular education.

2.6 Previous Studies

Even though there is a dearth of studies that investigate teacher beliefs about differentiated instruction worldwide and in the UAE in particular, several studies have described the relationship between teachers' beliefs and effective classroom practices including differentiation (e.g. Barnett 2011; Boen 2010; Buehl & Fives 2009; Gibson 2005; Grover 2009; Guise 2009; Wallestad 2009; Zeigler 2010). Fewer studies addressed teacher beliefs about responsive teaching to student diversity in EFL contexts. In most cases, differentiated instruction was addressed as a pedagogical approach rather than a philosophy of teaching and learning. The findings of most studies revealed that differentiated instruction is believed to have a positive impact on instruction and learning in the diverse classroom, which requires a real need for enhancing teachers' knowledge and skills about differentiation (Nicolae 2014). The research studies to be considered in this section will be those most related to the key research questions of the present study.

Boen (2010) conducted a mixed methods study about differentiated instruction within a Response to Intervention Framework. The theoretical framework of the study was based on the Tomlinson's theory of differentiating instruction. The results from quantitative and qualitative parts revealed that teachers practiced differentiating for readiness more regularly. However, teachers and school principals were more inclined to participate in professional development programmes on differentiation to meet student needs

In her study about the way English language teachers negotiate their beliefs and instructional practices, Guise (2009) used qualitative tools to explore alignment between teachers' expressed beliefs and their observed instructional practices. Findings revealed that misalignments existed due to the teachers' limited reflection upon their own teaching practice and the blurred nature of their core beliefs about effective teaching and learning.

In a study that examined teacher beliefs about student diversity through transformative learning and the disorienting dilemmas, Grand (2011) employed the Common Beliefs Survey investigated into the teachers' beliefs and assumptions about this issue. The study examined Mezirow's Transformation Theory as a tool to address problematic teacher beliefs. According to Mezirow (2000):

[Transformation Theory] is the process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so

that they may generate beliefs and opinions that will prove more true or justified to guide actions (p. 7).

In order for transformation in learning to occur, an individual may go through a disoriented dilemma, which refers to a sudden crisis, major transition or experience in his/her life that causes a shift in beliefs, values and ideas. Results of Grand's (2011) study asserted that individuals had different disoriented dilemmas. The study revealed that the Common Beliefs Survey content activated disorienting dilemmas among most teachers by giving them the chance to reflect upon their own beliefs and by providing them with information that challenged their existing information.

In their study of teacher efficacy beliefs, differentiated instruction and professional development, Dixon et al. (2014) found that a significant number of training hours in differentiation was positively linked to the teacher's sense of self-efficacy. According to Bruner (1977), self-efficacy is a kind of assessment of an individual's abilities in order to reach a certain level of performance. In the educational context, self-efficacy refers to a teacher's "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (Tschannen-Moran & Woolfolk Hoy 2001, p. 783). Dixon et al. (2014) study revealed that teachers who consistently received more professional development in differentiated instruction generally felt more efficacious and were more successful in implementing differentiation in the classroom. The study also indicated that teacher self-efficacy assists in performing more differentiation regardless of the content level being taught.

Erguvan (2014) conducted a research study to explore the perceptions and beliefs of instructors about using a specific online instruction tool highly based on differentiated instruction. The researcher employed a two-course programme focusing on academic English skills. The subjects of the study were eight instructors of English in Kuwait who were interviewed to respond to interview questions seeking information about web-based instruction and differentiation. The data analysis revealed that participating instructors had positive views towards differentiated instruction. They believed that ICT tools are effective in motivating students and in adding variety to class when differentiation strategies are activated.

The results of Brighton and Hertberg's (2004) study on the link between professional development and differentiation show that teachers who plan to implement differentiated teaching efficiently need professional development programmes. These programmes show: a) reflection on teachers' beliefs and assumptions about pedagogy; b) a balanced content and practice; c) a redirection of misunderstandings; d) a pre-assessment of teacher's stated beliefs and classroom practices; and e) the way differentiation strategies are implemented in view of professional development. In addition to possessing a good knowledge of the theoretical perspectives of differentiated instruction, teachers need to spend enough time to plan and implement differentiation. They need the help of more experienced peers in the form of co-planning, co-teaching, and observation (Brighton & Hertberg 2004).

2.7. Summary

Reviewing the literature revealed that differentiated instruction was highly based on Vygotsky's sociocultural theory and zone of proximal development; and on Piaget's theory of cognitive development and constructivism. Tomlinson's (1999) theory and model of differentiated instruction drew on Gardner's (1983) multiple intelligences theory and learning styles. In addition, this chapter reviewed the literature pertaining to the connection between teachers' beliefs and classroom instructional practices. In particular, the impact of teacher's cognition, "what teachers know, think and believe, on what teachers do during their course of practice (Borg 2003, p. 81). In the last section of the chapter, previous similar studies on teachers' beliefs and differentiated instruction were reviewed, and the convergence and divergence between stated beliefs and implementing differentiation was highlighted. Interestingly, reviewing the literature indicated that there is a paucity in exploring EFL teacher's beliefs in regard to differentiation in general and in the UAE context in particular.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

The present mixed methods study aims to contribute to the body of knowledge on differentiated instruction as an interdisciplinary approach to teaching English as a foreign language. More specifically, using the mixed methods approach is expected to yield deeper insights into the research questions related to exploring teachers' beliefs, conceivable misconceptions and practices related to differentiated instruction in the UAE public secondary schools. In addition, it facilitates identifying the possible barriers and enablers to observing student diversity from the language teachers' perspectives. Beliefs are a complex construct that requires quantitative and qualitative methods to elicit data. The present study adopts pragmatism as a paradigm associated with the philosophical framework of mixed methods (Tashakkori & Teddlie 2003). The study puts forward the research problem as the essence and applies different approaches to explore the problem (Creswell 2003). This chapter presents the research paradigm, research design and approach, methods, data collection, data analysis, validity and reliability of the study, and ethical considerations.

3.2 Foundational Paradigm

Conducting the research and selecting its design is essentially based on the researcher's philosophical view of the world or belief system of the nature of knowledge (i.e. paradigm). A paradigm forms the basis for understanding and interpreting our world and guides the researchers' community in their inquiry (Ellen 1984). Filstead (1979, p. 34) defines a paradigm as a "set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for the organized study of that world". Burrell and Morgan (1979, p. 24) add that paradigms correspond to the "taken-for-granted assumptions, the frames of reference, the mode of theorizing and the methods of researching and building knowledge... Each paradigm represents different 'meta-theoretical assumptions with regard to the nature of science and of society". Moreover, paradigms must be taken for granted without establishing their exactness and rightness (Guba & Lincoln 1994). Over the past four decades, research has often witnessed a lot of debate on the kind of paradigm that should be rationally used in mixed methods studies.

Four overriding research paradigms were recognized: post-positivism, interpretivist/constructivist, pragmatism and advocacy/participatory informing the philosophical worldview underlying the research methodology (Morgan 2007). While post-positivism was linked to quantitative research, and interpretivist/constructivist was highly identified with qualitative, pragmatism was considered as a potential paradigm more compatible with mixed methods research (Hall 2013).

Pragmatism is a paradigm that is not confined to one system of philosophy or reality, and the world according to pragmatists is not seen as an absolute unity. Thus, a researcher can follow a pluralistic approach to obtain knowledge about the research problem and select whatever works in terms of the research methods needed. According to Creswell (2003, p. 12), “pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis...Truth is what works at the time.” Notably, pragmatism does not stop at the broad meaning of worldview or what someone generally believes without thoroughly considering the conditions and specifications of that view. We should “primarily focus on a person’s thoughts about the nature of research” (Morgan 2007, p. 52). In this respect, it seems Biesta (2010, p. 112) has a point when he argues that knowledge according to this paradigm is about the relationships between actions and consequences, not merely about the world out there.

Furthermore, pragmatism does not stick to the traditional dichotomy of quantitative/qualitative or scientific/naturalistic (Guba & Lincoln 1988) and rejects their centrality in research. Rather, pragmatism sees the blending of both methods an effective way to address social real life issues including beliefs about instruction (Biesta 2010; James 1995). In the same vein, Teddlie and Tashakkori (2009, p. 73) stress that “pragmatism offers a third choice that embraces superordinate ideas gleaned through consideration of perspectives from both sides of the paradigms debate in interaction with research questions and real world circumstances”.

The present study on EFL teachers’ beliefs about differentiated instruction benefits from merging the qualities of the two major paradigms - post-positivist (quantitative) and interpretive/constructivist (qualitative) to answer the research questions. Each of the two paradigms has its own strengths and weaknesses though (Thurmond 2001; O’Neill 2005;

Creswell & Clark 2007). Nevertheless, the intention of the present study is not to add to the discourse of debate concerning the ontology (ways of constructing reality) and epistemology (form of knowledge of the reality) of paradigms. Rather, the aim is primarily to highlight how the present study might benefit from the qualities of both paradigms by avoiding the weaknesses and capitalizing on the strengths of each one of them. Hence, the study uses pragmatism as a proposed framework underlying the research (Creswell 1995; Johnson & Onwuegbuzie 2004; Tashakkori & Teddlie 1998; Teddlie & Tashakkori 2009).

The methodology of the present study acknowledges Fraenkel and Wallen (2008) contention that the research question is the most important element that decides the paradigm to adopt. The skilled researcher can pragmatically make a blend of approaches to respond to his/her questions (Morgan 2007; Patton 1990; Tashakkori & Teddlie 1998). Put differently, the researcher in the pragmatism paradigm has the right to choose the methods, techniques and procedures in an attempt to provide a deeper understanding of the research problem. To better understand the contribution of the pragmatic paradigm to the present mixed methods study, it is useful to consider the qualities of quantitative and qualitative methods more profoundly in the next section (3.3).

3.3 Research Design and Approach

The study adopted a methodological triangulation research approach which combined quantitative and qualitative methods to respond to the research questions pertinent to teachers' beliefs and implementation of differentiation in the secondary classroom. This design offered an opportunity to benefit from the qualities of different methods in solving the problem and assisted in validating the findings. Denzin (1989, p. 307) maintains that "[by] combining multiple observers, theories, methods, and data sources, researchers can hope to overcome the intrinsic bias that comes from single-methods, single-observer, and single theory studies".

To better understand the contribution of traditional quantitative and qualitative methods to the present study, it is useful to consider some of their qualities. Each of the two main methods has its own strengths and weaknesses, and both have their followers (O'Neill 2005; Tashakkori & Teddlie 1998). Quantitative research mostly uses surveys, experiments and observations to collect reliable data that is easy to analyse statistically. It

is primarily based on statistical data analysis and aims at measuring the correlation between different variables, which allows the researcher to make generalizations about the entire population (O'Neill 2005). Additionally, quantitative research methods are more related to the scientific approach where the researcher deals with numbers and frequencies to measure variables. Carr and Kemmis (1986) give two explanations of why we need to employ quantitative research, which is commonly used in natural sciences, in education. First, the concepts and methodology of quantitative research are applicable to the educational setting. Second, quantitative research could prove to be effective in providing logical standards to research in the different areas of education. Interestingly, this partially applies to the requirement of the present study where the scope incorporates secondary English language schools teachers at the UAE level. Although the study aims to investigate teachers' beliefs and practices, which may seem qualitative, there is a tendency that quantitative research methodology could be helpful and enriching in providing logical standards by exploring the magnitude of the problem.

On the other hand, quantitative methods are often criticized for being weaker in providing sufficient explanations of many social and educational issues as they may not be able to provide in-depth description. Pure quantitative research methodology fails in some cases where the issue under investigation is hard to measure. The greatest weakness of this approach, according to Weinreich (1996, p. 53) is that it may "de-contextualize human behaviors in a way that removes the event from its real world setting and ignores the effects of variables that have not been included in the model". It seems that Creswell and Plano-Clark (2007, p. 97) have a point when they explain using the quantitative approach in educational settings. They argue that "these studies have all been quantitative investigations that do not incorporate the voices of participants. One issue that arises then is that the quantitative results are inadequate".

Qualitative research is the other main wide-spread approach that is used to help the researcher better understand the issue being studied from the participants' perspectives towards their environment by gathering information about their classroom instruction. Qualitative research facilitates an in-depth understanding of such complicated domains as beliefs and differentiated instruction. Glesne (2006, p. 4) points out that "qualitative researchers seek to understand and interpret how the various participants in a social setting

construct the world around them.” He argues that to reach a better understanding, the researcher will need to deeply approach the different views of respondents. Qualitative research can help provide a useful description of the issue, and it is highly recommended when conducting exploratory studies. This study partially adheres to the qualitative-constructivist paradigm in understanding the multiple realities of beliefs about differentiated instruction. Ontologically, the context is highlighted in constructing reality (Shkedi 2005). Therefore, the researcher attempts to interpret data to understand the teachers’ beliefs and practice of differentiation through some qualitative instruments, such as interviews and classroom observations. According to Lincoln (2000, p. 3), “qualitative research’ is a term that has different meanings according to context.” It could be assumed that this kind of method is meaningful in the context of this study in terms of deepening the researchers’ awareness of the problem.

For purists who prefer to separate quantitative and qualitative research approaches, quantitative research is an approach that supports the assumptions that behaviour is best elucidated through objective facts. Reality, from this perspective, exists objectively with a possibility to make a correlation between variables (Johnston & Onwuegbuzie 2004). Alternatively, reality according to the qualitative approach is socially constructed and subjectively understood. It is conceived in terms of the various meanings it might have to different respondents. The debate about following a pure or mixed methods approach in research is still a disputable question. Nevertheless, integrating both paradigms in social studies seems quite essential and applicable to gain a comprehensive understanding in educational settings including the point at issue, mainly through triangulation of instrumentation and analysis.

Teddlie and Tashakkori (2011) assert that the decision to employ mixed methods research design depends primarily on the nature of questions. It is when the researcher ensures the research questions are most efficiently answered. Rowan and Huston (1997, p. 1444) maintain that “the fit between the research question and the research approach is important to establish because it provides evidence that the researcher understands the nature of the problem and has selected an appropriate method of investigation”. Hence, there seems to be no one best method to address all questions in exploratory studies. This depends on the nature of the questions and the approach needed to address them. In this respect, Rowan

and Huston (1997) argue that not all questions are inevitably best addressed by means of a single approach: qualitative or quantitative. Within the same approach each method has its strengths in dealing with different kinds of questions.

Hence, there was a pressing need in the present study to focus on the nature of the questions being addressed and the kind of information sought to justify adopting this design. The study aimed to explore the following research questions (RQs).

- RQ1: What beliefs or misconceptions do secondary school EFL teachers hold about differentiated instruction in the mainstream classroom?
- RQ2: What barriers or enablers do EFL teachers encounter in implementing differentiated instruction?
- RQ3: Do teachers implement differentiated instruction in the EFL classroom?

The first two questions were principally answered by using a questionnaire and semi-structured interviews while the third question was answered by employing a classroom observation protocol in addition to some statements in the questionnaire and interviews. The aim of these questions was to investigate beliefs about differentiated instruction as an area of interdisciplinary perspectives and unprecedented investigation in the UAE context, where no similar studies have been conducted. Although some questions might be answered through a single approach (quantitatively or qualitatively) in some cases, the nature of the above questions in the UAE context necessitates making use of the strengths of both approaches. In other words, the utilization of mixed methods design (quantitative and qualitative) within this single study is hoped to provide clearer answers to the questions and give significant results.

Babbie (1989) explains that exploratory research investigates problems in their preliminary stages, especially when the addressed topic is new or when the researcher finds difficulty in collecting data. He maintains that exploratory research is flexible in addressing the different types of questions. According to Hair et al. (1995), the researcher in exploratory studies does not look to confirm any particular relationships prior to the analysis. Alternatively, the method and data allow him to define the nature of the relationships. In the context of this study, the researcher does not make strong prior

assumptions about the relationships and correlations, and interpretations are based on the analysis of mixed methods data.

3.4 Setting and Participants

3.4.1 Setting

The study was conducted in different secondary schools from ten education zones comprising a total population of ($N=981$) male and female EFL teachers (as per the statistics of the Ministry of Education and ADEC, 2013) who teach Grades 10, 11 and/or 12. Female teachers comprise around 57% of the population. Teachers teach at four different types of schools (Regular, Model, MAG, and Joint). Seven of the education zones (Dubai, Sharjah, Sharjah Office (Al-Sharqiya), Ajman, Ras Al-Khaimah, Um Al-Quwain and Fujairah) belong to the Ministry of Education, while the other three: Abu Dhabi, Al-Ain and Al-Gharbiya (the Western Zone) belong to ADEC. Data were collected from different instruments concurrently during the regular school days. Even though there are some differences in the curriculum between the MoE and ADEC, both of them adopt outcome-based curriculum in all schools and use the On Location textbook as one of resources, especially in Grade 12 as all students sit for the same end-of-semester exam.

3.4.2 Participants

Questionnaire: The study adopted cluster sampling technique and selected 196 teachers (43% were male) from secondary schools at different education zones as respondents to the questionnaire, which was the quantitative data collection instrument. According to the cluster sampling technique the population was divided into respondents from different schools at different education zones that vary in size. Clustering was based on random sample selection of schools from each education zone. Then a sample of teachers of English at each school was conveniently selected. This method of sampling was employed owing to the complexity and wide spread of the sample across the UAE. More importantly, a considerable variation was found in the numbers of schools and teachers in different education zones. To avoid biased selection and negative impact of variation in sample size, the researcher took into account the difference in sample weights among education zones. Therefore 20 percent ($n=196$) of the total population of teachers of English from each education zone were selected as respondents (see Table 1). Respondents were from different nationality groups: Emiratis, Arab expats and Westerners.

Education Zone	Number of male respondents	Number of female respondents	Male & Female (n)
Sharjah	11	15	26
Fujairah	8	11	19
Um Al-Quwain	3	4	7
Dubai	12	13	24
Ras Al-Khaimah	13	14	27
Ajman	6	8	14
Sharjah Office (Al-Sharqiya)	6	7	13
Abu Dhabi	15	20	35
Al-Ain	8	16	24
Al-Gharbiya (Western)	4	4	8
Total	85	111	196

Table 2: Questionnaire Participants

Interviews and classroom observations. For the qualitative part of the research, six EFL teachers (three female and three male) from different schools at different education zones were purposefully selected for the classroom observations and semi-structured interviews. The researcher paid an on-site visit to observe then interview each participant primarily for the purpose of answering the third research question pertaining to whether teachers differentiate instruction in the mainstream classroom in view of student diversity. For this part of the study, participating teachers were conveniently selected from a pool of volunteers. The six participants (from Fujairah, Sharjah, Dubai, Al Ain, Al-Sharqiya and Ajman) were secondary school teachers teaching Grades ten, eleven or twelve. They had a teaching experience ranging from nine to 21 years. Five of them held a bachelor degree while one only had a Master's of Art. An interview was held directly after the observation with the same teacher.

3.5 Data Collection and Instrumentation

Recently, triangulation of data has been widely used in the field of social sciences. Thurmond (2001) maintains that triangulation – collecting data from different resources - could assist the researcher in developing a profound understanding and interpretation of data. In order for the researcher to avoid misinterpretations, Stake (1994) argues that “[researchers] employ various procedures; including redundancy of data gathering and procedural challenges to explanations...Triangulation serves also to clarify meaning by identifying different ways the phenomenon is being seen” (p. 241). In this respect, the present study employed three research instruments to support the interpretation of data. In

addition to eliciting the beliefs and experiences of teachers through a questionnaire, the study collected data through semi-structured interviews, and classroom observations.

According to Merriam (1988), data is collected through “direct quotes from people about their experiences, opinions, feelings, and knowledge obtained through interviews; detailed descriptions of people's activities, behaviors, actions recorded in observations; and excerpts, quotations, or entire passages extracted from various types of documents” (p. 69). Hence, the study gave emphasis to direct data collection based on interviews and observation of participants to provide more in-depth answers to the research questions. The literature review helped the researcher to determine the questionnaire variables related to measuring teacher beliefs and practices of differentiated instruction. He also made use of the related studies in designing and developing the interview questions and adapting a classroom observation protocol.

3.5.1 Questionnaire

A fifty-five-item questionnaire was developed in view of theoretical considerations and practical applications related to socio-cultural theory, Tomlinson's (1995) model of differentiated instruction and related studies. It consisted of four main sections. The first section of the questionnaire consisted of demographic questions about the participant's age, gender, education, teaching experience, teaching load, and professional development. The second section comprised forty-five statements which followed the modified four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). In this part, there were statements about teachers' cognition (beliefs, understanding and knowledge). There were also statements related to common misconceptions about differentiation and some other items pertinent to instructional practices. Participants were asked to respond to items about planning and the need for adapting the daily lesson plan to meet the needs of students of diverse capabilities. There were items about background knowledge of students' levels of readiness, learning profiles and multiple intelligences. Other items included the rate of flexibility in tailoring instruction to the needs of students in the EFL classroom. Special emphasis was laid on rating teachers' understanding of differentiating content, process, product and assessment.

The third section of the questionnaire consisted of eight 3-point Likert Scale items related to the barriers to implementing differentiated instruction in the EFL classroom while the fourth section comprised ten items about the strategies and technology aids that could act

as enablers to practicing differentiation in the participant's classroom. The questionnaire included a blank space to give the opportunity to respondents to add other points related to enablers/barriers to carrying out differentiated instruction in addition to a space for any comments or thoughts the participant might feel the need to share.

3.5.2 Differentiated Instruction Observation Protocol

Generally, it is very common in qualitative studies to use observation as a tool for identifying instructional problems and providing reflection on the way teachers act in the classroom (Adler & Adler 1994; Bernard 1994). The study employed focused observation as a method that provided information about differentiating instruction in naturalistic settings, as it really was. Angorsino and Perez (2000, p. 677) stated that focused observation is "where certain things, defined as irrelevant, can be ignored and concentration was on well-defined types of activities". By undertaking classroom observations, the researcher could gain deeper understanding of the way teachers dealt with student diversity in action and richer insights into their strategies and techniques related to differentiation.

During the observation, the researcher tried to find evidence of differentiation. The major goal of observation was to find data related to the way participating teachers were differentiating their instruction successfully. To do so, the researcher used the Differentiated Instruction Observation Protocol (DIOP), which was adapted from Diagnostic Checklist for Differentiation of Instruction by Georgia Department of Education and primarily based on Tomlinson (1999). It was used to specifically collect data related primarily to answering the third research question (Do EFL teachers practice differentiated instruction?) from the six classroom lessons (Appendix D). DIOP consisted of four areas pertinent to the elements of differentiation (content, process, product and environment) in addition to three components related to student characteristics (readiness level, interests and learning profiles). All lessons were video-taped with the participants' permission. This way assisted the researcher to capture the whole picture and the related practices of differentiation by the teacher, if any, during a 45-to-50 minute period. Video-taping (audiovisual data) gave an opportunity to observe the lesson whenever needed without missing classroom interaction; non-verbal communication; differentiated or non-differentiated activities; or social interaction between the teacher and students and amongst students themselves. The researcher purposefully transcribed particular segments related to answering the research questions.

To avoid high subjectivity and inappropriate explanations, the researcher piloted and practiced using the instrument in different classrooms before conducting the six observations. There were three steps in conducting the classroom observations:

1. Pre-observation. The researcher contacted the teacher about one week prior to the class observation to agree with him/her on the time, purpose, focus, procedure and duration. On the day of observation, a pre-observation meeting was held to check the teacher's planning and preparation for the lesson. All participants signed the consent form, and they were ensured confidentiality.
2. During observation. The researcher played the role of non-participant observer throughout the research period to identify the extent to which the observees' performance conformed to the principles of differentiated instruction. The researcher used DIOP for collecting data.
3. Post observation conference. After the classroom observation, the researcher held a brief meeting with the participating teacher in order to discuss specific queries, if any, and to reemphasize the purpose of study and the way data collected would be used.

3.5.3 Semi-structured Interviews

Semi-structured interviews were used as a major instrument for collecting qualitative data in addition to DIOP and open questions in the questionnaire. Semi-structured interviews are those where "the researcher asks some questions that are closed ended and some that are open ended" (Creswell 2005, p. 598). The Interview Guide was used in view of the 'Seven Stages of an Interview Inquiry' introduced by Kvale and Brinkmann (2009): Thematising, designing, interviewing, transcribing, analyzing, verifying, and reporting.

Each one-on-one interview was planned to last between 30 to 40 minutes. The six interviews were conducted in person in the participants' schools on the same day of carrying out the observations. The general interview questions were guiding the scope of the discussions based on the overarching research questions. Yet, the semi-structured design of the interview guide (Appendix C) allowed further sub-themes via probing follow up questions. More specifically, the eleven general interview questions focused on the teachers' lived experiences linked to their knowledge, thoughts, beliefs and conceivable misconceptions; the barriers and enablers to observing differentiated instruction in

teaching from the participant's viewpoint; and whether teachers implement differentiation in their EFL lessons. In addition, a series of probe questions were asked during the interview to get more detailed information and contextual data. To reduce the impact of potential misunderstanding of terms specifically related to differentiated instruction theory, more common terms were used in the interaction with the participants. For instance 'observing student diversity' was sometimes used to mean 'differentiation'; and 'varying the materials' for 'differentiating content'. Through the participants' answers the study sought valuable in-depth information that would give an opportunity to understand several aspects of their experience. To keep accurate records of what the participating teachers exactly said, all interviews were audio-taped by the researcher and transcribed verbatim. Then, the transcriptions were condensed, coded and thematized in view of the research questions and related literature.

3.6 Data Analysis

Close examination of data assisted the researcher to identify all the responses linked to the interview questions even though the analysis process was long and thorny due to the detailed transcription of the interviews with the male and female respondents. The triangulation or 'convergent parallel' design used in the study assisted the researcher to obtain related complementary data to best answer the research questions (Morse 1999). Creswell (2004) pointed out that "[the] purpose of a triangulation mixed method design is to simultaneously collect both quantitative and qualitative data, merge the data, and use the results to best understand a research problem" (p. 564). The study concurrently employed the quantitative and qualitative instruments but kept the two strands separated during the analysis of data. Then the two sets of results extrapolated from the questionnaire and semi-structured interviews were used to develop a comprehensive understanding of teacher beliefs/misconceptions and barriers/enablers about differentiated instruction (Figure 4). This design facilitated the interpretation of results in the discussions (Chapter Five). Statistical analyses of quantitative data were performed using Statistical Packages for Social Sciences (SPSS), while content analysis was performed to obtain a deeper understanding of qualitative data.

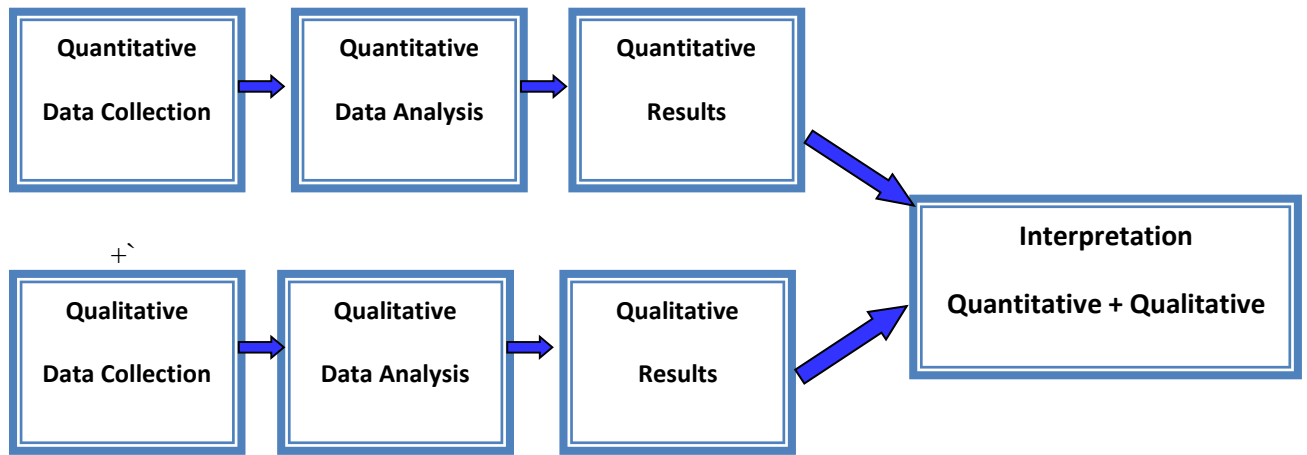


Figure 4: Triangulation Design

Questionnaire. The demographic and quantitative data obtained from the questionnaire administered to secondary school EFL teachers were discussed and analysed according to the structure of the questionnaire in order to address the research questions. Results of the questionnaire were analysed using central tendency measures to describe the data. Independent sample t-test was also used to examine whether difference in means was significant. Data gathered at all stages of questionnaire administration were carefully reviewed by a statistician on a regular basis to ensure quality. Further open-ended questions in the questionnaire were analysed deductively and coded. They are discussed in the next chapter.

Interviews and classroom observations. Qualitative data analysis highly depends on the techniques of content analysis. Analysis of the data from interviews and observations involved coding, condensation, synthesizing and finding patterns in view of the research questions (Bogdan 2007). According to Miles and Huberman (1994), “Valid analysis is immensely aided by data displays that are focused enough to permit viewing of a full data set in one location and are systematically arranged to answer the research question at hand” (p. 432). They identified three main steps in analyzing qualitative data: *Data reduction*, where the researcher transforms the raw data into a sort of usable form; *Data displays*, when the data is introduced and sorted out by theme or area of investigation in an organized way with the use of codes, charts and diagrams; and *Conclusion drawing and verification*, where the data is revisited repeatedly to confirm the identified patterns or themes. In the present study, data from semi-structured interviews transcripts were analysed both inductively and deductively. Inductive analysis was the primary approach as it gave more opportunities to probe the participant’s data. By and large, however, pure inductive analysis is principally suitable with studies that aim to develop theory rather

than verifying or describing an existing phenomenon (Glaser & Strauss 1967). Therefore, deductive analysis based on the main themes was incorporated.

The qualitative data coding and analysis of the semi-structured interviews involved meaning condensation, which made transcribed data more amenable to analysis and led to abridging raw data into shorter formulations called categories or themes. Put differently, long statements by the interviewees were simplified and rephrased by the researcher into shorter ones by means of condensation. In the inductive part, the study followed Kvale and Brinkmann's (2009, p. 205) five major steps in analyzing an interview. First, the researcher read the whole interview. Second, the researcher determined the natural meanings of the text depending on the way they were expressed by the participants. Third, the themes were restated and the statements expressing the viewpoints of the participant were thematized by the researcher. Then, the researcher interrogated the meanings in view of the purpose of the study. Finally, he tied together the non-redundant themes of the interview as a whole.

3.7 Validity

It is argued that employing different procedures in collecting data in the mixed methods design and obtaining information from various resources enhance the validity and reliability of the study (Curry, Nembhard & Bradley 2009). While the concepts of validity and reliability are commonly used in quantitative research, credibility and dependability are used respectively as corresponding principles in qualitative research. Qualitative researchers also assume that validity of data is achieved through trustworthiness (Lincoln and Guba 1985). Validity refers to "the degree to which the instrument measures what it is supposed to measure" (Gay 1981, p. 137). In the present study, triangulation of data was used to validate research findings. Findings from the questionnaire of teacher beliefs and semi-structured interview were triangulated. Construct validity in the study was obtained by ensuring that the items on the questionnaire adequately cover the constructs related to differentiated instruction in view of the conceptual framework. In addition, employing multiple data collection resources aligned with the three research questions (Creswell 2003).

Internal validity was established through addressing the original research questions and the credibility of the conclusions drawn from the study. The pilot study provided a

filtration of the items to ensure clarity and understandability of questions. Additionally, external validity (generalisability of the findings outside the setting of the study) was obtained through the cluster sampling technique adopted in the study where all the participants were government school teachers working in a similar setting. This enhanced results generalisability. The questionnaire statements were cross-checked by two experts to ensure clarity, accuracy and appropriateness.

3.8 Reliability

Reliability refers to the consistency of responses attained from the same respondents on different occasions (Miles & Huberman 1994). Put differently, reliability relates to the degree to which the study is replicable or provides similar results if administered to the same sample at different times (Bryman & Bell 2011). It aims at minimising the biases in a study. To this end, the researcher designed the questionnaire items during the initial stage in a way that ensured teachers' understanding. The researcher made data quality checks for bias. He ensured accuracy, completeness, relevance, and appropriate presentation of triangulated data. Reliability was also established using a pilot test of the questionnaire by collecting data from 95 participants not included in the sample. Data collected from piloting was analysed using SPSS (Statistical Package for Social Sciences), and modifications to some statements were made accordingly. The researcher pilot tested the data analysis of the responses to make sure the tool worked as intended.

3.9 Trustworthiness

In qualitative research, validity is discussed in terms of trustworthiness. In the present study, trustworthiness was mostly established using triangulation of data gathering sources. Lincoln and Guba (1985) contend that pieces of data must not be taken separately but together in order to give stronger validation for the findings. Throughout the study, qualitative procedures were employed to reduce subjectivity and assure trustworthiness of the interviewer. According to Lincoln and Guba (1985), trustworthiness is highly pertinent to the question: "How can an inquirer persuade his or her audiences (including self) that the findings of an inquiry are worth paying attention to, worth taking account of?" (p. 290). They maintain that strengthening the validity of the study would increase its reliability and trustworthiness. Throughout the study, the researcher used other strategies to ensure the accuracy and trustworthiness of the research including two external audits. External audits were researchers who examined the process and findings of the study to

assess the adequacy of data and provided constructive feedback that led to improve the outcome (Creswell & Miller 2000).

3.10 Ethical Considerations

‘Ethical’ is a term used to describe all issues relating to “the relationship between the researcher and the research subjects or participants, and the impact of the research process on those individuals directly involved in the research” (Elliott 2005, p. 134). Ethical considerations for the study were addressed at each phase in the study through various approaches in compliance with the guidelines of the British University in Dubai’s (BUiD) Ethics Committee. First, a permission to conduct the present research was obtained from MoE and ADEC. The researcher explained the purpose and method of research and ensured anonymity of participating schools and teachers. The school administrations were informed of the study and permission was granted.

Second, each participating teacher was sent an informed consent form, which included a clear description and purpose of the study, contact information and information pertinent to ensuring confidentiality and voluntary participation in the questionnaire, semi-structured interview or classroom observation. Then, the researcher called each participating teacher by phone at least one week before the interview or classroom observation to ensure they feel comfortable and arrangements were made at their convenience. At any point of the study, a participating teacher had the right to withdraw from the study without any repercussions. Third, to ensure anonymity and confidentiality, all questionnaires, video tapes of observations and audio recordings of interviews were kept under lock and key. In addition, pseudo names were used in all transcriptions to protect the subjects’ anonymity. Moreover, the pilot study of the interview guide which was conducted with five volunteering teachers helped in strengthening trustworthiness.

CHAPTER FOUR

RESULTS AND ANALYSIS

The purpose of the present mixed methods study was to explore the beliefs and preconceived misconceptions of EFL secondary school teachers about differentiated instruction and its implementation in the mainstream classroom. It also aimed to explore the barriers and enablers of differentiation. Data were collected quantitatively and qualitatively to answer the research questions. This chapter presents the findings and analysis of the research conducted. It comprises two main sections: analysis of quantitative data and analysis of qualitative data. The quantitative results obtained are analysed under five categories pertinent to EFL teachers' cognition and ways of employing differentiated instruction: beliefs, misconceptions, practices, and barriers and enablers. Then, the results are compared with the findings obtained from other resources to satisfy the purposes of the research.

4.1 Quantitative Data Analysis

This section discusses the analysis of data obtained from a questionnaire administered to 196 secondary school EFL teachers to measure the extent to which the participating teachers believe in differentiation as an educational philosophy and strategy in teaching English. The data is analysed according to the structure of the questionnaire in order to address the research questions related to demographic data and the statements linked to differentiated instruction. After the analysis of demographic data, an analysis of the questionnaire statements related to five areas namely beliefs, practices, misconceptions barriers and enablers is presented. The responses pertinent to each area are discussed separately.

4.1.1. Analysis of Demographic Data

This section presents an analysis of the responses pertinent to the demographic data which includes gender, age, education zone, type of school, years of experience, qualifications, teaching load and grade level. The analysis reveals that 196 teachers (57% are female) from the education zones in the UAE (Appendix H), and from various age groups ranging from 26 years up to 60 responded to the questionnaire. 26.5% of the respondents are native speakers of English. The participants work in different types of school systems as

presented in *Table 3* below. A considerable percentage of participants (62.2%) teach at regular secondary schools. The numbers of participants teaching Grades 10, 11 and 12 are 54, 59 and 83 respectively.

Type of School System	Number of Participants	Percent
Model	21	10.7
MAG (Madares Al-Ghad)	43	21.9
Regular	122	62.3
Joint	10	5.1
Total	196	100.0

Table 3:Participants according to Type of Public School

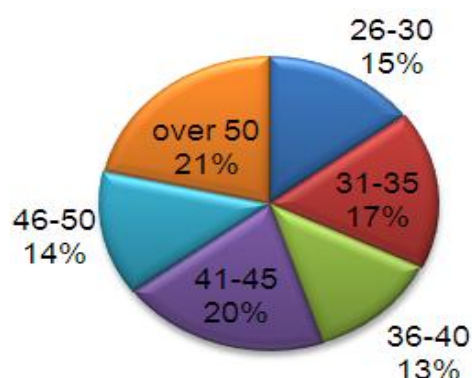


Figure 5:Age Groups

In addition, the demographic section includes data pertinent to the age of the participants. The pie chart (*Figure 5*) above shows the distribution of participants as per age group. The participants are given six choices. The responses range from 13% (36-40 years) to 21% (over 50 years). Then an analysis according to years of experience of the participants (*Figure 6*) is performed, where only eleven teachers have less than 5 years experience. The majority however (94.5%) have over 5 years of experience.

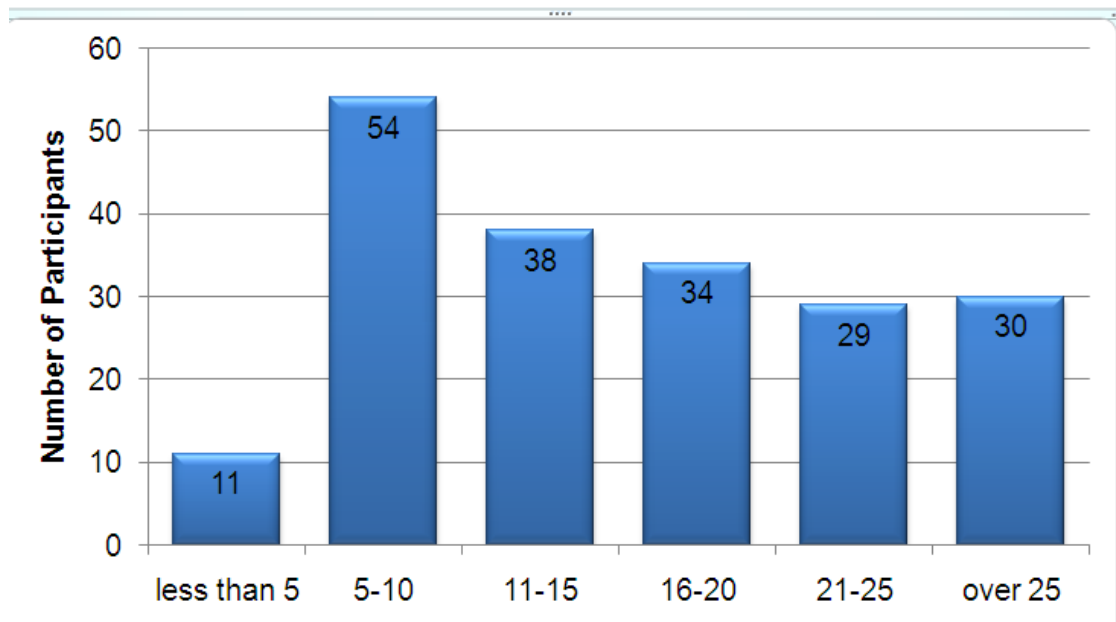


Figure 6: Years of Experience

Another part of the demographic data comprises six choices of qualifications the participants may hold, ranging from two-year diploma to doctorate degree. *Table 4* below shows the number and percentages of participants as per their qualifications. The results reveal that only 15.3% of participants have a qualification in education (B.Ed and Ed.D) whereas 84.8% do not hold a degree in education. The results also show that only one participant (0.5%) has a doctorate degree.

Qualification	Number of Participants	Percentage
Diploma	2	1.0
Bachelor of Education (B.Ed.)	29	14.8
Bachelor of Art (B.A.)	116	59.2
Master of Art (M.A.)	46	23.5
Doctor of Education (E.Ed.)	1	0.5
Doctor of Philosophy (Ph.D.)	2	1.0
Total	196	100.0

Table 4: Qualifications of Participants

As depicted from the Table 5 below, 36.2% of teachers teach 20 or more periods a week while only 2 percent teach less than 12 periods per week.

Teaching Load 50 minutes period/week	Number of Participants	Percent
Less than 12	4	2
12	41	21
18	80	41
20 or more	71	36
Total	196	100.0

Table 5: Teaching Load of Participants

The analysis shows that 52.6% of the participants, most of whom are from ADEC and MAG schools, received training on standards-based differentiated Instruction delivered by 12 different institutions whereas the remaining teachers indicated they had never received any kind of professional development in this area. In summary, the analysis of demographic data sections reveals that more than two thirds of participants teach at regular schools; about a third of them are over 46 years old with more than 20 years of experience; and a significant number of teachers do not hold a degree in education.

4.1.2 Analysis of Teachers' Beliefs about Differentiation

This section aims at presenting the analysis of the questionnaire that comprises 13 statements, referred to as S1- S13, about teachers' beliefs on differentiated instruction. *Figure 7* shows the percentages of responses using a 4-point Likert scale (Strongly Disagree, Disagree, Agree, and Strongly Agree). The statements explore the participants' beliefs in areas associated with: *understanding the concept of differentiated instruction (S11); the ways students learn (S1, S2, S4, S5); support and scaffolding (S8, S10, S16, S21, S27, S30) pre-assessment (S 23); and employing technology (S24).*

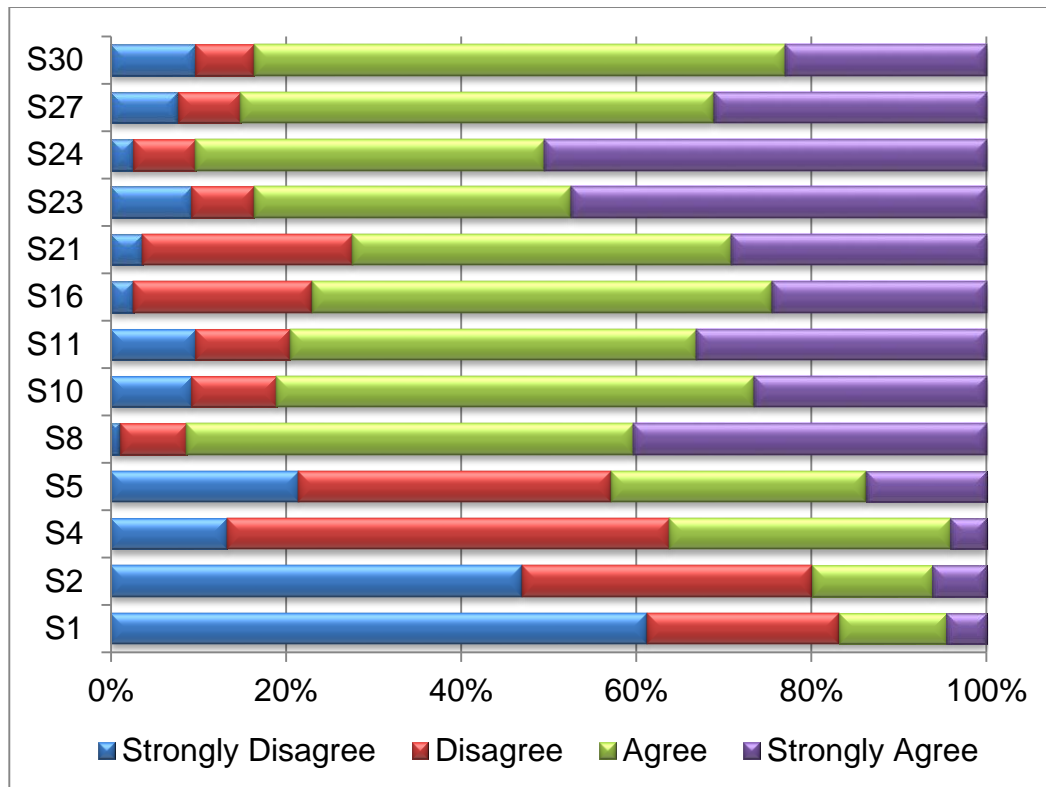


Figure 7: Areas of Beliefs

The analysis reveals that at least 80% of the participants responded with Agree or Strongly Agree to a considerable number of statements (9 out of 13) , whereas the responses to the other four (S1, S2, S4, and S5), related to the ways students learn, indicate disagreement at 60% to less than 80%. More than 80% of the participating teachers agreed that they were familiar with the term differentiated instruction. Likewise, a significant number of teachers (about 80%) expressed their agreement on offering support and scaffolding to learners.

In particular, about 80% of the participants agree (i.e. either agree or strongly agree) that students learn differently and disagree that students should be taught in the same way to get the same outcome. In the same domain, about two thirds of the participants disagree or strongly disagree that considering students' differences in lesson plans takes the responsibility away from students, and more than a half (57%) disagree or strongly disagree that students should be guided to their own conclusions. As for considering flexible grouping and social interaction among students as means of facilitating learning, only (16.3%) disagree with this. Similarly, in responding to the statement about the

necessity of providing different learning opportunities to meet the different needs of students in the same lesson, only 8.7% did not agree.

In regard to investigating beliefs about including pre-assessment activities for students of mixed levels at the start of instruction, 83.6% of the participating teachers agree as this would make them take instructional decisions about students' academic levels, from the teachers' point of view. Likewise, the majority of participants agree or strongly agree that the implementation of differentiated instruction is the way to improve academic achievement, and technology should be used to enable differentiated instruction. This accounted for 78.1% and 90.3% respectively.

Further analysis of the participants' responses to the statements exploring beliefs is necessary to better understand if gender of the teacher may contribute to significant difference in mean using the independent samples *t*-test. The independent samples *t*-test reveals that there is no statistical significant difference in means between male and female teachers when responding to the belief statements above except for the one related to expecting that '*students can do better if they [students] were told what they needed to do rather than being guided by teachers to reach their own conclusions*'. The analysis shows that there is a difference in mean between male (mean=2.5233, n=86, SD=1.00266) and female (mean=2.2182, n=110, SD=0.92252). This difference in mean is statistically significant ($t=2.211$, $df=.194$, $p<0.05$, 2-tailed).

4.1.3 Analysis of Teachers' Misconceptions about Differentiation

The questionnaire comprises eleven statements related to the misconceptions that participating teachers might hold regarding the implementation of differentiated instruction in the EFL classroom (*Figure 8*). The statements covered areas related to: the concept of differentiation and its practicality (S6, S13, S35); grouping preferences (S29); and employing the principles of differentiation - content (S18, S34), process (S26), product (S3), and environment (S14, S37). Participants were asked to rate the statements on a 4-point Likert scale, from Strongly Disagree to Strongly Agree, on how they perceived these areas.

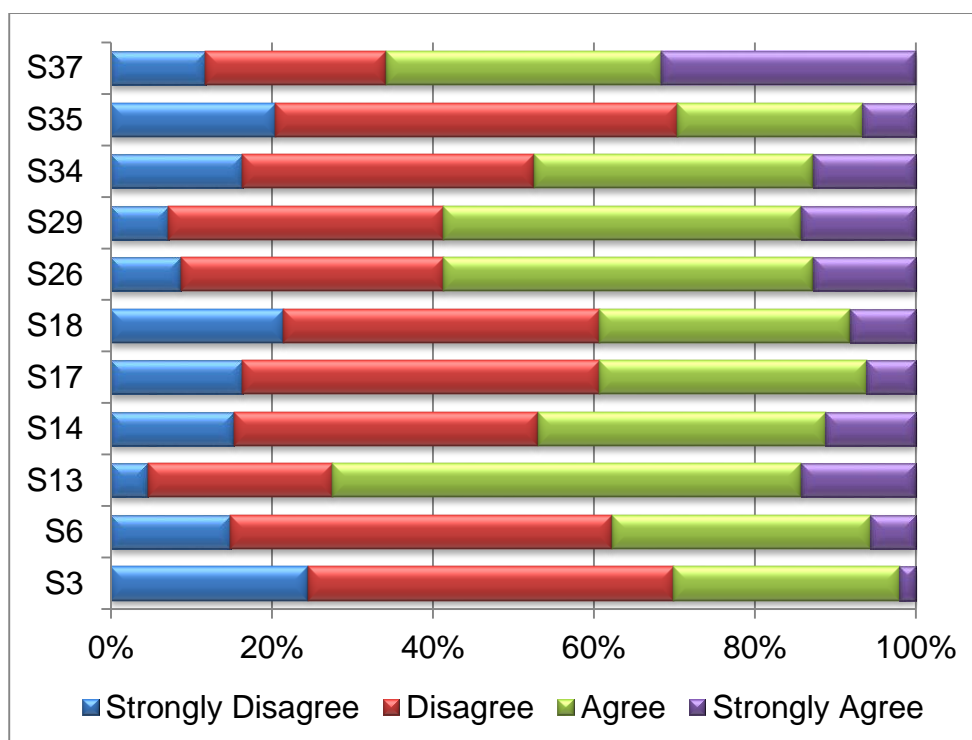


Figure 8: Misconceptions

Data analysis reveals that a significant number of participants (72.5%) agree or strongly agree that differentiated instruction as a concept is exactly equivalent to individualized instruction. Moving on to practicality, 29.6% agree or strongly agree that *differentiation is possible only in theory, but not in practice*, while more than a third (37.7%) thought that *attending to the needs of individual students is not possible as those needs are so diverse*.

More than half the participants (58.8%) agree or strongly agree that homogeneous groups are more effective than heterogeneous ones as the former, from their point of view, are more effective in attending to the students' differences. Analysis of the statements related to employing the principles of differentiation in the EFL classroom (content, product, process, and environment) reveals that participant teachers have higher rates of misconceptions pertinent to differentiating content as per the student's readiness levels and to process. About half the participants agree or strongly agree that *differentiation is more effective with Kindergarten and primary school pupils than with the secondary stage students* and about (40%) agree or strongly agree that *differentiated instruction is not possible with all language skills*. Moreover, about three fifths (60%) think that *differentiation according to standards is easier than differentiation as per interests and learning styles*.

The analysis also reveals that more than two fifths (47%) of the teachers agree with the misconception that it is hard to maintain a motivating atmosphere or environment while still differentiating. The lowest rate of misconceptions as per the chart, however, is related to differentiating product, where a third of the teachers agree or strongly agree that giving choices in assignments and activities confuses students.

4.1.4 Analysis of Practices

The analysis of teachers' responses to the practices portion of the questionnaire as perceived by teachers, which comprises 12 statements designed to provoke responses on a 4-point Likert scale are categorized into four main areas. They include planning (S7); identifying learning styles and interests (S19); employing the principles of differentiation – content (28), process (S9, S22), product (S31), and environment (20); and practicing effective differentiation from the participants' viewpoint (S12, S32, S33). (See Figure 9).

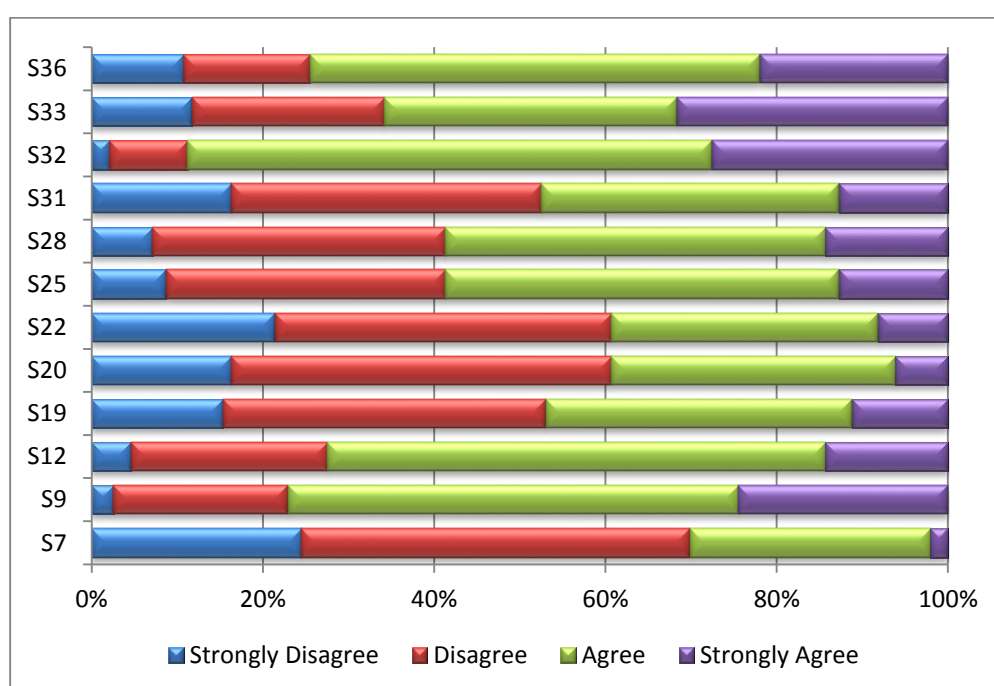


Figure 9: Perceived Practices

Overall, the analysis of the statements related to practices (Figure 8) reveals that a significant number of participants agree or strongly agree that they employ some principles of differentiation while teaching. 84.3% implement a kind of *content* differentiation by varying the material, based on students' interests; 85.7% differentiate *process* by varying the levels of support for each student based on their actual levels; 80.6% differentiate the *product* to let students pursue their interests; and 82.1% agree or

strongly agree that students learn better in the environment that encourages social interaction among students.

It should be noted, though, that less than a third (30%) of the participants use information about learning styles and multiple intelligences to plan their lessons. At the same time, more than half of them (53.6%) are often used to teach to the middle level as the shortest way or simplest process to reach all students, according to their understanding. Furthermore, there is a discrepancy in responding to the statements pertinent to the effective practice of differentiation in the classroom. While more than three quarters (77.1%) agree or strongly agree that they practice differentiation effectively, more than half (56.7%) believe in the idea of differentiated instruction but did not know how exactly to implement it. Moreover, the vast majority (88.8%) think that relying on own experience makes them differentiate effectively.

4.1.5 Analysis of Barriers to Differentiated Instruction

The questionnaire comprises eight statements structured to address what teachers consider as barriers to differentiated instruction (*Figure 10*). The chart below shows responses of the participants to the eight statements, namely, lack of training (S45) lack of flexible curriculum (S44) pressure of differentiated instruction as an additional mandate (S43) difficulty to manage the differentiated class (S42) lack of opportunity to study students' needs (S41) lack of administrative support (S40) lack of resources (S39) and lack of time (S38).

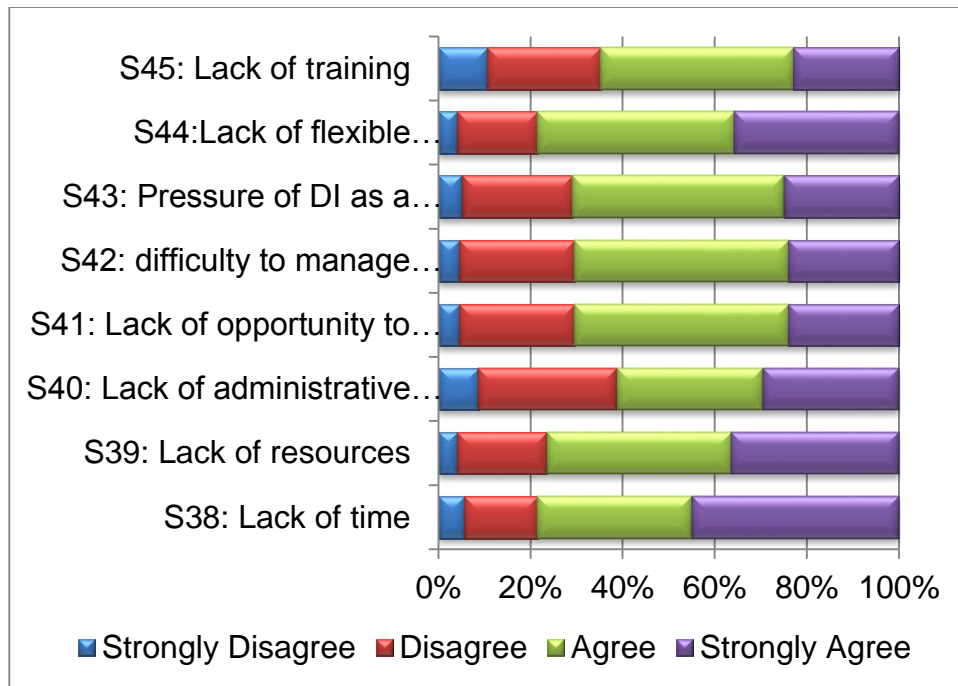


Figure 10: Barriers to Differentiated Instruction

The analysis reveals that a significant number of participants respond to all the barriers statements (S38-S45) with agree or strongly agree. Four in five teachers agree that six out of eight statements expressed barriers while in the case of S40, which is *Lack of administrative support is a barrier*; the agreement response rate is 70.4% (Figure 9). Similarly, responses to statement S45, *lack of training on differentiation*, show a significant rate, 64.8%, of participants, believe it limited the implementation of differentiated instruction.

As the chart shows, lack of time and lack of flexible curriculum hold the highest rate of agreement as the most notable barriers to implementing differentiated instruction at 78.6%. As demonstrated by the participants' responses, the second most notable barrier is *lack of resources*, at a percentage of 76.4. Difficulty to manage the differentiated instruction classroom, lack of opportunity to study and the pressure of differentiated instruction as an additional mandate (S41, S42, S43) hold a similar percentage of agreement by participants as being significantly great barrier at 70%, 76% and 75% respectively.

4.1.6 Analysis of Enablers of Differentiated Instruction

The questionnaire comprises ten statements about the aids or strategies that may enable teachers to implement differentiated instruction. Five of these aids depend on using

technology; namely: online lessons, PowerPoint presentations, tablets, blogs, and Web-based activities. Two strategies like whole-group instruction and small group instruction are about group work. The remaining strategies are tiered lessons, formative assessment and graphic organizers. The chart below shows the percentages of responses of participants using a 3-point Likert scale (Not helpful, Somewhat helpful, and Very helpful)

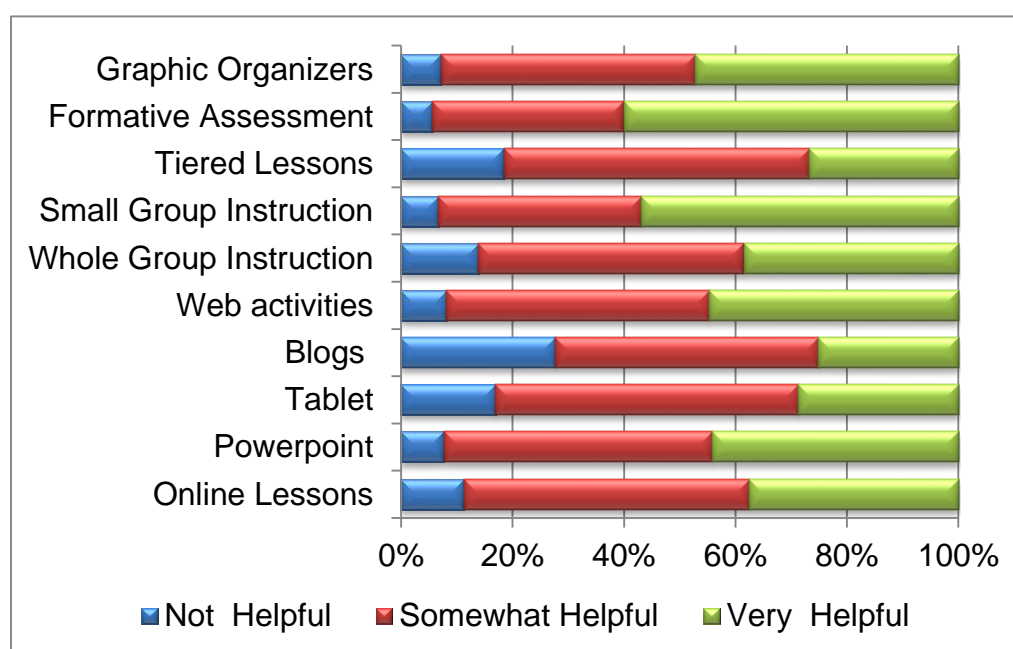


Figure 11:Enablers of Differentiated Instruction

The analysis shows that most of the participants think of aids and strategies as helpful in implementing differentiated instruction (*Figure 11*). According to the chart these aids and strategies have the following descending order in terms of being helpful. The great majority believes that formative assessment, small group instruction, graphic organizers, PowerPoint and web-based activities are helpful. This accounts for 94.4%, 93.3%, 92.8%, 92.3%, and 91.8% respectively. Online lessons, whole-group instruction, using tablets, tiered lessons and blogs are considered very helpful or somewhat helpful by a significant number of the participants. This accounts for 88.2%, 86.2%, 83.1%, 81.6%, and 72.3% respectively.

4.1.7 Analysis of Further Comments

There were two spaces for further comments on the questionnaire in which EFL teachers were asked to record their responses (Appendix G). The data from the comments was coded as per the questionnaire questions. The researcher used the same coding procedure

adopted in the interview analysis. In the first space, respondents had the chance to add more examples of barriers to implementing differentiation. In the second, respondents had the chance to share any information, concerns or feelings in regard to the use of differentiated instruction in their setting. The analysis of questionnaire revealed that 67 respondents added further comments about different aspects. Some of these comments might look redundant as they were already previously mentioned as questionnaire items. However, the respondents chose to restate them in the comments probably due to their importance from their perspective.

Big class size. Particularly, eleven respondents emphasized that big class size passively impacted the teacher's implementation of differentiated instruction in the classroom. One of the respondents said that "differentiated instruction is a burden on teachers and will only be possible if classrooms are less crowded and the teaching load per week is also less than 15 [periods]" (*Respondent 8*). Four of them viewed class size and teaching load as interconnected barriers to effective differentiation. Another teacher stated that "it's important to reduce the number of students in one class. For example, it should have only 20 students not more..." (*Respondent 63*). A third respondent believed that differentiation would be "impossible to implement because of class size" (*Respondent 186*).

Lack of motivation. Seven respondents believe that "lack of student motivation and desire to learn" (*Respondent 44*) formed a barrier in their classrooms, which influenced the possibility of differentiating instruction. Another respondent thought that lack of motivation on the part of students to learn English in general was an obstacle. He indicated that some students thought learning English was "not important for attending certain future jobs" (*Respondent 183*).

Behavioural issues. Another major concern to teacher implementing differentiation from six respondents' perspective was related to student indiscipline and other behavioural problems. A respondent described his inability to differentiate English activities in his classroom saying: "The main barrier here ... is the tremendous lack of discipline and cheating endemic. Some students are accustomed to merely cheating from the higher level." He emphasized that cheating during the exams and activities "makes it hard to justify spending much time on good differentiated lesson plans" (*Respondent 191*).

Lack of training. In their comments, four of the respondents underlined the importance of training on differentiation techniques. One of the respondents indicated, “[we] need training on how to apply/use differentiated instruction in teaching languages.” Another respondent wrote: “I need more training. Show me how and give me templates” (*Respondent 51*).

Insufficient flexibility in curriculum and assessment. Five respondents expressed their desire for flexibility in curriculum and assessment. In her comment, one of the respondents stated that “[there] should be a well-organized curriculum to meet the needs of implementing differentiated instruction (*Respondent 1*). Another respondent criticized the curriculum for not meeting the needs of diverse students’ levels. “We are teaching our students a curriculum that is too hard for them. They do not have the level of English to be successful. Classes of 30 students where some do not speak any English while others can write an essay” (*Respondent 143*). A third respondent underlined the problem of undifferentiated assessment. She indicated that “Even if I differentiate my teaching practices, classroom tests and quizzes, the end of the term exam is not differentiated” (*Respondent 122*). In the same respect, a fourth respondent stated that “[many] of these differentiation strategies that you discuss would be helpful yet one not implemented here. Also the assessment criterion is not flexible enough to allow for true differentiation” (*Respondent 161*).

Tracking progress. Respondents added some comments related to tracking student progress as a way of employing diagnostic data to inform differentiation over time. One of the respondents emphasized the need to select teaching resources to address varying proficiency levels and learning styles. To do so, she pointed out: “But in my view the real problem lies in lack of tracking of students’ progress. So I recommend that teachers keep track of students’ progress, analyse and evaluate the data variance analysis/trend” (*Respondent 122*). In the same vein, another respondent expressed her desire, as new teacher in the school, to know about the interests and levels of her students from other teachers in the school, in an attempt to respect the needs of different students. She wrote:

Specifically, I would like to be able to meet with all the teachers of ... so that I can have a better idea of how individual students perform in their subjects. I need to know about their interests and levels. I have a student who is doing poorly and I don’t know if she has a learning difficulty or if her difficulty is specific to English. I am promoting this teacher-to-teacher communication and I think it will happen (*Respondent 139*).

Archaic ideology of differentiation. A number of respondents emphasized that differentiation was difficult to implement in view of the many challenges and barriers. According to one of the respondents, differentiated instruction was even rejected as being of no use and giving reverse results. He believes that:

Differentiated instruction is not something that should be considered an option for the classroom. The archaic ideology of “one-size-fits-all” is obsolete and harmful to the diversity of learning styles and multiple intelligences that researchers and theorists have discovered in the last 30-50 years (*Respondent 195*).

4.2 Qualitative Data Analysis

4.2.1 Analysis of Semi-structured Interviews

Qualitative data in the form of semi-structured interviews with EFL teachers were collected, coded and analysed using a complementary approach that uses both deductive and inductive methods. Data were manually coded and classified according to key themes driven by the research questions using thematic content analysis. An inductive analysis was also used to identify and code the emerging sub-themes from the interview transcripts. Then, all sub-themes were classified and analysed according to the three overarching research questions and through the lens of the theoretical considerations. A descriptive approach was adopted in the analysis of the ample data obtained. The data analysis considered all data related to teachers’ beliefs and practices.

The researcher asked eleven questions derived from the three major research questions about EFL teachers’ beliefs including preconceived misconceptions about differentiated instruction. The interview guide also included questions pertinent to the barriers and enablers to observing differentiation from the six participants’ viewpoint. More questions were related to their practice of differentiated instruction. In addition, a series of probe questions were asked during the interview to get more detailed information and contextual data. To reduce the impact of misunderstanding some of the terms specifically related to differentiated instruction theory, more common terms or expressions were used in the interaction with the participants. For example, instead of using ‘differentiation’, the researcher sometimes used ‘observing student diversity’. Through the participants’ answers the study sought valuable in-depth information that would give an opportunity to understand several aspects of their experience. In view of the research questions, the transcribed interviews were condensed, coded and thematized as a means of searching for related themes.

4.2.1.1 Profile of Interview Participants

As explained in the previous chapter, participants for semi-structured interviews were selected purposefully from a pool of volunteers from different schools at different education zones. Each one of the participants is an EFL secondary school teacher who works for a public school in one of the education zones in the UAE. The participants are generally experienced and well-qualified. The advantage of purposeful sampling is that it allows the researcher to select the sample on the basis of their knowledge of the problem under investigation (Polit & Hungler 2001). The profile of the six semi-structured interview participants is described in the following table (Table 6).

Participant	Gender	Teaching Experience	Education	Education Zone
Karim (K)	Male	21	B.A.	Fujairah
Sam (S)	Male	15	B.Ed.	Al-Ain (ADEC)
Najla (N)	Female	17	B.A.	Sharjah
Hind (H)	Female	12	B.A.	Dubai
Majid (M)	Male	9	B.A.	Ajman
Sara (SA)	Female	11	M.A.	Al-Sharqiya

Table 6: Interview Participants

4.2.1.2 Karim

The first participant in the semi-structured interview is a male Arab expatriate teacher. Karim (pseudo name) has a bachelor degree in English language and literature and a two-year diploma in methodology. He has more than 20 years of experience in teaching English as a foreign language. For the past eight years, he has been teaching Grade 12 students in a Madares Al-Ghad (MAG) school (the English transliteration of the Arabic words for Future Schools). MAG schools are public schools established in 2007/2008 to provide high quality education. MAG teachers undergo constant professional development and evaluation by mentors and team leaders. They receive training on differentiation according to standards.

The interview was held in the Resources Room at the participant's school. Before the interview, the participant was briefed about the purpose and background of the study. He was given an idea about the content of the questions in the interview guide.

Research Question One

Beliefs about meaning and use of differentiated instruction

This theme partially addressed the first research question. Careful coding and analysis of the interview transcript revealed that three sub-themes emerged from the category of *Beliefs about meaning and use of differentiated instruction: understanding the meaning of differentiation; beliefs about what to differentiate; beliefs about differentiation using learning styles and multiple intelligences.*

Understanding the meaning of differentiation. The analysis of this sub-theme showed that Karim was familiar with the general meaning and purpose of ‘differentiated instruction’. He stated:

The term differentiated instruction to me means that I’ll try to identify my students’ weaknesses and strengths. So, according to this, I will plan my teaching, taking into consideration these points. My students have different abilities and different skills and different interests. (*Karim, lines 3-6*)

Beliefs about what to differentiate. According to this sub-theme, Karim believes that it was important to know about the levels and abilities of all students including those with learning challenges, but he thought teachers needed assistance in this respect. Karim also believes that a teacher could differentiate all skills and tests especially and only if he was exposed to practical training and implementation of differentiated instruction strategies. Otherwise, it was very difficult to implement differentiation in the classroom all the time with all skills particularly with the existing barriers related to the curriculum and school environment. He pointed out: “I think in all skills you can differentiate your teaching.” (*Karim, line 115*).

Beliefs about differentiation using learning styles and multiple intelligences. With regard to differentiating instruction in view of learning styles in the EFL classroom, Karim stated: “So it is difficult for me to identify which learning styles they have. I think it is not easy to know the learning styles of all your students” (*Karim, lines 55-56*). Similarly, Karim believed that multiple intelligences was opaque and challenging to address in the mainstream classroom. He stated:

For me, and I think for other teachers also, multiple intelligences are ambiguous. I don’t know more about these areas...I think this is not practical. How can we identify multiple intelligences to differentiate in the classroom? (*Karim, lines 65-66, 72-73*)

He indicated that the most common practice was differentiating as per student achievement or grades. In this respect, he relied on his knowledge of similar universal situations:

This, I think happens all over the world. When you go to any institute to study, they are not going to ask you which learning styles do you like. They give you a kind of assessment exam, and according to the assessment exam, they will put you in a certain level. If you are weak; if you are excellent. (*Karim, lines 104-108*).

Karim contended that differentiation in the diverse classroom was possible according to standards. However, he reported that “it is difficult to achieve the same standards” (*Karim line 128*).

Misconceptions about differentiation.

The second theme that partially addressed the first question was related to *misconceptions about the differentiation*. Delpit (1988; 297) states that, as English teachers, “[we] do not really see through our eyes or hear through our ears, but through our beliefs”. That is why teachers should “examine their beliefs and misconceptions” before they ask themselves what things they should exactly do to best improve the quality of instruction in their attempts to support development of their students. A misconception is generally defined as a belief that does not conform to actuality or a belief that is not true (Eryilmaz 2002). A misconception generally contradicts the scientific theory and findings. Wormeli (2005) maintains that resistance to differentiated instruction lies in the misconceptions about the approach. Due to the serious impacts of common misconceptions, they were investigated and analysed separately in this section.

Transcript analysis of Karim’s interview yielded that three sub-themes emerged from the theme of *Misconceptions about differentiation: constraints related to covering content; class size; and who should evaluate students’ needs?*

Constraints related to covering content. One of the concerns Karim reported about differentiating instruction was pertinent to his inability to cover the content of the curriculum. This, according to the literature of differentiated instruction, has been found as a common misconception. Karim stated:

I do not differentiate most of the time. I think ... because we have a syllabus and we have curriculum to finish, so if I ... try to take all these things into consideration, I have to look at all my students’ interests and what they like, and what they dislike. (*Karim, lines 16-18*).

He considered covering the content a big challenge within time constraints when he indicated that “this will take much time, and it’s time consuming” (*Karim, lines 18-19*).

Class size. Another misconception about effective differentiation that Karim expressed was related to the number of students:

As I told you because we have a large number: more than 30. So how can you identify students and classify them according to multiple intelligences? This is very difficult (*Karim, lines 73-75*).

He believes the number of students in a differentiated classroom should “not be more than ten” (*Karim, line 46*).

Who should evaluate students’ needs? It seemed Karim had another belief that aligned with common misconceptions pertinent to identifying the abilities, needs and interests of students. He asked for specialists to do so. He indicated: “But I think the teacher needs, you know, some specialists to identify the needs and abilities and interests” (*Karim, lines 83-84*).

Research Question Two

Enablers of differentiated instruction

The first theme that partially addressed the second research question was *enablers of differentiated instruction*. Four sub-themes emerged from this theme: *enablers of differentiating content; specialists and assistants; technology; and d) practical training*.

Enablers of differentiating content. The purpose of the first sub-theme was to explore the teaching aids or tools that a teacher would employ to differentiate the content. During the interview, Karim referred several times to a number of teaching aids he was using in response to student diversity. He explained the use of aids by stating:

For example if some of ... my students like songs or like watching movies, I will try to take some movies or to use some audios, some songs; so they may get benefits from these things...I use some articles from the magazines, from the Internet (*Karim, lines 8-11*)

Specialists and assistants. The second sub-theme was related to the assistance that the EFL teacher expected in order to be able to differentiate successfully. The participant explained that successful implementation of differentiation in the language classroom was

dependent on recruiting a specialist or classroom assistant. Karim reported that several times during the interview:

I want some specialists to come to my classes ... to tell me how to, maybe, to tailor a kind of test, or to differentiate for my students. I need him to tell me if they are auditory, visual, or kinesthetic. This is a very complicated process (*Karim, lines 36-39*).

Karim added that assistant would be the role model in this area and a trainer at the same time. He reported:

I am sure an assistant can help me to differentiate, /ya'ni/ 'I mean' he should be like a doctor. He can make a kind of prescription. I think he can identify the learning style by saying: This is auditory; this is visual; so take this into consideration when you plan for your lesson and try to... So I will try to vary my tasks according to this. I am sure the assistant can do that (*Karim, lines 94-98*).

Technology. This sub-theme emerged as another enabler that could make differentiation easy according to Karim. More specifically, the participant referred to the use of instructional materials from many websites as tools to aid students learn better in different ways. He added that:

I use technology all the time because it helps me to introduce my lesson in a very good way to teach all levels. Using, for example, PowerPoint demonstrations, some videos, some pictures, some games (*Karim, lines 168-170*).

Practical training. Professional development that respects the need of teachers and shows them how to differentiate without focusing only on theory was another enabler to Karim: "We do not want only...lecturing" (*Karim, line 221*).

Barriers to differentiated instruction

The second theme that partially addressed the second research question was *barriers to differentiated instruction*. The coding and thematic analysis of Karim's transcript revealed three sub-themes: *insufficient flexibility of curriculum; lack of qualification in differentiation; and exam-oriented teaching*.

Insufficient flexibility of curriculum. This sub-theme acted as an obstacle to differentiation and responding to student diversity from the viewpoint of the participating teacher.

Karim: So it is very difficult for us to make these things when we teach. I think the curriculum is not flexible enough. So how do you expect me to do a lot of differentiation? The book does not also give me how. I mean how to differentiate (*Karim, lines 24-28*).

Interviewer: Activities of?

Karim: Activities that are built on differentiation (*Karim, line 30*).

Lack of qualification in differentiation. Karim considered himself unqualified to practice differentiation as per learning styles, multiple intelligences and students' abilities, which formed an obstacle. He stated: "Who is going to classify the students because I am not qualified to do so" (*Karim, lines 98-99*).

Exam-oriented teaching. This sub-theme indicated that the participant teacher considered teaching to the test and ignoring identification of students' levels and needs was a barrier to practicing differentiation. It reflected a kind of negative washback effect. He reported:

The problem that (I told you) is that we have exams especially for the 12th Grade. So we have to train our students to pass the exam; and the exam has a kind of style and format; For example we have reading; we have pictures and we have essay (*Karim, lines 187-189*).

Research Question Three

Practicing differentiated instruction

The main theme related to the third research question was '*practicing differentiated instruction*'. Four sub-themes were yielded from the coding and thematizing process of the interview transcript: *differentiating content*; *diagnosis of skills (Readiness)*; and *different exams to different streams*.

Differentiating content. The first sub-theme in the transcript related to practice revealed the attempts by Karim to differentiate the tasks according to the level of difficulty when he was teaching writing.

When I give my students some activities, I try to (3.0) I try to choose some easy tasks some difficult tasks some tasks which are very challenging for some students that's what I do in my class... /Ya'ni/ 'I mean', for example in teaching writing I give some students to write only simple sentences, some students compound, others a paragraph. Some students can write a long essay (*Karim, lines 111-113, 117-119*).

Different exams to different streams. This sub-theme reflected the practice as stated by Karim. According to the educational system in the UAE, students in Grade 11 have to join either the Art or Science stream. In both streams, the standards, content, assessment of the English subject are all the same. Karim reported that he differentiated between the two classes, not within the same class, using different levels of exams.

I gave my students two types of exams ... We had A1 exam and we had B1 exam. A1 exam: for the arts students, B1 exams: for the science students (*Karim lines 138-140*).

4.2.1.3 Sam

The second participant is a male Westerner. Sam (*pseudo name*) has a bachelor degree in education. He has more than 15 years of experience in teaching English. For the past 5 years he has been working as a coordinator of English at a secondary school in Al-Ain Education Zone. He teaches Grade 12. The interview was held in the School Meeting Room during a normal school day. The teacher was informed of the visit to the school one week before the interview. The teacher was briefed about the purpose and background of the study and was asked to sign a consent form. He was given an idea about the questions in the interview guide. From the very beginning, he looked self-confident and knowledgeable.

Research Question One

This question addressed two main themes: *Beliefs about meaning and use of differentiated instruction*.

Coding of the interview transcript revealed four emerging sub-themes related to Sam's beliefs about differentiation: *understanding the meaning of differentiation; beliefs about the difficulty in implementation; beliefs about learning styles and interests; beliefs about the differentiated environment and classroom management*;

Understanding the meaning of differentiation. The coding and analysis of the transcript showed that Sam expressed his knowledge and beliefs about the core meaning of differentiated instruction. He related the meaning to student diversity and differentiation of curriculum. Sam stated:

Ok, well! If you look at the root of the word itself it means different and I think what we need to establish and understand is that each of our students are different: How they learn; the level that they're at. For example they are not all on the same level. So when we acknowledge that, we have to create our curriculum and guide our assessment based on the fact that there are differences amongst our kids. So the key is: differentiated curriculum. [It] is how we try to engage the students, all of them, regardless of their level of understanding, their abilities (*Sam, lines 8-20*).

At the same time, Sam believes that differentiation was a sort of intrinsic thing, which impacted performance:

There are many things within teaching that are simply intrinsic; that are just inside of a person; that they know how to interact with people, you know, so I think that there is a

certain thing unknown. There is a certain thing, you can't train a person how to be a teacher [who differentiates], you really can't. You can teach them how to do certain things or, you know pedagogy and then ideas but they might not be able to implement them. (*Sam, 417-426*).

Beliefs about the difficulty in implementation. The transcript analysis showed that Sam thought differentiation was a big challenge in view of student diversity. He reported:

I have students who cannot speak English at all and have a real difficult time writing as well, and yet I also have students who can write a complete paragraph: All in the same setting. So for me, that is a challenge. How can I reach all of those students in a differentiated manner? And it is a challenge, yes (*Sam, lines 22-29*).

He added: "But I will tell you day after day after day differentiation can be; it can be difficult ... it is absolutely difficult." (*Sam, lines 321-323, 325*).

Later in the interview; however, Sam explained that although he thought differentiation could be very difficult and challenging, it was not impossible. He believes that "[differentiated instruction] also can be something simplistic as well if you just try new techniques; yeah it wasn't so bad" (*Sam, lines 89-92*).

Beliefs about learning styles and interest. According to this sub-theme, Sam believes that a teacher might not be able to apply differentiated instruction without sufficient knowledge of his students. He explained: "Well, that's a key; you can't apply anything to a group of people you don't know" (*Sam, lines 121-122*). He believes that a teacher must learn about students' interests but "bit by bit not all at once from the beginning." He also indicated:

I am under the impression that most of my kids, I don't wanna say most, many, or they are more visual in orientation and to me, learning styles are important. (*Sam, lines 171-174*).

Interestingly, Sam assumed that any person with a certain prevailing learning style had an opportunity to learn as per other styles as well. He believes that:

Just because I am a visual learner or an auditory learner ... doesn't mean that the world has to cater to my needs It just means I am more successful that way, but I still have to be able to function in other ways as well. (*Sam, lines 218-224*)

Beliefs about the differentiated environment and classroom management. The analysis revealed that this sub-theme emerged from Sam's transcript several times. He adopted one of ADEC's guidelines for differentiation. He stated: "I believe you can't use differentiation unless you have... a good atmosphere and a good rapport with your

students” (*Sam, lines 134-137*). He related that partially to the teacher’s cultural background. He thought that teachers who understand the cultural background and share the same belief structure can establish rapport instantly with students. (*Sam, lines 382-384*).

Differentiation strategies and choices were sometimes based, according to Sam, on classroom management and behavioural atmosphere in the classroom. He stated:

In my situation right now here in the UAE, I would say that some of my techniques in differentiation have been more successful than if I try to for example group learning. Group concepts in my class does not work so because of that I cannot if I wanna have classroom management I can’t set my room up that way I can’t do it. So there [are] certain dynamics about learning styles that I cannot do because I don’t feel comfortable having a room working while things are out of control because that is my responsibility. And if I put them in that situation, they won’t be successful; there won’t be a lot of learning; and I’ll go crazy (*Sam, lines 238-253*).

Misconceptions about differentiation

The second theme that partially addressed the first research question was pertinent to the preconceived misconceptions that the participant held about differentiation in the EFL classroom. The transcript analysis of Sam’s interview revealed a sub-theme related to *efficacy of managing the differentiated classroom*.

Efficacy of managing the differentiated classroom. Sam’s misinterpretation of implementing and managing differentiation based on the identification of learning styles aligned with one of the major common misconceptions in the literature of differentiated instruction. Consider what he says below.

So to me that ‘differentiation’ was like a recipe for chaos; OK? Because if you got different things going on that means I have to make three separate plans, I have three separate assessments; and that’s ok; but I felt the way I interpreted the learning styles and differentiation. Why don’t I just do it like holistically with the class and just one day work on this activity that engages visual learning style or the next day do something with an auditory? (*Sam, lines 201-210*).

Research Question Two

Enablers of differentiated instruction

The first theme that partially addressed the second research question was related to ‘enablers of differentiation’ in the EFL secondary classroom. Two primary sub-themes emerged from the analysis of Sam’s transcript: *practical training; and teaching aids and technology*.

Practical training. This sub-theme emerged from Sam's emphasis on the role of training workshops which were held constantly by ADEC. He stated:

For sure ADEC ... is very very dedicated to the new found phenomenon of differentiation. So we attend workshops weekly. Differentiation is our primary focus. Eh I don't know if it's going to be yearly but this term that has been focused ... We've watched some videos of examples of teachers doing this and also shared some of our experiences with differentiation as well together here at this school to try to build like a more team concept and you know use each other's ideas. (*Sam*, lines 76-87).

Teaching aids and technology. The analysis of this sub-theme showed that Sam was used to employing magnetic boards as an aid in differentiating the lesson according to multiple learning styles. He indicated he could get visual students engaged using a diagram. He also employed the technique of magnetic board to help him differentiate. He reported:

Absolutely, I think one of the things that especially with the activity that I just used in my class, one follow up technique that I would like to have would be magnetic boards. I can get them engaged in a visual or a diagram...That would also be differentiated instruction that would be kinesthetic that would be visual and it will also incorporate group learning and you could do all of these things simultaneously. So for me that would be a nice thing to have. (*Sam*, lines 265-268).

The other part of this sub-theme was related to technology including the use of language laboratories and educational websites for teaching language skills. Coding and analysis revealed that Sam viewed technology as an enabler.

Researcher: How about technology do you feel that technology will assist you in differentiating instruction?

Sam: Yes absolutely... I was for using our computer lab, for a language lab a listening lab. I found a website. It's called Randall's ESL Cafe or something like that. You might want to check it out for your research because ... it has conversations and discussions real short ones and they're based on everyday conversations that you would have; and it says... right on the home page: Easy, medium, difficult (*Sam*, lines 324-338).

Barriers to differentiated instruction

The second theme that partially addressed the second research question was *barriers to differentiated instruction*. The coding of Sam's transcript and thematic analysis yielded two interrelated sub-themes: *poor classroom management; and undisciplined students*

Poor classroom management. Sam reiterated the word management as a key challenge facing teachers of a differentiated classroom.

Researcher: What other challenges do you think would not help you enough to employ differentiated instruction strategies in the classroom?

Sam: Yeah, that's a good question. I think...here it is management , management, management, management. If you don't have any classroom management it doesn't matter what technique you are trying to incorporate. (*Sam, lines 353-363*)

Undisciplined students. Sam also highlighted the way undisciplined students act as barriers to differentiation and observing actual needs of students. He indicated:

But in my class I have behaviour problems... I know there are still kids that are kind of just sitting there on their cell phone maybe lost a little bit ... (*Sam, lines 43-54*).

In another part of the transcript he stated:

And then how does that reflect on differentiation if we were supposed to be using these techniques and we have no classroom control. It reflects negatively on differentiation (*Sam, lines 401-405*).

Research Question Three

Practicing differentiated instruction

Three sub-themes emerged from the coding and thematizing process of the interview transcript: *knowing students; differentiating according to readiness; and using visual prompts.*

Knowing students. This sub-theme showed Sam first step in practicing differentiation. He stated:

The first few weeks are essential; and it is critical to get to know the kids; and how you interact with them is going to give you an opportunity to be successful with whatever technique you use or whatever classroom management of differentiation. If you don't build the right atmosphere then you're gonna be lost (*Sam, lines, 124-131*).

Differentiating according to readiness. This sub-theme represented Sam's priority for differentiating instruction. He maintained that in practice he took into account the students' different levels of proficiency in English language skills. He stated:

For me, one of the key factors [in differentiation] is readiness. I have students who cannot speak English at all and have a real difficult time writing as well, and yet I also have students who can write a complete paragraph, all in the same setting (*Sam, lines 22-26*).

Using visual prompts. This sub-theme emerged from the theme of practicing differentiated instruction and reflected the primary practice by Sam in this respect. He indicated:

The thing that I try to do primarily is engage in visual prompts. If I use a picture or images... to initiate writing or conversation or comprehension it gives every student an opportunity to at least look and ... try to come up with words and descriptions. (*Sam, lines 37-43*).

4.2.1.4 Najla

The third participant is a female Arab expat teacher. Najla (pseudo name) has a bachelor degree in English language and literature. She has 17 years of experience in teaching English as a foreign language. She teaches at a secondary school at Sharjah Education Zone. Najla teaches Grades 11 and 12. The interview was held in the Supervision Meeting Room during a regular school day. The teacher was informed of the visit to the school by email five days in advance. The teacher was briefed about the purpose and background of the study and was asked to sign a consent form. She was given an idea about the questions in the interview guide.

Research Question One

This question addressed two main themes.

Beliefs about meaning and use of differentiated instruction

Coding of Najla's interview transcript revealed two emerging sub-themes related to the participant's beliefs about differentiation: *understanding the meaning of differentiation; beliefs about learning profile and interests*.

Understanding the meaning of differentiation. The analysis showed that Najla expressed her limited knowledge and beliefs about the core meaning of differentiated instruction. She related the meaning to student diversity and the action to be taken by the teacher. Najla stated:

Well, I think, , as far as I can understand the term itself, maybe it is a technical term but for me I understand that the practices inside the classroom must be different: different according to the learner himself; to the process of learning; and to the product of learning? So (2.0) the teacher has to take into account the different levels of learners; Some learners of course in terms of their academic achievement... and in terms of their interests, alright? And according to their also (2.0) what we call (5.0) learners' learning style (*Najla, lines 11-18*).

Beliefs about learning profile and interests. This emerging sub-theme revealed that the participant thought students had different learning styles:

I think second of all some learners are visual, some learners are kinesthetic, some learners are eh (2.0) they can learn through... for example they are auditory, they learn by listening. (*Najla, lines, 28-31*)

In the same vein, Najla thought diversity entailed differentiating “between a learner and a learner...taking into account individual differences. They can differ in their interests, in their learning styles, in their academic background” (*Najla, lines 70-71*). That is why; she believes “it is better to teach them according to their learning styles and different levels” (*Najla, lines 55-56*).

Misconceptions about differentiation

The second theme that partially addressed the first research question was related to the preconceived misconceptions that the participant held about differentiation. The transcript analysis of Najla’s interview revealed three sub-themes: *efficacy of differentiation*; *efficacy of employing multiple intelligences*; and *skill-based focus of differentiation*

Efficacy of differentiation. This sub-theme emerged from the coding of Najla’s interview reflecting a belief consistent with common misconceptions about the efficacy of implementing differentiated instruction. When asked about her belief about differentiation in terms of the level of difficulty, she responded:

Yeah, difficult .. Difficulty lies in (4.0); it will result in burden on the shoulders of the teacher because designing a lesson ... for example, designing three types for three levels, three types of activities , three types of worksheets etc.. This is a burden itself, ok? So it is a little bit inhibiting. (*Najla, lines 212-216*).

Efficacy of employing multiple intelligences. This sub-theme emerged as a misconception. The participant thought that efficacy of using multiple intelligences as a tool for differentiation was based on the school stage, or on what the Ministry of Education in the UAE called: cycle. Najla stated:

What I am saying is that for example the multiple intelligences go very well with the young learners, but not all of them for the advanced level learners it means in other cycles like the second cycle or the secondary cycle. So, not all of them can be implemented. (*Najla, lines 86-89*).

Skill-based focus of differentiation. This sub-theme emerged from Najla’s misconception that differentiation is effective with certain skill, but not with others. Consider the dialogue between the researcher and the participant below:

Researcher: Do you feel that differentiated instruction strategies could be effective with all skills; or that it's more with a certain skill?

Najla: [The] basic skills of course are mostly the writing and the reading, these 2 skills which are interrelated. If you are good in reading, you will be most likely to be good at writing so if we work well on reading skills ok, we will finish by having a good product in writing. (*Najla, lines 190-193*).

Researcher: So the focus should be on?

Najla: Reading then writing

Researcher: In differentiation I mean?

Najla: Yes. (*Najla, lines 193-196*).

Research Question Two

Enablers of differentiated instruction

The first theme that partially addressed the second research question was related to the enablers of differentiation in the EFL secondary classroom. Three main sub-themes related to this theme emerged from the analysis of Najla's transcript: *teaching aids and authentic material; technology; and rapport*.

Teaching aids and authentic material. This sub-theme emerged from Najla's emphasis on employing such teaching aids as worksheets and graded stories in addition to movies and audio-visual materials while teaching reading skills. She explained that they were facilitators of differentiation:

So we have worksheets. We have short stories to increase, to improve the linguistic part... authentic materials like short English movies. (*Najla, lines 127-129*).

Technology. The second sub-theme related to enablers of differentiated instruction is the use of technology and other teaching aids. She stressed that the content must facilitate observing student diversity: "Different levels, yes, they are leveled stories... grade." (Najla line 138). She also indicated:

It will be more attractive if we introduce technology, and use technology of course. When I used the E-learning it was really effective when in some exercises instead of working on one level papers, I lead them to surf the internet, open a certain page etc... and they will do the exercises online, so they will do the exercises online and they will get the feedback after finishing the exercises. (*Najla, lines 226-231*)

Rapport. Coding of Najla's interview transcript revealed rapport as a sub-theme related to establishing a positive atmosphere that respected students' levels in the classroom and

motivated students and got them more engaged. She stressed: “I managed to increase their motivation just because they love me ((laugh))” (*Najla, lines 206-207*).

Barriers to differentiated instruction

The second theme that partially addressed the second research question was related to *barriers to differentiated instruction*. The coding of Najla’s transcript and thematic analysis revealed two sub-themes: *undisciplined students*; and *number of students*.

Undisciplined students. This sub-theme emerged from the transcript coding as a barrier to implementing differentiation in Najla’s classrooms. Consider the conversation below:

Researcher: Have you encountered any problems or difficulties when implementing the differentiated instruction in your classroom?

Najla: Sometimes yes, especially when we have naughty students with bad behavior for example. They disturb each other; they even they try to, to de-motivate if you can say their mates. (*Najla, lines 201-203*).

Several researchers discussed the importance of maintaining discipline as a requirement for effective teaching (Dube & Orpinas 2009; Morse 1994; Taylor 1987). The role of the teacher as a leader who maintains supportive learning environment is highlighted in this context. Researchers indicate that teacher’s leadership roles highly influence student discipline (Ddungu 2005; D’souza 1982). In differentiated classrooms students tend to be more engaged in learning and teachers face fewer discipline problems (Tomlinson and Imbeau 2010).

Number of students. The second sub-theme that emerged as a barrier to differentiation was the big number of students. Najla added another factor in her response the question about the difficulties or obstacles to differentiation. She stressed:

“Sometimes with... large classes, large classes; also it’s a little bit difficult to manage all these things” (*Najla, lines 204-205*).

Research Question Three

Practicing differentiated instruction

Two sub-themes emerged from the coding and thematizing process of the interview transcript under this theme: *differentiating process*; and *identifying students’ interests*

Differentiating process. This sub-theme showed how Najla observed differentiating content by using materials of different levels. She indicated:

I differentiate teaching for example, according to... the exercises I give to students I give leveled or certain leveled worksheets: a kind of exercises that are different from those of low achievers, ok, and high achievers and those who are in between. So some exercises are a little bit simple for those who are low achievers ok? (*Najla, lines 21-23*).

Identifying students' interests. This sub-theme represents the proactive action Najla takes at the beginning of the academic year related to learning about the real interests of each student in the classroom. She stated:

[In] the beginning of the year I have the custom of distributing some questionnaires and... through these questionnaires... I will find out what is the learning style, ok? - The dominant learning style of each learner. Ok, at the end of the questionnaire after analyzing the questionnaire. And according to this I will now how many groups I do have and how many learning styles I do have in the classroom; some groups will be auditory; some others will be visual etc. And according to this, I will tailor my techniques inside the classroom. (*Najla, lines 35-41*).

4.2.1.5 Hind

The fourth participant is a female national teacher. Hind has a bachelor degree in English Language and Translation from a local university. She has 12 years of experience in teaching. She taught female students of different grade levels. Hind joined several in-service professional development sessions on pedagogy, classroom management and technology, but not on differentiated instruction. The interview was held in a meeting room at school in Dubai. Before the interview, the participant was briefed about the purpose and background of the study. She was given an idea about the content of the questions in the interview guide.

Research Question One

The first part of this question addressed two main themes: *Beliefs about meaning and use of differentiated instruction*. Coding of the interview transcript revealed three emerging sub-themes related to the participant's beliefs about differentiation: *understanding the meaning of differentiation; learning about differentiation and students' needs; and efficacy of peer scaffolding*.

Understanding the meaning of differentiation. The coding and analysis of the transcript revealed that Hind expressed her belief about differentiated instruction through the meaning she provided to the term. She reported:

It means teaching different level students in different forms; they shouldn't be taught the same way; they shouldn't be instructed in the same way, or even questioned or asked in the same way, because each student has her or his own level of understanding or even... in our subject which is language of command of a number of vocabulary or words. (*Hind, lines 5-9*).

Learning about differentiation and students needs This sub-theme revealed Hind's belief regarding the importance of the teacher's knowledge about differentiated instruction as a way of learning about the different needs and levels of students. She stated:

Of course; of course, I think we need to know more [about differentiation]. Teachers need to learn more; we need to know how to deal with, especially low level students it's... a big problem in the class, they need help (*Hind, lines 68-70*).

Efficacy of peer scaffolding. This sub-theme emerged from Hind's transcript reflecting her belief about the peers' role in assisting their classmates as a strategy of respecting student diversity while teaching. She indicated that "Girls like to be taught more from their own classmates better" (*Hind, lines 139-140*). She related the efficacy of peer scaffolding and interpersonal communication to students' knowledge and feelings. She pointed out:

Sure, sure, if their feelings and attitudes are positive. Because sometimes a girl feels that she is proud to get any information from any other classmates... This can help nowadays; it can help; students are more knowledgeable than before (*Hind, lines 148-150*).

Misconceptions about differentiation

The second theme that partially addressed the first research question was pertinent to the preconceived misconceptions aligned with the most common misconceptions about differentiated instruction. The transcript analysis of Hind's interview revealed two sub-themes: *experience is the panacea*; and *students in need of differentiation*.

Experience is the panacea. One of the major misconceptions found in the transcripts aligned with the common misconceptions in the literature of differentiated instruction was related to Hind's reliance on experience as a basis for differentiation. She stated that "I think experience teaches me a lot of things one of them is how to differentiate between levels" (*Hind, lines 50-51*). She believed her experience would substitute a differentiated lesson plan. She explained:

I know that not all my students have the same things; I mean the same ways of learning. I know they are different. But I do not write everything in the lesson plan. I do not need that. My experience will help me without a lesson plan (*Hind, lines 26-29*).

Students in need of differentiation. This sub-theme emerged as another misconception. Hind believed that differentiated instruction should target the low achievers rather than high achievers as the latter already exhibit high level of proficiency in language skills.

Researcher: So you feel that differentiation will help the low achievers more? Is this what you think?

Hind: Of course, yeah.

Researcher: How about the bright students?

Hind: The bright students don't need that help. They do not need differentiated instruction from me because they can depend on themselves. I can leave them a worksheet to answer. I give them a question or something like that; they can and they have the self trust and ability to answer. Others who are low level; when they see them, they lose self-confidence. (*Hind, lines 76-80*).

Research Question Two

Enablers of differentiated instruction

The first theme that partially addressed the second research question was related to the enablers of differentiated instruction in the classroom. Three primary sub-themes emerged from the analysis of Hind's transcript: *technology and teaching aids; conferring with students; and grouping*.

Technology and teaching aids. This sub-theme emerged from the data as an enabler of differentiation. Hind considered using technology an enabler:

I use the technology of course. I use technology. I use computers and data show. I use of course eh worksheets eh (4.0); worksheets that can cover this. (*Hind, lines 157-158*).

However, she does not believe that all types of technology could act as enablers in the differentiated classroom. She resisted the use of some smart learning tools. She indicated:

No. I mean this is the tool I can use. But I cannot ask them to bring their ipads or laptops and let each one work on her own. It will be really it will be a big mess (*Hind, lines 249-250*).

Conferring with students. Hind found that conferring with students individually could be an effective enabler that would help her respect individual needs. She indicated:

I talk to those students who do not socialize or interact separately, give them confidence and ask them simple questions; so they will be able to answer more and more. This makes me differentiate better (*Hind, lines 199-201*).

Grouping. This sub-theme emerged as an enabler of differentiation. According to Hind, it is employed to assist the weak students to receive help from the best students. She stated:

For differentiation, I think making homogeneous groups enables me to give the chance for weak students to work with the best students... They can work together... The weak students benefit from the bright students. (*Hind, lines 265-267*).

Barriers to differentiated instruction

The second theme that partially addressed the second research question was *barriers to differentiated instruction*. The coding of Hind's transcript and thematic analysis yielded four sub-themes: *insufficient flexibility in curriculum and assessment; teaching load; insufficient training; and lack of support from parents*

Insufficient flexibility in curriculum and assessment. The coding and condensation of transcript data revealed that Hind viewed insufficient flexibility in selecting the content she was teaching as a barrier to differentiation. This also applied to the system of assessment employed in the schools. She stated:

No. We teach the same content to all students. We have one textbook. We have to teach the same thing to all students... all of them. This textbook is from the Ministry. We cannot change it. We cannot give each student a different passage. Also we have the same assessment.. the same final tests (*Hind, lines 36-39*)

Teaching Load. This sub-theme was based on the way Hind viewed differentiated instruction within the limits and workload she had in the big classes she was teaching. She indicated: So, no. I am only one teacher. I teach three classes every day. I have more than eighty students... maybe more than ninety. (*Hind, lines 39-41*).

Insufficient training. Transcript analysis revealed that Hind considered that the professional development she received was not enough to develop her skills in differentiating instruction. She indicated: "training was not sufficient". She added:

We do not have training about differentiated instruction, no PD sessions in the meetings. Even our colleagues do not know about the theory... They do not know about the practice of...differentiation. (*Hind, lines 207-209*)

Lack of support from parents. Hind expressed dissatisfaction with the parent's weak cooperation in understanding their children's background and interests. She stated:

Ok, in the area of our school parents, they are not helping at all; When we invite them to help us with the levels of their kids; or when we say we need to know about the child's interests or challenges; or when we tell them how to cooperate to improve the child's level, They say: we do not have anything to do about that(*Hind, lines 24-28*).

Research Question Three

Practicing differentiated instruction

Three sub-themes related to practice emerged from the coding and thematizing of Hind's interview transcript: *differentiating questions; differentiating according to interests; heterogeneous grouping*.

Differentiating questions. Practicing differentiating questions emerged as a sub-theme. Hind said that she used different levels of questions as per the two major levels of students to enhance differentiation and self confidence on the part of students. She indicated:

Yeah I differentiate for sure but not in a theoretical way. For example when I have different questions, I begin with the easiest one; and I ask the student whom I know that she can answer the question. So she will feel confident, and she will trust me. She will be able to share more and more in her class, and then the high level question is for high level students (*Hind, lines 11-15*).

Differentiating according to interests. This sub-theme reflects part of Hind's practice of differentiation according to the interests and preferences of her students. She pointed out:

Students like to draw something. I can use these drawings in teaching. If they have time in the class they can draw; we can put some posters and they are going to use them; those who like writing can write. Even if it's not in English I can use them. (*Hind, lines 116-118*).

Heterogeneous grouping. This is another sub-theme emerging from the transcript coding. Hind described part of her practice of differentiation using heterogeneous groups of mixed level students. She stated:

In teaching, when I know the different levels, sometimes I do make different kinds of techniques. Sometimes I make a group with different levels so the high level is going to help the low level which I prefer more because I don't like to put the low level students in one group; and they will feel that they are low level students so they will not work harder. (*Hind, lines 134-138*).

4.2.1.6 Majid

The fifth participant is an Arab expatriate teacher. Majid (*pseudo name*) has a bachelor degree in English Language and Literature. He has 9 years of experience in teaching English as a foreign language. For the past 8 years he has been teaching English at a

secondary school in Ajman Education Zone. He teaches Grade 10 and 11 students. The interview was held in a meeting room at the school during a normal school day. The teacher was informed of the visit to the school one week before the interview. The teacher was briefed about the purpose and background of the study and was asked to sign a consent form. He was given an idea about the questions in the interview guide.

Research Question One

The first part of this question addressed two main themes: *Beliefs about meaning and use of differentiated instruction*. The coding and thematizing of the interview transcript revealed four emerging sub-themes related to the participant's beliefs about differentiation: *understanding the meaning of differentiation; belief about student background; beliefs about interests and multiple intelligences; and beliefs about planning for differentiation*.

Understanding the meaning of differentiation. The coding and analysis of the transcript showed that Majid expressed his knowledge and beliefs about the core meaning of differentiated instruction. He related the meaning to student diversity. Majid stated:

Simply [differentiated instruction] means different abilities among students. I will not classify students as weak, good or excellent. I think this is not true. All students are good but the problem is that their social backgrounds, their educational background, their abilities, their skills are different so they can be scaled. Some can be down, some can be up (*Majid, lines 7-11*).

Belief about student background. This sub-theme emerged from the transcript representing Majid's belief about pre-differentiated instruction action the teacher needed to take. More specifically, He stated:

Yes I do need. I think before we differentiate we need to know about ... their social background; their educational background; their previous schools they have been in (*Majid, lines 89-91*).

He added:

When I know their social and educational background, and when I have information about their levels, I can help the students... They also feel I am close to them (*Majid, lines 100-102*).

Beliefs about interests and multiple intelligences. This sub-theme reflected what Majid believed about students' interests multiple intelligences. Consider the conversation below:

Researcher: Have you tried to study your students' interests from the beginning and their multiple intelligences?

Majid: Yes. I think all the students are intelligent: Some student are bad in English but they are good at maths ; some students know a lot about cars and the types of cars; they will give you details that I as a teacher do not know (*Majid, lines 140-142*).

Beliefs about planning for differentiation. The significance of this sub-theme stemmed from considering planning as a corner stone in differentiated instruction. Majid emphasized the importance of planning and preparation. He stated:

I think... differentiating is easy but the teacher must have preparation. I mean a clear plan from the beginning when he agrees with the students on what they plan to do (*Majid, lines 228-230*).

Misconceptions about differentiation

The second theme that partially addressed the first research question was pertinent to the preconceived misconceptions that the participant held about differentiation in the EFL classroom. The transcript analysis of Majid's interview revealed four sub-themes: *types of students in the differentiated classroom; relying on experience; fairness of differentiated instruction; and differentiation complicates work.*

Types of students in the differentiated classroom. The importance of this sub-theme was based on beliefs or thoughts that represented a common misconception. Coding and analysis of Majid's transcript revealed two major examples on the above misconception.

Differentiation is for the special needs Majid indicated:

I try to differentiate all the time but the problem sometimes I might not be effective. Maybe because differentiation is basically for those students who have special needs. I don't have here. (*Majid, lines 14-16*).

Differentiation is for low achievers. Majid had a predetermined conception that differentiation instruction is easier with the low achievers. He stated that "differentiation is more or easier with weak students not the excellent" (*Majid, line 231*).

Relying on experience. This sub-theme emerged from the transcript revealing Majid's emphasis on teaching experience as a resource for differentiation. He stated:

Researcher: I know I mean what are your resources for effective differentiation?

Majid: My own experience. I think my experience was more important. I can use it when I deal with students (*Majid, lines 123-124*)

Fairness of differentiated instruction. This sub-theme reflected Majid's preconceived belief that implementing differentiation did not respect the norm of fairness among students of diverse levels. He indicated:

And I think I think it is not fair for all students. I told you if you teach different standards to students. I think, not all students will have the same objective sometimes (*Majid*, lines 220-223).

Differentiation complicates work. Majid considered differentiation itself a factor that made teaching duties very hard. He pointed out that "in all cases differentiated instruction makes our duties very hard to achieve. It is complicated and difficult" (*Majid*, lines 233-234).

Research Question Two

Enablers of differentiated instruction

The first theme that partially addressed the second research question was related to the enablers of differentiation in the EFL secondary classroom. Three primary sub-themes emerged from the coding of Majid's transcript: *technology*; *and assistant teacher*; and *flexibility in using resources*.

Technology. This sub-theme revealed the importance of using online resources. Majid indicated that "using for example different levels YouTube, data show, e-cards help in differentiating teaching" (*Majid*, lines 204-205).

Assistant teacher. Coding of Majid's transcript revealed having an assistant as an enabler to differentiated instruction. He pointed out: "Maybe I need an assistant to be able to differentiate" (*Majid* line 216).

Flexibility in using resources. Majid called for more flexibility in employing teaching resources. He indicated: "I need more flexibility with using the book and resources to differentiate in a good way" (*Majid*, lines 211-212).

Barriers to differentiated instruction

The second theme that partially addressed the second research question was *barriers to differentiated instruction*. The coding and thematic analysis of Majed's transcript yielded four interrelated sub-themes: *workload*; *lack of time*; *insufficient flexibility in curriculum*; and *insufficient training*.

Work load. This sub-theme reflected the existence of a barrier to implementing differentiation. Majid believed that he could not differentiate consistently. He stated:

I think I should differentiate but not all the time. It depends on my own time. Sometimes I feel I am heavily burdened with work so I can't... I have 16 classes a week and I have other duties to do (*Majid, lines 49-51*).

He added:

The problem is not with the period itself but with the other duties that prevent you from taking care of what your students need. Sometimes a lot of additional work: more exam papers, marking, eh PD sessions in and out of schools. All these are a burden to the teacher who wants... to differentiate (*Majid, lines 55-59*).

Lack of time. This sub-theme emerged from different parts of the transcript. The participant asked "Where is the time" to differentiate in view of all the duties? (*Majid, line 59*). He added: "Yeah, in order to differentiate, to prepare and to plan; preparation and planning need a lot of time" (*Majid, lines 61-62*).

Insufficient flexibility in curriculum. This sub-theme represented a major obstacle to differentiated instruction from Majid's viewpoint. He indicated: "Yeah, quality and quantity are not considered. And the curriculum does not show flexibility" (*Majid, lines 78-79*).

He added that "Some lessons in the book sometimes are not useful and do not give new skills to different students" (*Majid, lines 71-72*).

Insufficient training. Majid considered lack of training on differentiation a big barrier to observing student diversity. He said:

Yes, not the whole training session was dedicated to differentiation but part of it. But that training was not enough for me. After the session I am not able to apply differentiated instruction (*Majid, lines 110-112*).

He added: "Yes. Training was not enough as I said. I knew some of those things before" (*Majid, line 111*).

Research Question Three

Practicing differentiated instruction

Coding and thematizing of the interview transcript yielded three sub-themes related to Majid's understanding and practice of differentiated instruction in his classroom:

differentiating questions; differentiating according to multiple intelligences; differentiating product.

Differentiating questions. Majid maintained that he practiced differentiation of the content he was presenting to the mixed-level students in the classroom by providing different types of questions. But still he considered diversity very challenging. He stated:

For example, a WH question can be given to a certain student. And the same question can be given as Yes/No question. The problem is that some students are not of the same level as the others. (*Majid, lines 20-22*).

Differentiating according to multiple intelligences. This sub-theme emerged from the transcript. Majid explained that he practiced differentiating after exploring the multiple intelligences through observations, exams, tasks and interaction with students. He indicated:

I do study [multiple intelligences] while being in classroom through observing, through exams through dealing with them eh; through tasks; I do observe and make notes; Sometimes even... through dealing with them outside the class in the break time we watch all the time; and we do differentiate. (*Majid, lines 149-153*).

Differentiating product. Majid pointed out that he differentiated product in action by asking his students to choose the medium of presenting their work. He stated:

In projects as products, yes. I do differentiate. I ask my students from the beginning to choose the way they want to show or present their project or product. (*Majid, lines 226-228*).

4.2.1.7 Sara

The sixth participant is a female Arab teacher. Sara (*pseudo name*) has a bachelor degree in English Language and Literature and a Master's degree in education from a local university. She has more than 10 years of experience in teaching English at a secondary school in Al-Sharqiya Education Office. She teaches Grade 10. The interview was held in the Principal's Meeting Room during a school day. The teacher was informed of the visit to the school one week before the interview. The teacher was briefed about the purpose and background of the study and was asked to sign a consent form. She was given an idea about the questions in the interview guide.

Research Question One

The first part of this question addresses two main themes: *Beliefs about meaning and use of differentiated instruction*. Colour coding and thematization of the interview transcript revealed three sub-themes related to the participant's beliefs about differentiation: *understanding the meaning of differentiation; beliefs about difficulty of implementing differentiated instruction; beliefs about differentiating skills*.

Understanding the meaning of differentiation. The coding of transcript revealed this sub-theme. It was related to participant's knowledge and beliefs about the core meaning of differentiated instruction. Sara reported:

Actually differentiation means different things to different people so some people think it is all about learning styles; other people who focus more on abilities or maybe on differentiated curriculum or differentiated instructions; differentiated assessment. But for me, it's all, it's all these (Sara, lines 7-10).

Beliefs about difficulty of implementing differentiated instruction. The importance of this sub-theme stemmed from the importance of understanding the extent to which the participant believe differentiation was applicable in her mixed-level classroom situation. Sara pointed out: "If you differentiate at the level of the standard it is very tough." She added:

"Look! Basically, I understand what is differentiation; that's what I think. I understand it and I try to implement it in classroom. But as I told you before it is very tough because it is very demanding very demanding ... very tough; very tough" (Sara, lines 109-111).

She argued that "it's easy to speak about differentiation, but very tough to apply it in the classroom" (Sara, lines 233-234).

Beliefs about differentiating skills. This sub-theme is related to the types of skills the participant considered easy to differentiate. She reported that "It's easier to differentiate in reading and writing but it is very tough to differentiate in listening; how you can do that?" (Sara, lines 150-151).

Misconceptions about differentiation

The second theme that partially addressed the first research question was pertinent to the preconceived misconceptions that the participant held about differentiation in the EFL

classroom. The transcript analysis of Sara's interview revealed two sub-themes: *relying on independent learning*; and *differentiating instruction through grouping*.

Relying on independent learning. Sara reported that differentiation is effective "if you rely on independent learning; that you give them homework; and they do it at home; and never do differentiation every single day in the classroom" (Sara, lines 233-234).

Differentiating instruction through homogeneous grouping. This sub-theme emerged from the analysis of transcript showing that Sara believed in engaging students of the same standard levels in the same group. She reported: "Grouping students in homogeneous groups. This is the best way for differentiation" (Sara, lines 69-70).

Research Question Two

Enablers of differentiated instruction

The first theme that partially addressed the second research question was related to the enablers of differentiation in the EFL secondary classroom. Three sub-themes emerged from the analysis of Sara's transcript: *having enough staff*; *technology*; and *practical training*.

Having enough staff. Sara assumed that having enough teachers in the school would facilitate employing differentiated instruction. She stated: "If you have enough staff; if you have enough teachers then you can go on differentiating teaching" (Sara, lines 78-79).

Technology. Coding the transcript indicated that Sara was supportive of the role of technology in differentiating instruction. She pointed out: "if [technology] is used effectively and properly, if we are connected, if we have technology in the classroom; it's ok." (Sara lines, 173-174)

Practical training. Sara expressed her belief in practical training as an enabler to differentiated instruction. She indicated:

You need to come to the classroom; do it; show me models in the class; show me; show me; how to do it because it's easy to speak about differentiation, but very tough to apply it; to implement this theory in the classroom (Sara, lines 232-234).

Barriers to differentiated instruction

The second theme that partially addressed the second research question was *barriers to differentiated instruction*. The coding of Sara's transcript and thematic analysis yielded four sub-themes: *student resistance to differentiated content*; *lack of needed technology*; *negative washback effect*; and *time constraints*.

Student resistance to differentiated content. This sub-theme emerged from Sara's transcript as an obstacle to differentiating content. Sara pointed out:

No. It has to do with the students. Students don't... accept the idea that we are learning something different from others. Even sometimes when we use papers with different colors they do not accept (*Sara, lines 121-123*).

Lack of needed technology. Sara viewed lack of technological tools a primary obstacle to implementing differentiated instruction. She stated:

We don't have the technology we need...No I don't have access, and I have... to schedule time in the lab and it's not all the time available (*Sara, lines 174-175*).

Negative washback effect. The importance of this sub-theme stemmed from the teacher's belief that the summative test influenced differentiated instruction and assessment. According to Sara, this formed a barrier. She reported:

Ok, one of the challenges is this. Say for example I will give specific tasks to weak students; and I give them tests, but after all in the end of the term they will sit for the term exam you understand, even if I help them with those quizzes: classroom quizzes. But at the end of the term, they will have an exam that is for all, you understand. (*Sara, lines 213-217*).

Time constraints. Sara reported that one of the major issues that formed a barrier to differentiation was lack of time, especially when the teacher followed a standards-based differentiation.

Sara: How many hours do you think that I will bring students from A1 to a level which is you know above and higher than that? It will need 100 hours, 200 hours.

Researcher: So time is a problem?

Sara: Yeah. Time constraints. (*Sara, line 224*).

Research Question Three

Practicing differentiated instruction

Four sub-themes pertinent to implementing differentiated instruction emerged from the coding and thematizing process of the interview transcript: *exchanging homogeneous groups; fluctuations in practice effectiveness; differentiating instructions; and standards-based differentiation of content.*

Exchanging homogeneous groups. This sub-theme showed how Sara practiced differentiation in her classroom in cooperation with another teacher teaching the same grade. They divided students into two groups as per standard levels. Then each teacher taught a level. She explained:

It's an issue; so this is what I'm trying to work on with Miss Lina, another teacher. She takes the group of the A1 students and teaches them. I take from her class A2 students. I teach them at the same time (*Sara, lines 67-69*).

Fluctuations in practice effectiveness. The importance of this sub-theme stemmed from Sara's reflection on her own practice of mixed-level differentiated instruction. She reported:

I am trying everyday [to differentiate] but sometimes I succeed and sometimes I fail; sometimes it works very well and I feel that those weak students have benefited a lot; and sometimes ... it's a mess (*Sara, lines 115-118*).

Differentiating instructions. Sara emphasised the importance of practicing differentiation of instructions from the very beginning of teaching. She introduced instructions in different ways in an attempt to reach each student. She indicated:

Now from the very first activity, you have to differentiate the instructions, ok! When you teach the class you are not going to use the same sentence to for all students you will say you know you will give the same instruction... three times using three different levels of language to make it easier... Then you move to tasks. (*Sara, lines 201-205*).

Standards-based differentiation of content. This sub-theme emerged from the transcript coding reflecting the way Sara practiced differentiation of content based on standards. She stated:

Okay, for example today I have been teaching reading... So I differentiated at the level of the text. For example, I used national geographic which is level A2. I gave, you know, a group of students A2 level text and I gave... other books which are B1, which is intermediate; so I gave B1; and those students who are weak A1 so I, you know, I developed my own worksheet for them and then it was ok because I had three groups reading the same topic but different texts in different levels of difficulty (*Sara, lines 135-141*).

4.2.2 Summary of Interviews

Based on the content analysis of the interviews, answering the research questions required addressing two main themes for the first research question; two themes for the second question; and one theme for the third. A total of 26 sub-themes emerged in response to the three research questions (*Table 9*).

Research Question One

The first research question was: *What beliefs or misconceptions do secondary school EFL teachers hold about differentiated instruction in the mainstream classroom?* The purpose of this question was to explore the extent to which EFL teachers at UAE mainstream secondary schools understand, adopt, and follow differentiated instruction in their classroom. The main two themes that guided the interview questions related to the first research question were: i) beliefs; and ii) misconceptions about differentiated instruction. Under the former theme five primary sub-themes could be identified from the coding and analysis of transcripts: *Understanding the meaning of differentiation; beliefs about learning profile and interests; beliefs about difficulty of implementing differentiated instruction; beliefs about classroom environment and management; and beliefs about planning for differentiation.*

Beliefs

Understanding the meaning of differentiation. When asked about their perceived definition of differentiated instruction, most participating teachers stated that student diversity and the need to vary instructional practices accordingly were basic characteristics. They gave examples such as basing teaching on identifying student weaknesses and strengths (*Karim, lines 3-4*); on various learning styles (*Najla, line 18*); and on different abilities (*Sara, line 9*). Only one participant, however, focused in his definition on the idea of differentiating instruction based on students' social backgrounds (*Majid, line 9*). Another idea that emerged from the participants' definitions was related to modifying the curriculum to meet student needs as a major focus in instruction.

Beliefs about learning profile and interests. When asked to give elaboration on their beliefs about learning styles and interests, most of the participants agreed teaching English language skills efficiently entailed taking different interests and learning profiles into account (*Najla, line 51; Sam, line 169*). They considered that a key to differentiation

(*Sam, line 125*). However, one of the participants assumed that identifying learning styles and multiple intelligences was not easy and differentiating according to these tenets would be impractical (*Karim, line 56*).

Beliefs about the difficulty of implementing differentiated instruction. According to participants implementing differentiation was tough. Sara indicated that “It’s easy to speak about differentiation, but very tough to apply it in the classroom”, (*Sara, lines 233-234*). “It is absolutely difficult”, Sam added (*Sam, line 325*). At the same time, participants believed it was not impossible, however.

Beliefs about classroom environment and management. Interview questions invoked discussion about the relationships inside the classroom and the importance of maintaining an effective management. Most participants agreed that maintaining successful management was not possible all the time in the differentiated classrooms (*Sam, lines 242-247; Karim, line 115*). However, they thought that upholding rapport and cooperative environment would enhance learning (*Hind, line 132; Sam, line 24*).

Misconceptions

Under the other theme related to the first question (misconceptions), five sub-themes emerged from transcripts: *Experience as the panacea; students in need of differentiation; efficacy of differentiated instruction; fairness of differentiation; and management and class size*. Several interview questions intended to investigate whether teachers hold beliefs that align with the common misconceptions discussed in the literature of differentiated instruction.

Experience as the panacea. When asked about the sources they rely on to differentiate the lesson, some participants mentioned depending on own experience several times as the major source. They posited long experience as the solution (*Majid, line 123; Hind, line 25*). Hind thought her experience could substitute a differentiated lesson plan (*Hind, line 50*).

Students in need of differentiation. Interview questions discussed the types of students the teacher needed to cater for in a differentiated classroom. Some responses were emphasizing that differentiation must primarily be for students with special needs (*Majid, lines 15-16*). While some participants had a predetermined misconception that

differentiated instruction was for the low achievers, not the bright (*Hind, line 76*), others thought it had to be for all types of students (*Najla, lines 23-24*).

Efficacy of differentiation. This sub-theme represented another belief consistent with common misconceptions about the efficacy of implementing differentiation. Some participants viewed differentiated instruction as “a recipe for chaos” (*Sam, lines 202-203*) or “a burden on the shoulders of the teacher” (*Najla, line 213*). When asked about their perceived understanding of effective differentiation, responses from some participants revealed a common misconception about the essence of implementing differentiated instruction. They sometimes assumed the teacher needed to design three lesson plans; three types of assessments; three types of activities and three types of worksheets all the time to suit the different levels of students (*Sam, line 212*).

Management and class size. In their responses to the interview questions, participants noted that differentiation would only be possible with a small number of students in the EFL classroom. One of them indicated that the number of student “should not be more than ten” for a successful management of a differentiated class (*Karim, line 46*).

Research Question Two

The second research question was: *What are the barriers/enablers do EFL teachers encounter in implementing differentiated instruction?* It addressed two themes: enablers of differentiated instruction; and barriers to differentiated instruction. Under the former, four sub-themes were identified from the six transcripts: *Technology and teaching aids; practical training; support from specialists and assistants; establishing rapport*. In regard to the theme of barriers to differentiated instruction, six sub-themes were identified from the transcripts: *Insufficient flexibility of curriculum and assessment; insufficient qualification and training; lack of discipline and poor classroom management; work load; negative washback effect; and time constraints*.

Enablers

Technology and teaching aids. All participants agreed that employing technology might act as a facilitator to differentiated instruction and most of them indicated that using other teaching aids would be very helpful as well. They referred to using PowerPoint presentations, videos, pictures, games, YouTube, authentic materials, graded stories in

addition to other resources (*Karim, line 158; Karim, line 168; Majid, line 204; Najla, line 122; Sam, line 303*).

Practical training. This sub-theme emerged in most interview transcripts. Participants pointed out that practical training programmes on differentiated instruction could be facilitative and effective (4.K.120). They needed a role model or specialist so that they would be able to differentiate (*Sam, line 236*).

Establishing rapport. Two of the participants highlighted the importance of maintaining a good relationship and establishing rapport with their students as a catalyst to differentiated instruction (*Sam, line 136*).

Barriers

Insufficient flexibility of curriculum and assessment. Three of the participants indicated that both the curriculum and assessment tools they were using were not flexible enough, which was viewed as an obstacle to employing differentiated instruction strategies (*Kamal, line 23; Hind, lines 37-39; Majid, line 78*).

Insufficient qualification and training. When asked about the professional development and teacher training sessions on differentiated instruction, three of the participants considered lack of qualification and insufficient training as barriers (*Hind, line 207; Majid, lines 111*). Two of the other participants, however, considered training by ADEC and the Master degree courses sufficient.

Lack of discipline and poor classroom management. In their responses to the interview questions, three participants referred frequently to the poor discipline and classroom management as obstacles (*Majid, line 218; Sam, lines 246-248*). Another barrier from the viewpoint of the teachers was *work load*. This sub-theme emerged in three interview transcripts as a serious barrier (*Hind, line 40; Karim, line 200; Majid, line 187*) while the other three participants did not refer to it.

Negative washback effect. Participants mentioned the negative impact of summative assessment on differentiated instruction. As all students had to sit for the same term exam, teachers reverted to be more test oriented and preferred to use the same content, process and product with all students (*Karim, 188; Sara, lines 203-217*).

Time constraints. According to the participants, time limitation formed one of the striking barriers that reduced the possibilities of practicing differentiation in the EFL classroom. For example, Majid maintained that “in order to differentiate, to prepare and to plan, preparation and planning need a lot of time” (*Majid, lines 61-62*).

Research Question Three

Several interview questions were asked to address the third research question: Do EFL teachers practice differentiation in the classroom? Seven interrelated sub-themes emerged under the theme of practice (Table 7): *Differentiating content; differentiating questions; differentiating assessment; differentiating according to interests; differentiating product; grouping students; differentiation according to learning profile; and standards-based differentiation*. These sub-themes reflected the participants’ own understanding of their differentiation practice.

Interview questions triggered discussion about the specific ways participants practiced differentiated instruction. Transcript analysis revealed that differentiating content was the most common practice mentioned by participants. Some of them referred to differentiating content based on standards. Another common practice that three of the six participants referred to was related to differentiating questions. They pointed out that varying the levels of questions could assist in meeting the diverse levels of student.

Sub-themes emerging from data	Times referenced in the interviews
Differentiating content	3
Differentiating oral questions	3
Differentiating according to interests	3
Differentiating product	1
Grouping students	2
Differentiation according to learning profile	2
Standards-based differentiation	2

Table 7: Differentiation Strategies Used by Interview Participants.

Research Question	Themes and Sub-themes
RQ1: What beliefs or misconceptions do secondary school EFL teachers hold about differentiated instruction?	(Theme: Beliefs) Sub-themes: <ul style="list-style-type: none"> - Understanding the meaning of differentiation. - Beliefs about learning profiles and interests. - Beliefs about difficulty of implementing differentiated instruction. - Beliefs about classroom environment and management - Beliefs about planning for differentiation
	(Theme: Misconceptions) Sub-themes: <ul style="list-style-type: none"> - Homogeneous grouping is more effective. - Students in need of differentiation. - Having a classroom assistant - Efficacy of differentiated instruction; fairness of differentiation. - Management and class size
RQ2: What barriers or enablers do EFL teachers encounter in implementing differentiated instruction? (from their perspective)	(Theme: Enablers) Sub-themes: <ul style="list-style-type: none"> - Using technology - Formative assessment - Graphic organizers - Establishing rapport - Tiered lessons
	(Theme: Barriers) Sub-themes: <ul style="list-style-type: none"> - Insufficient flexibility of curriculum - Insufficient training - Time constraints - Another mandate that adds pressure (Work load) - Negative washback effect
RQ3: Do EFL teachers implement differentiated instruction in the classroom?	(Theme: Practice) Sub-themes: <ul style="list-style-type: none"> - Differentiating content - Differentiating questions - Differentiating assessment - differentiating according to interests - Differentiating product - Homogeneous and heterogeneous grouping

Table 8: Interview Data: Questions, Themes and Sub-Themes

4.2.3 Classroom Observation Analysis

The purpose of this qualitative part of the study was to expand our understanding of the EFL teachers' implementation of differentiating instruction in the mixed level mainstream classroom. The third research question guided this portion of the mixed methods study:

- Do teachers implement differentiated instruction in the EFL classroom?

The focus of observation in the study was not on the convergence and divergence between teachers' beliefs and their practices in regard to observing student diversity through differentiating instruction. Rather, the emphasis was on looking for evidence of

differentiating content, process or product and investigating the ways participating teachers dealt with student diversity during the lesson in an attempt to answer the third research question qualitatively. It should be noted here that the six classroom observations were conducted prior to interviewing the participating teachers to avoid impacting their behaviour during observation. Before the observation, teachers were informed of the general purpose of the study and the procedure the researcher would adopt while observing the teacher's performance. The researcher had access to the lesson plan of each lesson mostly prior to observation. The researcher employed the Differentiated Instruction Observation Protocol (DIOP) adapted from Diagnostic Checklist for Differentiation of Instruction by Georgia Department of Education and primarily based on Tomlinson (1999). Further, classroom observations in the present study enhanced triangulation of the data related to teacher practice and assisted the researcher to gain deeper insight into teacher performance pertinent to differentiation. More significantly, observing teachers in natural setting augmented the possibilities of witnessing differentiation in action.

The participants in this part of the study were three male and three female EFL teachers of Grade 10, 11 or 12. They were from six different education zones (Table 9). A more detailed description of the participating teachers and an account of their classroom environment will be provided in the following section. A 40-to-50 minute classroom observation with each participant was conducted using the Observation Protocol (Appendix D). Observations were video-taped to capture the details of the teaching-learning situation to the extent possible. It should be noted that during two of the lessons, another fellow teacher was present in the classroom (upon invitation for the observees) in addition to the researcher, which might have affected the observation. The researcher sought to minimize the Hawthorne effect, i.e. teachers trying to behave differently because they know they are being watched (Adair 1984). He avoided writing a lot of observational notes during the lesson and attempted to establish a positive rapport by meeting teachers prior to the observations.

After the observation was completed, each participating teacher took part in the qualitative semi-structured interview. The teachers were informed of the general purpose of the study prior to the observation and interview. This section presents the major findings from the six classroom observations and analyses them separately to give a more robust picture of the EFL classroom instruction and provide in-depth understanding.

Participant	Education Zone/Council	Duration (minutes)
Karim	Fujairah	40
Sam	Al-Ain (ADEC)	45
Najla	Sharjah	50
Hind	Dubai	50
Majid	Ajman	40
Sara	Al-Sharqiya	45

Table 9: Observation Participants

4.2.3.1 Karim

Lesson summary. Karim taught Grade 12 students at a school in Fujairah. His class comprised 22 male students of different achievement levels and varied learning profiles. In the lesson plan, he identified two main learning objectives: the first was related to writing meaningful compound and complex sentences and the other to learning active vocabulary in context. In the plan, there was no reference to any kind of differentiation. Throughout the lesson, Karim generally followed a traditional approach of instruction based on explicit methods where teaching was teacher driven and students were the recipients. Oral interaction among students was not evident. Overall, the researcher noticed that differentiation was very limited in Karim's practice.

Content. Karim presented the same content to all students relatively in the same way with some simplification of core concepts to assist the less able students to understand better. He retaught part of the content (e.g. present simple tense and subject verb agreement) to struggling students. The content was also demonstrated by using some visual materials. Karim followed the deductive way in presenting all grammatical rules without evident modifications or enrichment from the teacher.

Process. Karim presented tasks at the same difficulty level. No tiered activities were evident, and there was no evidence of learning centres or role-playing during the lesson. Grouping was not flexible and the teacher did not assign roles to group members. Students were doing the same activities at the same level of complexity. The more advanced students were asked to answer the set of questions and write sentences whereas the less able could not catch up and looked confused. The teacher attempts to scaffold those low performing students during the activities was very limited. He used a slower pace when

reading out the sentences and asked the students to repeat after him before asking them to try to write the sentences again.

Product. Only seven students were asked to demonstrate what they had written. They volunteered to write the sentences they produced on the whiteboard. Although the products were related to learning objectives, all students were asked to demonstrate what they produced in the same way and at the same level of complexity. Student diversity was not observed in their products, and most students were not given the opportunity or encouraged to select the channel through which they could express what they learned.

Environment. Karim's classroom had a fixed structure. Students were seated in groups of five or six during the entire class time. The teacher had the chance to move easily to each group or student although he was using frontal teaching most of the time. He spent a long time explaining grammatical rules and the meaning of vocabulary items, asking factual questions and repeating students' answers. Karim's feedback on students' work did not take into account student diversity. The lack of flexibility in grouping, seating and time limited differentiation opportunities.

Data Source for Differentiated Instruction. Overall, Karim's instructional performance during the observation did not reflect utilization of diagnostic data about students' readiness levels to inform differentiation. Students in the four groups were working individually to do the same activities, which were not tiered or scaffolded according to diversity. In addition, Karim did not employ learning styles or interest inventories in practicing differentiated instruction, and there was no reference to providing choices related to these areas in the lesson plan and later in the observation.

4.2.3.2 Sam

Lesson summary. Sam taught Grade 12 at one of the big schools in Al-Ain city. His class included 26 national students. The students were seated in rows at separate desks facing the whiteboard. His lesson plan stated the objectives, teaching aids and materials, techniques, and evaluation. From the start, he looked firm and calm and kept silent for seconds to draw student attention and maintain discipline. The lesson began with the teacher highlighting four words on the board, as part of his classroom rules: seated, quiet,

listening, and folder (material). The teacher made use of whole classroom instruction with pair work employed occasionally during the lesson. Sam introduced the learning outcome/standards which all students were expected to reach. It was pertinent to 'writing sentences'. From the very beginning, he related instruction to assessment. Holding a handout, Sam said: "We will do this activity one last time before your exam."

Content. The analysis of observation revealed that the content was for the most part presented in a traditional manner and not a lot of differentiation of content was sufficiently evident during the lesson. Sam presented grammar rules deductively and students had to follow the rule to write their sentences. Sam was generally presenting the same content in a similar manner most of the time. However, he sometimes varied the material presentation through visual and kinesthetic means. In a couple of instances during the presentation he re-taught the grammar rule and re-explained the handout activity to students who needed scaffolding. In addition, Sam used limited technology to present the material. He projected a picture on the screen and asked the students to write simple and compound/complex sentences to describe it.

Process. Sam did not vary the difficulty levels or use tiered assignments or parallel tasks for differentiating process. To a limited extent, he varied scaffolding levels and support was provided individually to a small number of students during the writing activity. Evidently, the teacher followed a unidirectional questioning strategy. He kept posing questions during the lesson but with rephrasing sometimes. He tried to encourage students who did not demonstrate understanding of complex/compound sentences to ask for support. Most of the time students worked individually and student-student interaction was very limited.

Product. During the observation, Sam did not give varied opportunities to students to demonstrate what they learned. One exception to this was when he invited some volunteers to write the sentences they produced on the whiteboard and asked some others to read out their sentences. Students did not have opportunities to use multiple resources to publish their work. Moreover, Sam did not provide varied types of assessment.

Learning Environment. The classroom environment of Sam's lesson lacked flexibility of structure. The physical environment in which students were seated in rows allowed a

minimum rate of flexibility and change in grouping and seating. This considerably impeded transition into differentiation.

Data Sources for Differentiated Instruction. Differentiation according to data about readiness levels was not clearly evident during the classroom observation. Although Sam asked students to work cooperatively while writing descriptive sentences, he did not purposefully ask students to form pairs or small groups on the basis of their level of achievement. In addition, there was no apparent observational evidence that he differentiated the writing activity according to students' learning styles or interests although the visual aspect was observed in the introductory part by projecting pictures.

4.2.3.3 Najla

Lesson summary. Najla taught twelfth graders at a secondary school in the city of Sharjah. 25 female students attended her class. They were seated in groups of five with the teacher's desk placed in the corner of the room next to the whiteboard and facing the whole class. In the lesson plan, Najla stated two main objectives related to reading comprehension skills and identifying the pros and cons of a text. She did not refer to differentiated instruction techniques or the ways she would address student diversity. Frontal teaching was dominant during the observation. At the same time; however, the teacher gave more time to some low achievers to answer her questions.

Content. Najla used a reading text with all students without differentiating the depth. She used authentic material from a newspaper and asked all students to find parts of speech in each paragraph. Her presentation of grammar was mostly from whole to part. She started with explaining the rule; gave examples; posed questions; then asked students to find the answers. She re-taught some parts of speech (adjectives, adverbs and nouns) to low achievers. Sometimes she tapped into the students' prior knowledge especially in teaching vocabulary and ideas related to the reading text. The use of technology was limited to projection of some pictures and questions.

Process. In general, Najla gave the same assignments to all students at the same level of complexity. In some cases, she simplified the activity to meet the needs of the students who were struggling with understanding the content of the reading text or grammatical rules.

Najla enriched students' vocabulary by providing more synonyms or antonyms of some vocabulary items. She was also breaking the word into chunks to scaffold low proficiency students. Consider the example below.

Najla: Looking for synonyms in the text is very helpful. What do we mean by tension?

Think of words that have the same meaning as tension. Yes, Sara.

Sara: stress.

Najla: Yes. You are right. Another meaning? Fatima? Think about it. There is another word that has the same meaning?

Fatima: Hmm

Najla: It starts with 'an'... in paragraph three.

Fatima: anxiety?

Najla: Yes anxiety. Excellent. (4.2.2.N.1)

Najla differentiated the wait time of questions allowing students of different levels to process and develop a response. Sometimes, she varied the time of doing the reading activity. She exceeded the time limit she set herself at the beginning to give more chances to students of the lower level. For example, for the activity related to finding synonyms, she allotted three minutes. However, many of them took more than seven minutes to finish.

Product. Differentiation of product was limited to accepting two choices in demonstrating the pros and cons in the reading part. The teacher accepted from groups either to read what they had written down on their papers or to write the pros and cons on the board and present them to the class. Most students preferred the former choice whereas only one group (out of five) opted for the latter.

Environment. Generally, grouping in Najla's class was fixed and lacked dynamicity. Whole classroom instruction was more evident. While doing the activities, collaborative learning was limited, and most students worked individually. Teacher provided different levels of oral feedback. However, she was assuming the role of a guide and questioner most often with emphasis on teacher-student interaction.

Data Sources for Differentiated Instruction. Differentiation according to student interests, learning styles or multiple intelligences was not very evident in the classroom observation. An exception to this was the opportunity given to students to select their preference

between highlighting pros and cons in the reading text. Moreover, grouping students was primarily based on students' choices. They selected to sit with their friends rather than according to interests or levels of readiness.

4.2.3.4 Hind

Lesson summary. Hind taught Grade 11 students at a school in Dubai. Her class comprised 25 female students. In the lesson plan, she identified three learning objectives related to listening, reading and telling a story. Learning objectives aligned with the curriculum standards and Common European Framework of Reference (CEFR): (L.A2.2), (R.A2.4) and (S.A2.9). However, there was no direct reference to proactive intervention from the teacher to deal with the better students or those who were lagging behind. Skills were learned through whole group and small group instructional strategies. During observation, the teacher introduced many activities without, in some cases, giving the students sufficient time to finish or publish their work. Students' desks were messy with piles of activities.

Content. During the observation, Hind used a content of the same readability level with all students, and the material was primarily introduced using a video about the 'Titanic'. She provided individual support to some less able students to help them keep up with class activities and assignments.

Process. Hind looked more capable of differentiating process than of other elements (i.e. content and product). In one of the main reading activities, she gave the same text to all students but provided four tasks of different levels and format. Working individually, a student could start with the task that suited her level; then she selected other tasks of higher complexity. In this case, students were working at their own pace and potential. Nonetheless, some of the better students finished earlier and found the activities unchallenging. In contrast, some weak students were not involved in the activities because they were struggling with making sense of them. They asked for more scaffolding and support. Interestingly, Hind used differentiated questioning techniques with students. She used different question forms to elicit information about the same idea related to the Titanic:

Why do you think people said Titanic is unsinkable?

Do you think the Titanic is sinkable? People do not think so, right? Why?

Product. Differentiating product was limited to showing a video of a survivor telling her story and asking the students to choose a way to demonstrate what they learned. However, students did not work efficiently within their groups and selected to work individually within time constraints. Students were not given the opportunity to present their work to diverse audiences.

Environment. The classroom environment was set up for group work. Students were seated in groups of four or five all the time. Hind created a motivating learning atmosphere by reinforcing student responses and interaction. Nevertheless, adopting a non-flexible structure and adhering to fixed grouping restricted differentiation and limited student interaction. In addition, the teacher talking time was high and the pace was not commensurate in some cases with student learning levels and needs

4.2.3.5 Majid

Lesson summary. Majid taught Grade 10 students at a secondary school in Ajman. He had 23 male students in his mixed-level class. Before the class started, Majid explained he had a considerable variance in students' levels of achievement, which presented a great challenge to him while teaching. He was aware that eight of his students were very weak and struggling with the basics of grammar; however, the teacher did not refer to the ways he intended to address the problem in the lesson plan. The main lesson objective was pertinent to 'identifying adjectives order'. Throughout the lesson, it was not evident that Majid employed systematic techniques that ensured meeting classroom diversity.

Content. The analysis of observation revealed that differentiation of content was not manipulated thoroughly throughout the lesson. At the same time, however, Majid used some ways to differentiate the content. He presented adjectives order rules following both part-to-whole and whole-to-part approaches. He gave examples of words and asked students: "What part of speech are these words?" and "What words can we use to describe these adjectives?" (*Majid*) Then, Majid used technology purposefully to help all students to obtain the content. He showed a video of a related material presented in different ways by an English native speaker. Majid re-taught the adjectives order acronym

(OPSHACOM) which stands for Opinion, Shape, Age, Color, Origin, and Material. To make sure that all students, especially the less able, could understand their roles, the teacher asked some students to repeat the instructions. Consider the conversation below.

Majid: Ali, what are we going to do now? Can you remind the class? Tell them what they should do?

Ali: We're going to write sentences using adjectives.

Majid: How many sentences?

Ali: One or two.

Majid: One sentence using more than??

Ali: More than one adjective.

Majid: Thank you.

Repeating instructions before activities enhanced the chances that every student would develop solid understanding of the objectives.

Process. In general, Majid introduced classroom activities of the same difficulty levels. He did not employ tiered assignments at varying levels of readiness or interests although students were seated in heterogeneous groups in terms of achievement according to the teacher's data. During the observation, students were most often required to do the same activities at the same level of difficulty. They were asked to work collaboratively on an adjectives order activity. Teacher started moving around to provide scaffolding and elaboration. He scaffolded the less able students by using some clues related to adjective order rules. Yet, he specified the same length of time to all students without differentiation. There was an evidence of using a graphic organizer to differentiate process. In addition, Majid provided an organizer through which adjectives were classified according to their relative positions in the order. Student worked collaboratively to make sense of the activity. Then, each student was given the opportunity to add any two adjectives of his choice to each category in the organizer.

Product. During the observation, Majid did not give varied opportunities to students to express what they learned. An exception to this was asking one representative from each group to publish his group's work by writing the adjectives on the whiteboard. This however, was not an evidence of differentiation as all students shared the same technique to demonstrate their learning.

Environment. Majid adopted a non-flexible classroom structure by holding on to fixed groups of students. Students were seated in groups of five all the time. He was teaching at relatively the same pace to achieve the learning objectives. Nonetheless, lack of flexibility restricted differentiation. Majid sometimes provided different levels of feedback as per their readiness level. His feedback to the low achievers was more encouraging. He approached them several times and provided one-to-one feedback to students of lower readiness levels.

Data Sources for Differentiated Instruction. Differentiation according to student interests, learning styles or multiple intelligences was not evident in Majid's lesson. The researcher did not find any reference in the lesson plan to employing interest inventories or learning styles data for differentiation purposes. Only on one occasion during the lesson did the teacher ask students to complete the chart with adjectives relating to their interests.

4.2.3.6 Sara

Sara taught Grade 11 students at a secondary school in Al-Sharqiya (Eastern Region). Her class comprised 24 female students of different achievement levels. In the lesson plan, she identified two main learning objectives related to recognizing different parts of speech (nouns, verbs, adverbs and adjectives), and reading a story for enjoyment and details. The plan did not account for student diversity and had no particular reference to systematic differentiation of instruction. Overall, Sara activated student learning and sustained motivation through the variety of techniques and activities she provided. Students were asked to work cooperatively in groups. Several parts of the lesson, however, did not turn out as expected especially with limited student-student interaction.

Content. Sara applied partial compacting of the content related to parts of speech. In the first part of the lesson, she laid emphasis on nouns, verbs, adjectives and adverbs by asking each group to work on only one part of speech. The teacher used different teaching aids to present the content including drawings on whiteboard, flashcards, and organizers. Sara used a note-taking organizer to explain some derivations. On the other hand, she did not employ any technological tools during the observation. She did not use multiple ways to present the story task, either.

Process. The activities pertaining to parts of speech were presented in an enjoyable manner where hands on activities were attached. The teacher asked students to draw and

cut out a kite with a long tail on a piece of paper. The kites were labeled as “verbs”, “nouns”, “adjectives”, and “adverbs”. Each group of students received an envelope with a list of twelve words. They were asked to glue the words onto the tail with the corresponding part of speech. Interestingly, students were given a chance to add more words from their own background to the list. The activity was matched in complexity to students of middle level. Varying the time of fulfilling the tasks was not evident. Sara provided support and scaffolding to some of the students who were not engaged in the hands on activity by making a model. Evidently, the teacher followed a unidirectional questioning strategy. Students posed very few questions during the observation. In the second part of the lesson related to story, differentiation of questions was more evident. The teacher asked different levels of questions about story parts, and students were responding accordingly. Then, the story was tiered into four parts and each group was answering comprehension questions about one of them.

Product. Sara gave her students the chance to rethink and create products showing evidence of learning. After reading the text, students in each group were engaged in a drawing activity at the same time. They drew pictures representing the events of that part. Then, they wrote comments to make the story more entertaining. Sara expected that students would like the technique:

Do you love drawing?... I promise you will enjoy it. I want each group to re-read the story and show me what you have learned. Not in words but in drawing. Group 1 will draw a picture (on this sheet) ... a picture for Part One and Group 2 for Part Two and so on. Do not forget to comment on the picture. Then one student from each group will come out and show the picture and retell the class about her part (Sara).

A student from each group was selected to present their work before the class. Nevertheless, students’ performance was not an adequate evidence of differentiating product as all of them published their work in the same manner and by using the same tools.

Environment. Classroom environment was set up for group work. Students were seated in groups of six all the time. The teacher showed respect to all students and was enthusiastic while teaching. In spite of the active classroom atmosphere, adopting non-flexible structure and adhering to fixed grouping limited differentiation and restricted consideration to individual students’ diverse needs. Sara did not differentiate the pace and allocated the same time for all students. Some struggling students could not catch up due

to time constraints. Sometimes teacher centeredness prevailed, which negatively influenced differentiation.

Data Sources for Differentiated Instruction. On the whole, Sara's teaching performance did not clearly reflect exploitation of diagnostic data about student interests and learning styles to implement differentiated instruction. An exception to this was when hands on activities related to parts of speech and story reading were incorporated. These activities met the needs of students who were interested in drawing or had artistic intelligence.

4.2.4 Summary of Observations

The participating teachers were generally well qualified and experienced in teaching English at the secondary stage. They showed eagerness to teach. The six classroom observations were analysed to determine if differentiation of content, process and product was evident during each observation in response to the third research question. Using the Differentiated Instruction Observation Protocol, the researcher also examined differentiation of environment and the potential data sources for differentiated instruction used by the teacher. Following the analysis of observation, differentiation of elements was classified into Evident (E), Partially Evident (PE), and Not Evident (NE) based on the evidence provided (*Table 10*).

	Karim	Sam	Hind	Najla	Majid	Sara
Content	NE	PE	E	NE	E	PE
Process	NE	PE	E	NE	PE	PE
Product	NE	NE	PE	PE	NE	PE
Environment	NE	NE	NE	NE	PE	NE
Using resources for DI	NE	PE	NE	NE	PE	PE

Table 10: Evidence on Differentiation during Observation

The analysis showed that differentiation of content in the main was not adequately evident during the observations except in the lessons by Hind and Majid who provided individual support to students to help them keep up with class activities and assignments. Further, Hind and Majid used varied examples and differentiated questioning techniques with the students to elicit information about the same idea. In Sam and Sara's lessons, differentiation of content was partially evident. They gave very limited opportunities of varying content. Although they re-explained and re-taught the grammar rules to make sure students could understand, they were for the most part presenting the same content in a

similar manner. In the lessons delivered by Karim and Najla differentiated instruction of content was not evident.

The analysis revealed that differentiating process was highly evident only in Hind's lesson. She delivered four tiered tasks of different levels of complexity while teaching the same text. Students were working at their own pace and actual level. Differentiation of process was partially evident in three lessons by Sam, Majid and Sara. To a limited extent, they varied scaffolding levels, and support was provided individually to a number of students during the activities. Sometimes, teachers varied the levels of questions being asked so that they could make sense of the activities. On the other hand, differentiating process was not evident in the lessons delivered by Karim and Najla who presented tasks at the same difficulty level with no tiered activities or flexible grouping used. Activities were given at the same level of complexity; and very limited scaffolding was observed.

Differentiating product was not adequately apparent in any of the six lessons. It was partially evident in the lessons delivered by Hind, Najla and Sara. The teachers gave limited chances to students to select a way to demonstrate what they learned during the lesson. In the three observed lessons delivered by Karim, Sam and Majid, demonstration of learning products was teacher directed and based on a typical way of publishing work without differentiation. Assignments to all students were almost identical in level. Teachers resorted to inviting a limited number of the better students to write their produced answers on the board. Contemporary technology was not employed for student expression in any of the six lessons.

Almost all classroom environments were not orderly structured for differentiated instruction based learning. Fixed-structures and lack of flexibility in group seating and time limited differentiation opportunities. Differentiation of feedback was partially evident in Majid's lesson. He approached students and provided one-to-one feedback based on their readiness levels. The resources used in the six classrooms were typical of a regular classroom and often insufficient to support differentiation. There was no evidence that teachers utilized diagnostic data about students' interests, learning preferences and readiness levels to inform differentiated instruction.

CHAPTER FIVE

DISCUSSION AND IMPLICATIONS

5.1 Introduction

Much of the impetus for this study has emerged from a concern that the inability of many Emirati secondary stage students to achieve the target outcomes in English was probably due to the inability of their EFL teachers to reach them as individual language learners with diverse needs and merits. In the mainstream EFL classroom, students vary by their behaviour, academic achievement and interests, among other things. Differentiated instruction is a process to teaching and learning for a diverse range of students in the same classroom where the teacher must work proactively to maximize students' potential, as prescribed by Tomlinson's (2001) *differentiated instruction theory*. A teacher in a differentiated classroom must tailor certain materials and strategies to fit the needs of all individual students according to their actual level (readiness), interests and styles of learning. However, successful implementation and utilization of differentiated instruction are highly based on the teacher's knowledge and beliefs (Kagan 1990; Richards 1998). The beliefs that a teacher holds are indicators of the decisions he or she makes during the course of their practices (Borg 2013). Yet, little is known about teachers' beliefs pertaining to differentiation and its integration into the setting of the mainstream classroom in the UAE context.

The purpose of the present study was to explore EFL teacher beliefs and practices in the UAE secondary schools about differentiating instruction and the enablers and obstacles they might encounter in this respect. The focus of the study was to determine the extent to which in-service teachers had a developed understanding in terms of the differentiated instruction concept, elements, strategies and effectiveness of implementation. More specifically, the study sought to address the following overarching research questions (RQs):

RQ1: What beliefs or misconceptions do secondary school EFL teachers hold about differentiated instruction in the mainstream classroom?

RQ2: What barriers or enablers do EFL teachers encounter in implementing differentiated instruction?

RQ3: Do teachers implement differentiated instruction in the EFL classroom?

To answer the above questions, a triangulation mixed methods design was used to assist the researcher to obtain related complementary data from a 4-point Likert scale questionnaire, semi-structured interviews and an observation protocol (DIOP). A questionnaire was administered to 196 EFL teachers of Grades 10, 11 and 12 from the ten education zones in the UAE. In addition, six teachers from different education zones were selected as participants for semi-structured interviews and classroom observations to obtain in-depth information. The results were analysed quantitatively and qualitatively in Chapter Four. Statistical analysis using SPSS of the collected quantitative data from the questionnaire was provided to highlight the outstanding features while content analysis was performed to obtain a clearer picture from qualitative data.

5.2 Discussion of Findings

This section of the present chapter is particularly devoted to a discussion of the research findings that emerged from the study in relation to the research questions, existing literature and theoretical framework. Then pedagogical implications for practice; recommendations for educational leaders; and implications for further research are incorporated. The thematic discussion of the major findings and interpretation of results is presented under five categories pertinent to research questions: Beliefs about differentiated instruction; misconceptions about differentiation; barriers to differentiation; enablers of differentiation; and issues related to practicing differentiated instruction.

Research Question One

5.2.1 Beliefs about Differentiated Instruction

In response to the first part of Research Question One about the nature and kind of beliefs that the participating EFL teachers hold, a discussion of the findings from the study was conducted. The discussion addressed the sub-themes of *understanding the meaning of 'differentiated instruction'; beliefs about the difficulty of implementation; and beliefs about students' interests and learning profiles.*

5.2.1.1 Understanding the meaning of 'differentiated instruction'

According to the findings in Chapter Four, most of the teachers exhibited some familiarity with the meaning of the term 'differentiated instruction' and agreed that 'students learn differently'. Likewise, during the interview, five of the six teachers reported relatively

similar definitions of the term, relating it to student diversity, learning styles, differentiating assessment and the need to vary instructional practices. Only one participant, during the interview, expressed uncertainty about the meaning of differentiation, “I think, as far as I can understand the term; maybe it is a technical term; but for me I understand that the practices inside the classroom must be different” (*Najla, lines 12-13*). These findings were relatively consistent with those of a similar study conducted by Driskill (2010) with fourth grade general education teachers in an upstate New York school district in USA. The study indicated that teachers largely defined differentiated instruction as a teaching strategy that is tailored to meet students’ individual needs. Additionally, the findings were in line with another study by Grafi-Sharabi (2009) on a New York City secondary school English Language Arts teachers’ perceptions of differentiated instruction. Grafi-Sharabi found that most participating teachers could provide definitions related to meeting individual needs; varying teaching according to individual differences; and different learning styles. Her study revealed that 60 percent of the participants understood that differentiated instruction was centered on meeting the needs of the individual learner, while 15 percent were uncertain about the definition of the term.

By and large, the findings pertinent to understanding the meaning of differentiated instruction were broadly congruent with the literature of differentiated instruction except in one major respect: A large number of respondents (73 percent) could not make a distinction between differentiation and individualization. They believe that differentiated instruction could exactly be equivalent to individualized learning. Basye (2014) discriminates between these two types of learning. He maintains that the teacher in differentiated instruction sets the same overarching academic goals for all students before adapting teaching and assessment to meet the needs of individual learners. In individualized instruction, on the other hand, the teacher calibrates teaching to meet the unique pace of diverse students. In this case, students progress at different speeds in view of their individual needs. In other words, as Basye (2014) puts it, while differentiation is the ‘how’, individualization is the ‘when’.

5.2.1.2 Beliefs about the difficulty of implementation.

The findings revealed that many teachers believed carrying out differentiated instruction was very difficult. More than half of them (56 percent) believed in the idea of

differentiation but did not know how exactly to implement it. They viewed it as a real challenge. A participating teacher who highlighted the importance of differentiation during the interview inquired: “How can I reach all of those students in a differentiated manner? It is a challenge” (*Sam, lines 28-29*). What added to this challenge, as most participants believed, was the design of the differentiated class. They assumed that the idea of differentiating was interesting but carrying out many activities to observe the levels of students would add to the burden on the shoulders of teachers. Interestingly, this belief by a large number of teachers reflected that differentiated instruction had a vague meaning in the minds of teachers with regard to make it actionable. These findings were similar to those by Grafi-Sharabi (2009) who indicated that teachers had a positive belief about differentiated instruction. However, most of them had concerns about its feasibility due to the work pressure and time.

Furthermore, teachers in the present study did not refer to different levels of difficulty when criticizing the practicality and feasibility of differentiation. Students in the mainstream classroom are more diverse than ever, which necessitates approaching them differently. Vygotsky (1978) asserted that individuals learn the most when the difficulty level of activities is just beyond their current level of their performance (within their zone of proximal development). Moreover, applicability of differentiation has always been a big issue in the literature. Harvard Education Letter (2011, p. 1) quoted Tomlinson as saying that implementing differentiated instruction is “not a piece of cake,” but it is at the same time a path to more expert teaching. “You could have dinner with butter on toast with an egg. But if you want to grow as a cook, you need to expand your ingredients list,” she added.

The analysis of interviews revealed that some teachers (Sara, Sam, Majid) related the challenges of implementing differentiation to the teacher’s knowledge of the cultural background of students. Sam (lines 134, 387) believed that teachers need to understand the cultural background in order to establish rapport instantly with students, which leads to more differentiation. Existing research suggests that the teacher’s knowledge of the cultural background of students is one of the major factors that affect the implementation of differentiation (Villegas & Lucas 2002). Klingner et al. (2005) contend that all culturally diverse students possess the opportunity to achieve better if their culture and heritage are valued by their teachers and quality curriculum. The cultural context in a culturally responsive system of education can facilitate student learning. Alternatively, the

inability of teachers to understand the cultural background and experiences of their students may lead to miscommunication and failure to differentiate classroom instruction and learning activities.

5.2.1.3 Beliefs about students' interests and learning profile

It was noted in the findings that the vast majority of teachers believe that pre-assessment of students' interests and learning profiles must be done at the start of the year in order to make successful instructional decisions. The interview data, to some extent, confirmed this belief and considered observing student interests an inextricable part of the lesson plan. These findings reflected that most of the participating teachers showed awareness of the three main learning styles (visual, auditory and kinesthetic) but limited knowledge of multiple intelligences. A participating teacher stated that "[multiple] intelligences are ambiguous. I don't know much about this area. I think this is not practical" (*Karim, lines 65-66*). Additionally, teachers were cognizant that an individual student might have a prevailing learning style but still he or she could learn as per other styles as well. Two of the participating teachers, maintained, during the interview, however, that the process of identifying the learning styles and interests is complicated and impractical. Similar studies on differentiation pertinent to the No Child Left Behind legislation in the United States emphasised that learner styles formed the cornerstone of differentiated instruction in every school system. Contrary to the findings of the present study, however, many teachers found it difficult to find a base for differentiation other than learning styles (Dunn et al. 2008). Another study by Demos and Forshay (2009, p. 26) found that only teachers who know how to differentiate instruction realize that "all students are unique and have different learning styles and preferences".

5.2.2 Misconceptions about differentiation

Misconceptions are faulty perceptions or ideas that are based on incomplete information or a person's prior experience or misinterpretations. A misconception generally contradicts the basic notions of the related theories (Eryilmaz 2002). In response to the second part of Research Question One, the findings obtained from the questionnaire and interview analysis revealed EFL teachers held several misconceptions about differentiated instruction. The thematic analysis in relation to misconceptions identified five sub-themes for discussion: *Homogeneous groups are more effective; Students in need of differentiation; having a classroom assistant; classroom management and class size; and*

differentiation is an additional mandate. It should be noted here that misconceptions are discussed in a separate section due to their similarity to the most common misconceptions found in the literature.

5.2.2.1 Homogeneous groups are more effective.

Teachers did not demonstrate a clear understanding of the purpose of grouping in a differentiated classroom. The analysis of the results showed that about two thirds of teachers (60 percent) had a misconception related to grouping. They thought that ‘homogeneous grouping is more effective than heterogeneous grouping in attending to student differences’. Put differently, they viewed tracking students, or placing them in fixed groups according to their level of achievement or ability as the most successful choice. A participating teacher stated that “grouping students in homogeneous groups is the best way for differentiation” (Sara, *lines 69-70*). This finding revealed contradiction with the literature on grouping students in a scaffolded classroom (Brighton, 2004; Guthrie et al. 2004; Tomlinson et al. 2008; Vygotsky 1978). To elaborate, the child, according to Vygotsky’s (1978) sociocultural theory can achieve better with the help of a knowledgeable adult or an experienced peer than he or she can achieve by himself/herself or with the help of peers of the same knowledge level. Homogeneous grouping is not necessarily the most effective choice when the student is moving from the current level of development to the potential level of development. The teacher, according to the differentiated instruction model by Tomlinson (1999), must adopt flexible grouping as a key principle guiding differentiation. Herrman (2014, p. 1) recommends that both homogeneous and heterogeneous groupings are used in the classroom but “[the] general recommendation is to use heterogeneous groupings as a default”. He asked for seating students “near peers that vary in levels of achievement, proficiency and gender”.

5.2.2.2 Students in need of differentiation

Another misconception the participating teachers held about differentiated instruction was related to identifying the kinds of students who needed differentiation. The teachers had varying opinions on those students. About half of the teachers (48 percent) agreed that differentiated instruction was more effective with kindergarten children and primary level students, while less or not successful with secondary stage students. Other interviewed teachers went farther stating that differentiation is essentially “for those students who have special needs; and we don’t have any, here” (*Majid, line 15*). In her response to the

common preconceived misconceptions about differentiated instruction, Hume (2008, p. 8) contended that differentiation was “not for students who do not fit ‘the norm’ i.e., special needs or ELL students”. She stressed “it is for all students. Chronological age is the only ‘norm’ that can truly be claimed in our classrooms”. It is worth mentioning here that any misconception of who to target in scaffolding and support may result in some students being segregated which is, according to Torff and Sessions (2006), not a form of differentiation.

5.2.2.3 Having a classroom assistant

Having a classroom assistant would most likely make the life of a teacher of mixed level class much easier. But does this necessarily mean differentiating instruction would be a failure without having an assistant? A third misconception about using differentiated instruction in the EFL classroom reflected in the findings was that two thirds of the teachers (65 percent) wanted a classroom assistant in order to differentiate successfully. Three of the interviewed teachers reported that they did not need an ordinary assistant. They needed an expert who would be well knowledgeable in diagnosing interests, learning styles and multiple intelligences; and in planning. This assistant could also be “the role model in this area and a trainer at the same time” (*Karim, lines 94-95*). Although this might be viewed as a shocking finding for some educators, it could probably reflect the need of those teachers for deeper awareness and more down to earth training on planning and differentiation strategies in the diverse classroom. In Grafi-Sharabi’s (2009) study, teachers viewed lack of assistants as one of the obstacles impeding implementation. They identified that under the category of administrative support.

5.2.2.4 Classroom management and class size

Participant teachers perceived management of a differentiated classroom as a real unbeatable challenge due to the complexity of differentiation strategies and the big size of classes, from their perspective. One teacher said about implementing the elements of differentiation in his EFL classroom: “To me ‘differentiation’ was like a recipe for chaos” (*Sam, lines 202-203*). This teacher found attending to the needs of different students a source of confusion and a way to poor classroom management. In addition, more than a half of the participating teachers (53 percent) reported ‘it was hard to maintain a motivating atmosphere while observing individual differences’. A legitimate question here

could be: which one leads to the other. Does poor differentiation lead to poor classroom management? Or is it the other way around? Actually it is both.

Definitely, the literature acknowledges that the challenges facing the teachers in managing the EFL classroom may lead to failure in attending to student needs (Anderson 2007; Tomlinson Imbeau 2010). At the same time, employing successful differentiated instruction strategies could be a way to enhance positive classroom management (Tomlinson and Imbeau 2010). Whenever the students feel their potential and interests are catered for proactively, they would show a positive attitude and motivation towards learning. According to LePage, Darling-Hammond and Akar (2005, p. 337):

Contrary to common misperceptions, classroom management is not simply the process of arranging desks, rewarding good behavior, and choosing consequences for misconduct. Classroom management encompasses many practices integral to teaching, such as developing relationships; structuring classroom communities where students can work productively; organizing productive work around meaningful curriculum;... making decisions about timing and other aspects of instructional planning; successfully motivating students to learn.

Intriguingly, as Brighton et al. (2005) contend, a teacher must feel comfortable with the flexible classroom management in order to be able to differentiate instruction regardless of his ability to understand and plan for differentiation. The teacher must also accept that change is messy (Fahey 2000). When the teacher decides to adopt differentiation in the classroom, he or she must expect some sort of constructive clutter. According to Stuyf (2002), implementation of scaffolding requires the teacher to lose some of the control and allow students to commit mistakes and errors. Tomlinson (1995) maintains that differentiation is all about choices and changes, and teachers have to be flexible and open to these changes. In a similar study by Holmes (2008) about teacher perceptions of differentiated instruction, it was found that teachers perceived classroom noise positively and were able to cope with it. Probably, these teachers were, according to the researcher, well prepared and had sufficient training on managing the differentiated classroom.

One of the common misconceptions in the literature of differentiated instruction is that a teacher might say: “I can’t differentiate instruction because I teach too many students” (Tomlinson and Imbeau (2010, p. 138). In the same way, findings from interviews suggested that teachers perceived the big classes they teach as a cause of poor classroom management. It should be noted that the average number of students in the EFL secondary classroom in the UAE does not exceed 30. Tomlinson and Imbeau (2010) disagree such a

number of students does significantly make a big difference. They point out that all depends on the teacher's intention and readiness to differentiate. Class size is no excuse since the same teachers with reduced class sizes would generally continue to follow the same routines and strategies.

5.2.2.5 Differentiation is an additional mandate

Another important finding was that a big number of teachers (71 percent) perceived differentiated instruction as another mandate that put pressure on the teacher. This implies that teachers saw differentiation itself as a big barrier that restricted their work and added to their load. This also aligned with the findings of Logan's (2011, p. 4) study that "teachers see differentiated instruction as another bureaucratic mandate heaped upon them". Conversely, Pennington (2009) rejected this viewpoint and argued that some teachers tend to resist change because they want to stay in their comfort zones. They prefer to what they are used to doing and avoid the additional duties such as additional preparation brought up by differentiated instruction.

Research Question Two

Research Question Two asked: What barriers or enablers do EFL teachers encounter in implementing differentiated instruction? The participating teachers in this study reported different perceived obstacles and enablers while teaching. They will be considered respectively.

5.2.3 Barriers to differentiated instruction

In response to the first part of the second research question, the findings gained from the questionnaire and interviews indicated that participating teachers perceived a lot of obstacles as impeding factors to observing student diversity. Participants identified the following key barriers as being extensively problematic to the provision of differentiated teaching in addition to several others: *insufficient flexibility in curriculum and summative assessment; insufficient training on differentiation; and time constraints*. Studies related to exploring teachers' perceptions had similar findings. In her research, Grafi-Sharabi (2009, p. 126) found that participating English Language Arts teachers identified a number of obstacles impeding differentiation including: large class size; lack of tools and resources; lack of administration support; need for more training; need for practical training; and lack

of common planning time. In another study by Prince (2011), the primary perceived barriers were lack of training, class size and student behaviour.

5.2.3.1 Insufficient flexibility in curriculum and summative assessment

The literature supports the idea that curriculum flexibility is required in order to achieve the goals of making adjustments of content to meet the variance among students and to ensure the curriculum is developmentally appropriate (Hockett 2009). In this study, the majority of teachers (79 percent) reported that 'insufficient flexibility of curriculum' was a major barrier that halted effective implementation of differentiated instruction. In their comments, respondents expressed their desire for more flexibility in curriculum. Likewise, half of the interviewed teachers reported that the curriculum was not flexible enough and the textbook does not involve enough differentiated activities. It should be noted here that ADEC and MAG schools exhibited more flexibility in curriculum and syllabus by providing room for more supplementary materials. However, there was insufficient evidence on whether this led to more differentiation.

In essence, insufficient flexibility in curriculum is often linked to insufficient flexibility in assessment and teaching to the test. Being under the pressure of summative and standardized assessments, teachers have sometimes to revert to narrowing the curriculum, ignore student needs, and teach in the same way to meet the requirements of the unified tests. They focus on tested topics and employ a lot of test-like formats and styles (Hamilton et al., 2007). Although ongoing assessment is acknowledged as being a fundamental enabler of differentiation, insufficient flexibility in summative assessment often leads to this negative washback (Guba & Lincoln 1989; Valiande & Koutselini 2009).

5.2.3.2 Insufficient training on differentiation

Participating teachers held a strong belief about the need for training on differentiated instruction. A large proportion of them (65 percent) considered lack of training as a major barrier that prevented them from observing student diversity although they received a lot of training on other pedagogical issues. Half of the interviewed teachers thought that the professional development programmes they attended were inadequate to promote their knowledge and experience in catering for the needs of students with different abilities and diverse academic achievement levels. Two of the interviewed teachers, on the other hand, considered training by ADEC and the Master degree courses they joined more sufficient in

this respect. Many scholars and researchers of the field of differentiation (Fox & Hoffman 2011; Heacox 2002; Tomlinson 2000) discussed the problem of insufficient training. The findings of Prince's (2011) exploratory study on differentiation indicated that lack of training was reported by the teachers as one of the two primary obstacles to the integration of differentiated instruction. The other one was class size.

5.2.3.3 Time constraints

Of the 196 participating teachers, a large number (79 percent) said lack of time was a major barrier that decreased the chances of implementing differentiation strategies. In addition, teachers found that time constraints led to inconsistency in differentiating lessons. The interview findings confirmed these perceptions; one of the teachers said: "Where is the time to differentiate in view of all the duties?" (*Majid, line 59*). He added: "In order to differentiate, to prepare and to plan... [I] will need a lot of time" (*Majid, lines 61-62*). The findings from similar studies indicated that teachers found insufficient time a crucial obstacle (Driskill 2010; Gamble 2011; Hellman 2007; Smith 2011). Smith (2011, p.169) discovered that "[in] all cases, the teachers reported that lack of time not only made differentiating more difficult for them, but it is the reason that other teachers choose not to differentiate". According to Driskill's (2010) study, a differentiated lesson needed more time for planning, assessment and engaging in collegial discussions. These results lend support to the studies that attempt to explore the barriers behind the underuse of the differentiated instruction approach. Carolan and Guinn (2007) emphasised that an expert teacher represents the key to overcoming the barriers to differentiating instruction including lack of time and training. An expert teacher possesses the skills and holds the potential to use what works. In the same vein, Tomlinson (2001) maintains that effective teachers in a differentiated classroom must use time flexibly.

5.2.4 Enablers of differentiated instruction

To answer the second part of Research Question Two, the present study identified several enablers of differentiation which could be linked to: *Using technology; formative assessment; and graphic organizers*. The purpose of this part of the question was to discover what tools and strategies EFL teachers perceived as facilitators to observe students differences. According to the literature of differentiated instruction, these enablers represent some examples of the core strategies for differentiating the elements of content, process and product.

5.2.4.1 Using technology

In general, technology is highly integrated in the UAE public secondary schools, and teachers have access to several tools including data show projectors, computers, internet access and interactive smart board in many classrooms. By 2020, all public schools in the UAE will integrate smart learning (MoE 2014). Teachers in this study perceived the integration of technology with teaching the different language skills as extremely useful in attending to the needs of students. The vast majority found a number of tools very helpful in a differentiated classroom: online lessons; PowerPoint presentations delivered by teachers and students; and web-based activities. Conversely, teachers found using blogs and online chats less helpful in their context. One teacher reported that “I use technology all the time because it helps me to introduce my lesson in a very good way to teach all levels” (*Karim, lines 168-169*). These results of the current study conformed to the literature on technology-assisted differentiation. Edyburn (2004, p. 62) asserts:

In the long-term, efforts to assimilate the concepts of differentiated instruction, universal design, and assistive technology would be valuable for creating unified approaches for designing instructional environments that provide demonstrable gains in academic achievement for all students.

According to De Lay (2010) the idea of using the tool of technology to assist in differentiating the classroom environment forms the underpinning of differentiated instruction. She contends that teachers must do their best to communicate with the millennial generation who use technology as digital natives. The language of technology enables the teacher to approach different students and makes them feel most comfortable. Additionally, De Lay (2010) stresses that the use of online websites is the primary enabler that can keep all students challenged enough at the appropriate level to each one of them.

5.2.4.2 Formative assessment

In the present study, the vast majority of teachers (94 percent) agreed that formative assessment is the most effective enabler that makes the teacher ensures he or she is addressing the needs of all students. In the interviews, teachers thought that they use ongoing assessment to know their students better. Most of them emphasized that ongoing assessment helped them to know where their students were in terms of the skills they provided. Most of the interviewed teachers thought that ongoing assessment was an effective tool for differentiating the process and products. Formative assessment is a method of ongoing evaluation and gathering information about student learning to inform

instruction and provide feedback on student learning (Fisher & Frey 2007; Kay 2005; Wiggins & McTighe 1998). Dodge (2009, p. 4) argues that “[while] assessments are always crucial to the teaching and learning process, nowhere are they more important than in a differentiated classroom, where students of all levels of readiness sit side by side”. Continuous assessment also ensures and enhances equity among students and makes the teacher confident that all students have had their chances to learn as per their levels.

5.2.4.3 Graphic organizers

For the greatest majority of questionnaire respondents in the present study (92%), graphic organizers could be used as scaffolding tools to promote meaningful learning. However, none of the six interview participants referred to graphic organizers as enablers of differentiation during the interview discussions. Perhaps participants felt the importance of using these tools in identifying ideas and drawing inferences, but they might not be infusing them in their practice. The discussion of practices in the next section will hopefully reveal that. According to the literature, teachers who seek to achieve the standards need to accommodate all struggling and bright students with diverse interests and levels of achievement (Levy 2008; Tomlinson & Strickland 2005). To do so, Levy (2008) asserts that there are certain tools required to enable students to master that content including graphic organizers, chart papers and notebooks or notes. Graphic organizers can be used as scaffolding tools that depict key facts, concepts and relationships to facilitate understanding and retention of the content (Boen 2010).

Research Questions Three

5.2.5 Issues related to practicing differentiated instruction

In response to Research Question Three ‘*Do teachers implement differentiated instruction in the EFL classroom?*’ the discussion of the findings pertinent to teacher practice is addressed from two perspectives: One is that of teacher perceptions as reflected in the findings of the questionnaire and interviews (*perceived practice*); and the other is based on *observed practice* through the classroom observations.

5.2.5.1 Perceived Practice

The self-report data from semi-structured interviews and questionnaire revealed that teachers were aware of the importance of observing individual differences and of the need

to calibrate their teaching to the needs of students while teaching. In some cases; however, they perceived implementation of differentiation in a way that contradicted the theoretical background and model of differentiated instruction. The discussion below will explain the areas of contradiction. Several sub-themes emerged from data analysis including: *identifying interests and learning styles based on observation; teaching to the middle; relying on teaching experience, differentiating content; differentiating product; differentiating questions; differentiating assessment; and standards based differentiation.*

The majority of teachers (86 percent) reported that they were providing varying levels of support for each student based on his or her actual level. A similar number (85 percent) said they varied the materials students use based on their interests and learning styles. However, more than two thirds of them (62 percent) did not use interest inventories or learning profile tests to diagnose learning styles and multiple intelligences. Rather, to do that that, participating teachers indicated they were merely relying on observation during classroom interaction. According to the literature, teachers should not rely totally only on their observation to identify interests and learning styles especially with struggling students. Teachers need to interview students, survey them or use an online learning style and multiple intelligences tests such as ‘What’s Your Learning Style’ quiz (Fox & Hoffman 2011; McGreevy 1982; Renzulli 1977). According to Fox and Hoffman (2011, p. 30), knowing students well is the key to differentiated instruction, and in order to accommodate all students effectively, “it is essential to know them and understand where they are coming from [using] interest inventories that are a quick and fun way to gather a plethora of information about students”.

Interestingly, more than half of the teachers (53 percent) reported that they often taught to the middle level as the shortest way to reach all students. This strategy could be the shortest but not essentially the most effective to attend to the needs of students. It is a way of providing a single path where two major groups of students (the struggling and the more able) are ignored. According to the literature, teachers who are unprepared to meet the various needs of their students tend to teach to the middle, typically due to a misconception that this saves time and effort, or because they are not armed with the appropriate instructional tools (Davis 2012). Moreover, this strategy results in many students turning out to be frustrated and not challenged enough (Gilmour 2013; Tomlinson 1999).

Surprisingly, most of the teachers (89 percent) revealed that they relied on their experience as the panacea to identify and carry out the effective strategies of differentiation. This perception aligned with both the common misconceptions and malpractice of differentiation. Those teachers most likely lacked awareness of the differentiation model which is based on well-planned pre-assessment. One teacher explained: “I think experience teaches me a lot of things; one of them is how to differentiate between levels” (*Hind, lines 50-51*). Worse, she thought her experience could substitute a differentiated lesson plan.

The findings gained from data analysis revealed that teachers were partially observing the elements of differentiation in action from their viewpoint. About 85 percent of the respondents to the questionnaire reported they practiced varying the content they used based on student interest and learning styles. Likewise, most of the interviewed teachers indicated that differentiating content using different levels of materials was a common practice in their classroom. In addition, differentiation of products was viewed by most participants (81 percent) as part of their practices, especially when they ask students to participate in classroom projects. During the interviews, only one teacher (Majid) referred to his practice of differentiating student products. Hence, it could be noted that teachers during the interview were not well aware of the techniques and strategies that could help student demonstrate what they learned in multiple ways. They have not referred to such product possibilities as conducting interviews, writing a journal, magazine, blog, newspaper, or book, doing a demonstration, performing a play, designing a game, conducting an experiment, making a video, presenting a research, in addition to dozens of other things. With regards to differentiating process, the interviewed teachers made no direct reference to this element. They did not explain their practice in regard to the process of mastering the content and skills in varied ways as Tomlinson (1999; 2001) suggested except in two cases pertinent to differentiating oral questions and differentiation according to standards.

5.2.5.1 Observed Practice

The analysis of classroom observations provided a more credible and realistic answer to the third research question pertaining to whether teachers differentiate instruction in the mainstream classroom in view of student diversity. By undertaking classroom focused

observations, the researcher could gain deeper understanding and get a “written photograph” (Erlandson, Harris, Skipper & Allen 1993) of the way teachers dealt with diversity in action and richer insights into their strategies and techniques related to differentiation. The findings obtained from the analysis of the video-taped observations using the observation protocol (DIOP) indicated that the teachers generally followed a teacher-led approach of instruction with learning and classroom discussions dominated by the teacher most of the time. Research on pre-service and in-service teachers’ knowledge and professional development indicate that teacher-centred teaching does not enhance opportunities for focusing on differentiating instruction (Arends & Kilcher 2010; Tomlinson 2001; Pham 2012). Pham (2012) indicate that differentiation should be adopted as a student-centred strategy that “can accommodate a wide range of students who are either at a low level and need intensive support or at a high level and need their skills sharpened” (p. 17).

In the present study, differentiation of content, process, product and environment was not highly evident with fixed grouping prevailing as a rule. In the six lesson plans, teachers did not provide direct reference to proactive differentiated strategies and techniques based on students’ diverse readiness levels, interests and learning preferences. The only case where differentiation according to curriculum standards was mentioned in the lesson plan was that of Hind who stated different learning objectives to be reached. However, there was no direct reference to proactive intervention from the teacher to deal with the better students or those who were lagging behind. In addition, three of the observed teachers used limited scaffolding to assist the less able students during the activities using more drawings and sticky notes. Two teachers used graphic organizers. Tomlinson and Strickland (2005, p. 30) pointed out that scaffolding enhances the chances of classroom interaction and urges student participation. They stated that “[scaffolds] take on a variety of forms, including supplemental materials, highlighted text, and graphic organizers”.

5.3 Implications for Practice

Based on the study findings, the following implications are suggested to assist the EFL teachers to employ differentiated instruction in their lessons.

- In essence, teachers need to understand differentiated instruction as a philosophy or approach to teaching and learning rather than a set of strategies and techniques (Hall 2002; Tomlinson 2001; Tomlinson and Imbeau 2010).

This philosophy is based on the belief that each child has the right to be reached in the unique way that suits his/her abilities and learning preferences. That is why teachers must reflect on their practices in order to adjust their teaching according to the real needs of their students. In addition, the philosophy behind differentiated instruction requires knowledge of all the aspects of the way students learn, construct their own knowledge and acquire their skills. The findings indicate that most participating teachers in the present study were unable to establish that knowledge.

- One of the most important, yet neglected, components of differentiated instruction is pre-assessment. In order to set an effective differentiated lesson plan, the teacher needs to be able to pre-assess students' readiness levels by identifying prior knowledge and current skills. Pre-assessment will help identify who needs support. Teachers should follow an ongoing pre-assessment to identify the best ways of acquiring information and skills. For instance, people have three main different modes of perception: auditory, visual and tactile/kinesthetic in addition to various interests. Each learner has a dominant learning style that he relies on while learning (Dunn & Dunn 1993; Fox 1984; Schreiner 2010). Depending on the attributes of each style, a teacher can incorporate different learning activities.
- Although there is no "how to" recipe for differentiation as Tomlinson (2001, p. 27) contends, teachers need to understand and follow a differentiation model with all the components included. In view of the findings pertinent to practice, it is recommended that the model of differentiation based on Tomlinson's (2001) theory (*Figure 3*) is adopted so that they would be able differentiated effectively. According to the model, teachers differentiate instruction in three main areas: content, process and product in response to the students' three varied points of readiness levels, interests and learning profiles (*Figure 3*). Furthermore, teachers who are not aware of the key principles (respectful tasks, flexible grouping, quality curriculum), as revealed in the findings, will exhibit poor practice.

- Considering the findings from the qualitative phase, the study indicated that most EFL teachers used fixed grouping to enhance cooperative learning during the lessons. As a result, students' needs were not addressed and differentiation was not evident. Hence, flexible grouping is recommended as a dynamic process in which members of the group change repeatedly. Depending on the activity or skill in hand, and in view of pre-assessment results, the teacher should vary the level of support he provides based on the topic, individual needs, interests or levels of readiness. Giving students the opportunity of exposure to a wider range of contexts with a bigger number of peers allows the teacher to observe a student performance in multiple learning contexts.
- As the results of the study indicated, most teachers considered 'tiered lessons' as an enabler of differentiation. However, there was no reference to this concept, and none of the participating teachers used it in the observed lessons. A *tiered lesson* is the most common strategy to support differentiating all elements in accordance with students' interests, readiness levels and learning preferences. It is recommended to follow by any practitioner at the beginning of his/her experience in differentiation. Tiered lessons are especially important when the teacher aims to make students of different levels work with the same ideas and key skills.

5.4 Recommendations for Educational Leaders

Based on the findings of the study, educators and education policy makers can make use of the following suggestions and implications to establish a differentiation based instruction as an effective approach to develop teaching English in the UAE public schools. The suggestions include a set of long term and short-term recommendations.

- Differentiation can be viewed as a comprehensive reform project for improving instructional practices and focusing on the success of all students in all education zones. It is a philosophy that must be infused in the long term into the instructional beliefs of all teachers. Interestingly, differentiation aligns with the mission and vision of the Ministry of Education (which includes seven education

zones) and ADEC (which includes three education zones in the Emirate of Abu Dhabi) in emphasizing educational development and helping students to reach their full potential. The mission of MoE reads: Working together to promote the UAE K-12 educational system, investing in human capital to build a knowledge-based society while enriching citizenship values” (MoE 2014). ADEC’s vision reads “Education First - Recognized as a world class education system that supports all learners in reaching their full potential to compete in the global market” (ADEC 2014). Internationally, differentiated instruction forms the core of educational reform. Fox and Hoffman (2011, p. vii) maintain that everywhere “school reform starts from each teacher making a child’s life a little bit better”. In Finland, Denmark, and the U.S.A., as highly achieving education systems, teachers focus more on differentiated instruction (D'Orio 2013).

- The findings indicated that most teachers view technology as a major enabler of differentiation. The differentiated approach can be immediately linked to the new Mohammad Bin Rashid Smart Learning Program (MBRSLP) at MoE, which offers a chance for integrating technology to teaching and learning in more than 1230 equipped classrooms across the northern emirates of the UAE. Phase II of the Program included more than 25 thousand Grade 7 and 8 students during the school year (2013/2014) in addition to the Pilot Phase for Grade 9 students (MBRSLP 2015). As the Team Leader of the English content design in the Program, the researcher of the present study employed the differentiated instruction approach in designing the content of Grade 8 and 9. This effort was acknowledged by the Program leadership as a distinguished initiative (Appendix J). Teachers, according to this initiative, were trained to pre-assess the students’ needs, interests and learning styles using online inventories. Three icons, representing three different readiness levels, were introduced for each activity. Each student could select the icon that represents his/her actual level: (below Grade level), (Grade level) or (above Grade level). The content was differentiated to suit the different interests and learning profiles (e.g. visual, audio). The process of introducing the content was presented in a whole-to-part and part-to-whole approach. The pace was also varied by using game-like timed activities. Hence, it is recommended that this approach of differentiation is

adopted in the design of the smart learning objects in all English language secondary classes.

- The curriculum documents and educational policy of MoE and ADEC reflect awareness of the importance of differentiation as an essential component of instruction. ADEC provides several professional development programmes on differentiation to English language teachers every year. Considering the findings of the study, however, many teachers' in the UAE secondary schools needed more training on assessing students' interests, readiness levels and learning profiles. They called for more training on differentiation strategies. Hence, adopting a strategic plan of training teachers on differentiation could make a difference in their performance and in the learning outcomes. Tomlinson et al. (2008, p. 46) suggested that professional development plans must provide teachers with "knowledge, understanding and skills necessary to develop and guide academically responsive classrooms". In addition, professional development needs to serve as "a laboratory for exploring and living differentiation... so that teachers experience it rather than learn about it" (p. 46). Furthermore, teachers need sufficient training on managing the differentiated classroom to eliminate part of their confusion about the effectiveness of differentiation and the misconception revealed in the findings that "differentiation is a recipe for chaos" (*Sam, line 202*).
- A fourth implication is that a flexible quality curriculum contributes to successful differentiation. Differentiation for all students originates from high-quality curriculum that promotes high engagement, attractiveness, understanding, knowledge and skills. The curriculum must provide support for all students irrespective of their levels of achievement and interests (Guthrie et al. 2004; Strickland 2007; Tomlinson et al. 2008). It must be scaffolded, accurate, standards-based, connected to earlier learning, and pertinent to students' lives, and emphasize inquiry and problem solving. More importantly, it is suggested that the curriculum is basically designed based on the differentiation model that accounts for all the elements of addressing diversity and student needs.

5.5 Implications for Further Research

Based on the results of this study, the following implications for further studies can be made.

- In view of the lack of empirical studies on differentiated instruction in the UAE schools in general, and in English language teaching at secondary schools in particular, the research took the form of an exploratory study of English language teachers' beliefs and practices to gain clarification of this issue in this context. Future research to investigate the effectiveness of teachers' implementation of differentiated instruction model could follow to add to the literature. In addition, examining the impact of the differentiation model on student achievement in the UAE schools could be of vital importance.
- Additional findings of the study indicated some discrepancy between teachers' beliefs and actual practice of differentiation. Therefore, further qualitative research is needed to deeply investigate the specific areas of convergence and divergence.
- It would be worthwhile to explore the impact of different variables including gender, age, location and qualifications on the implementation of differentiated instruction in different types of schools.
- Future research on classroom discourse analysis may need to focus on analysing classroom interactions highlighting differentiated instruction.
- The study explored EFL teachers' beliefs about differentiated instruction in regard to teaching English skills in general. It could be repeated with a focus on such a specific skill as reading, writing, grammar or speaking.
- The scope of the present study was broad. It was conducted in the mainstream public secondary classroom at all education zones. The study could be repeated with other focused populations such as teachers in private schools or special need centres. Additionally, the population of the study was English language teachers at the secondary stage. Further research could address the same research questions with teachers at different school stages: kindergarten, Cycle One or Cycle Two.

CHAPTER SIX

CONCLUSION

In the past two decades, the Ministry of Education and Abu Dhabi Education Council embarked on large education reforms aimed at achieving national and international standards, higher professionalism, creativity and accountability. Much emphasis was laid on finding out ways to shift from traditional whole classroom instruction into more interactive teaching and learning; and to help all secondary stage students to meet the language requirement. Thus, a distinct secondary education in the UAE became a priority to “better provide students with English language... and other necessary skills to enter and function successfully in colleges and universities” (Al-Ateeqi 2009, p. 87). To achieve this goal, differentiation based instructional practices that respect student needs and cultural background must form one of the prominent and central attributes of the system. The goal was to assist teachers and educators to attain their academic goals. In the present study, participating teachers were generally well-experienced and qualified. They attended several professional development programmes on pedagogy and using technology. Data was collected using a questionnaire, interviews and classroom observations to gain insight into the teacher cognition and implementation of differentiation techniques. The discussion of the results was held in view of theoretical considerations and related studies.

The rationale behind selecting teachers’ beliefs about differentiated instruction as a topic was to contribute to the field of English language teaching and teacher cognition by bridging a gap in the literature. The review of related literature revealed that there was an obvious paucity of studies on the beliefs pertaining to implementing the strategies of differentiation in the EFL classroom (Hall, Strangman & Meyer 2003); and that the absence of such studies in the UAE context was noticeable. Although ADEC and MoE emphasised the importance of differentiation in the curriculum policy, it was not clear how teachers perceived differentiated instruction. In addition to exploring the self-proclaimed beliefs of EFL teachers about differentiation, the thrust of the present study was to examine their actual implementation of its strategies. By and large, the study was able to adequately respond to the three overarching research questions pertinent to the beliefs and preconceived misconceptions teachers’ held about differentiation in addition to their actual

practice. Besides, the discussion of results led to better understanding of the barriers and enablers of differentiated instruction.

In essence, there is a difference between knowing about differentiation and knowing differentiation. The findings of the study provided evidence that many participating EFL teachers acknowledged that students were different in many ways and required a diverse array of practices. They believed in the idea of differentiation and the need to teach students differently and to give them a variety of learning opportunities. However, the teachers lacked robust knowledge of differentiated instruction, and needed to establish a solid experience in the strategies of putting differentiation into action. For instance, a considerable number of EFL teachers had a confused perception of how to plan, teach, and assess lessons according to the differentiation model. To some extent, the complex and multidimensional nature of differentiated instruction and the challenges of its implementation caused the teachers to be befuddled about its practicality and effectiveness. Similarly, Smith (2011, p. 171) concluded that teachers and school administrators received confusing messages regarding the expected implementation of differentiated instruction, “which further exacerbates the issue of implementation”. Essentially, knowing the essence of differentiation requires a lot of hard work and systematic exploration of the learners’ potential in addition to knowing how to plan and implement differentiation strategies.

The study came into another conclusion that teachers who taught in a traditional manner, relying basically on self-experience, had a lot of misconceptions about the effectiveness and practicality of differentiation. Worse, these misconceptions formed barriers added to the host of actual challenges brought up by employing differentiated instruction. For instance, one of the widespread misconceptions the teachers held was that differentiation must be dedicated only to the special need and struggling students or to pupils in the kindergarten and lower primary. The reality, however, is that differentiation targets students of all abilities and levels, from those with learning disability to those in advanced levels (Fox & Hoffman 2011); and assisting students to develop higher problem solving and critical thinking and inquiry skills is a main feature of differentiation.

Other prevalent misconceptions amongst participating teachers were found to be associated with preferring homogeneous grouping in the differentiated classroom; and having a classroom assistant as a precondition for effective differentiation. According to Tomlinson's (1999) theory of differentiated instruction, the teacher must rely on effective classroom management and flexible grouping in order to differentiate successfully. Both homogeneous and heterogeneous groupings are used in the classroom but "[the] general recommendation is to use heterogeneous groupings as a default" (Herrman 2014, p. 1). Although having a classroom assistant could be part of the administrative support to teachers, it should not be a major condition for implementing differentiation as many teachers expressed. This reflects the need of those teachers for deeper awareness and more down to earth training on planning and differentiation strategies in the diverse classroom. Unfortunately, rejecting differentiation for such mistaken beliefs led many teachers to deal with observing student diversity as an option, rather than a key instructional strategy. In addition, misconceptions reflect a general tendency on the part of many participating teachers to revert to traditional (as opposed to differentiated) practice.

It was concluded that a number of barriers perceived by teachers needed to be alleviated to assist them differentiate successfully. Importantly, most of the dominant barriers and pressures reported were apparently external. They included insufficient flexibility of curriculum in MoE schools, insufficient training and time constraints. These findings were consistent with the literature of similar studies (Grafi-Sharabi 2009; Prince 2011). At the heart of the problem was the teachers' obligation to teach to the end-of-semester final examinations, from their perspective. Since all students had to sit for the same standardized summative test, teachers found themselves obliged to work on activities which led to a negative effect. This negative washback effect has often led to producing learners with high test scores but with weak life skills (Guba & Lincoln 1989). Essentially, differentiated instruction counteracts the negative washback effect emerging from standardized tests. It even leads to positive washback effect as Brown and Hudson (1998) maintain. Therefore, it is important for teachers to select the assessment tools according to the actual and potential levels of their students and in view of their continuously assessed needs and interests. Overall, teachers who were more aware of the barriers would be more likely to attempt to change their instructional behaviour. That was apparent in the discussions with the subjects and during the observation.

Luckily, it turned out that teachers were familiar with the major enablers that could assist them to address student diversity more successfully including technology (e.g., web-based activities, online lessons, PowerPoint); graphic organizers and formative assessment. They perceived the integration of technology with teaching the different language skills (listening, speaking, reading and writing) as extremely useful. At the same time, they reiterated their need for well-designed practical training sessions in order to boost their skills in teaching to the real needs of students. In order to differentiate effectively, teachers wanted a sort of 'how-to-do-it' professional development programme through which they could shadow the trainer before working independently. In addition, they wanted an expert or an experienced mentor to demonstrate differentiated lessons. In essence, doing such demonstrations in real classroom settings positively influence training (Chien 2015). Obviously, teachers showed deep awareness of the role of these enablers, especially technological tools, in effective provision of differentiated lessons. This could pave the way for incorporating the Ministry's MBRSLP tools in the future lessons especially that all public schools in the UAE will integrate smart learning by 2020 as per the Ministry's plan (MoE 2014). Interestingly, MBRSLP at MoE adopted the researchers' initiative in developing EFL content in smart learning activities, which will expectedly include the secondary stage in the academic year 2015/2016 (see 5.4).

In this study, a discrepancy emerged between the teachers' perceived and observed practices in relation to implementing differentiation, which is in part due to poor knowledge of differentiation as a complete philosophy underpinning a complete model of instruction. It could also be concluded that this divergence between the self-proclaimed and observed practices was basically a result of teachers' cognition (i.e. knowledge, beliefs and thoughts) of differentiation. While they expressed the feasibility of differentiation and intermittently differentiated questions and product in theory, teachers most often failed in the praxis of differentiating the content, process, and product. In addition, using a standards based differentiation plan by all teachers at some schools distorted the message of differentiation. It did not address students' interests and learning styles. Standards based instruction observes readiness which is only one of the characteristics to be observed according the differentiation model.

The study argues that differentiation, as a reform model targeting all students, is a shared responsibility between educational policy makers, administrators and teachers without underestimating the role of other stakeholders especially the students as the centre of the teaching and learning process. The policy makers must ensure flexibility in curriculum, provision of adequate training on differentiation and lessening the pressure of barriers and teachers resistance to implementing the strategies of differentiated instruction. Teachers must act as classroom leaders who are aware of the actual levels and learning profiles of their students and possess the required knowledge and flexibility in teaching and management. To differentiate successfully, teachers are also invited to reexamine and reflect upon their own beliefs, practices constantly to cater for students' needs. School administrators are required to provide support and assistance to the teachers and encourage significant changes in the differentiated classroom (Tomlinson & Allan 2000).

To sum, it could be concluded that many teachers did not underestimate differentiated instruction as a strategy to teaching and learning, although they found it quite challenging when put into action. Rather, what they needed was more freedom in making decisions about planning, teaching and assessment. They also needed support from the administration and decision makers to alleviate the barriers and consolidate the facilitators of differentiation including practical training and formative assessment. As an educator and instructor, I myself believe that practicing differentiating instruction in the English language classroom is challenging but possible, and it requires a lot of training, hard work and perseverance before it becomes part of teaching culture of any teacher. On the other hand, I believe differentiated instruction is the most urgent reform project that should be adopted to reach each individual student in the UAE schools as a major step towards distinct English language skills. I am absolutely convinced, especially after implementing and evaluating my differentiation initiative for MBRSLLP, that differentiating content, process and product in view of students learning profiles is practical, motivating and engaging.

Finally, as a researcher, I acknowledge that the findings of the present study, as the first of its kind in the UAE, are partial due to the nature of differentiated instruction as a sophisticated interdisciplinary approach and the dearth of studies on this topic. A lot of work is still to be done, and much is still to be learnt about differentiation in the UAE context.

References

- Adams, C. & Pierce, R. (2004). Tiered lessons: One way to differentiate mathematics instruction. *Gifted Child Today*, vol. 27(2), pp. 50-65.
- Adair, G. (1984). The Hawthorne effect: A reconsideration of the methodological artifact. *Journal of Applied Psychology*, vol. 69(2), pp. 334-345.
- Adler, P. A. & Adler, P. (1994). 'Observation techniques'. In N. K. Denzin & Y. S. Lincoln (eds), *Handbook of qualitative research*. Thousand Oaks, CA: Sage, pp. 377-392.
- Al Ateeqi, A. F. (2009). *The Role of education in meeting global challenges*. Ewb2009.hct.ac.ae. [Viewed 4 February 2011] <http://ewb2009.hct.ac.ae/proceedings>.
- AlGhazo, E., & Gaad, E. (2004). General education teachers in the United Arab Emirates and their acceptance of the inclusion of students with disabilities. *British Journal of Special Education*, vol. 31(2), pp. 94-99.
- Aliev, N. N. & Leaver, B. L. (1993). A new age in two lands: the individual and individualism in foreign language instruction. In: Leaver, B.L. (ed), *Learner-Centered Instruction*. The AGSI Press, Salinas, CA, pp. 1-21.
- Amerian, M. & Ahmadian, M. (2014). Sociocultural theory in practice: the effect of teacher, class, and peer scaffolding on the writing development of EFL learner. *International Journal of Applied Linguistics and English Literature*, vol. 3(5), pp. 1-12.
- Anati, N. (2013). The pros and cons of inclusive education from the perceptions of teachers in the United Arab Emirates. *International Journal of Research Studies in Education*, vol. 2(1), pp. 55-66.
- Anderson, L., & Bird, T. (1995). How three prospective teachers construed three cases of teaching. *Teaching and Teacher Education*, 11(5), pp. 479-499.
- Anderson, K., (2007). Tips for teaching. Differentiating instruction to include all students. *Preventing School Failure*, vol. 51 (3), pp. 49-54.
- Babbie, E. (1989). *The practice of social research*. 5th edn. Belmont CA: Wadsworth.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice-Hall.
- Basye, D. (2014). Personalized vs. differentiated vs. individualized learning. *ISTE*. (Online)]. [Accessed on 20 July 2014]. <https://www.iste.org/explore/articleDetail?articleid=124>
- Bauch, P. (1984). The impact of teachers' instructional beliefs on their teaching: Implications for research and practice. *ERIC Digest*. ED252954.
- Bean, T.W. & Stevens, L. P. (2002). Scaffolding reflection for pre-service and in-service teachers. *Reflective Practice*, vol. 3(2), pp. 205-218.

- Bender, W. N. (2012). *Differentiating instruction for students with learning disabilities: New best practices for general and special educators*. 5th edn. Thousand Oaks: Corwin.
- Benjamin, A. (2006). Valuing differentiated instruction. *The Education Digest*, vol. 72(1), pp. 57-59.
- Benson, B. (1997). Scaffolding: Coming to terms. *English Journal*, vol. 86(7), pp. 126-127.
- Bernard, H. R. (1994). *Research methods in anthropology: qualitative and quantitative approaches*. 2nd edn. Walnut Creek, CA: Alta Mira Press.
- Biesta, G. (2010). Pragmatism and the philosophical foundations of mixed methods research. In A. Tashakkori and C. Teddlie (eds), *Sage handbook of mixed methods in social and behavioral research*. Los Angeles ; London : SAGE.
- Boen, L. (2010). *Differentiated instruction within a response to intervention framework: A mixed-methods study*. Unpublished Dissertation. University of Arkansas
- Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching*, vol. 36(2), pp. 81-109.
- Borg, S. (2006). *Teacher cognition and language education: research and practice*. London: New York: Continuum.
- Borg, S. (2009). Language teacher cognition. In A. Burns, & J. C. Richards (eds), *The Cambridge guide to second language teacher education* (pp. 163-172). New York: Cambridge University Press.
- Borg, S. (2013). *Teacher research in language teaching: A critical analysis*. Cambridge: Cambridge University Press.
- Bransford, J., Brown, A., & Cocking, R. (2000). *How people learn: Brain, mind, experience and school*. Washington, DC, USA: National Academy of Sciences and the National Research Council.
- Bruner, J. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.
- Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.
- Bruner, J. S. (1961). The act of discovery. *Harvard Educational Review*, vol. 31 (1), pp. 21-32.
- Bryman, A. & Bell, E. (2011). *Business research methods*. 3rd edn. Oxford: Oxford University Press.
- Burrell, G. and Morgan, G. (1979). *Sociological paradigms and organisational analysis*. Ashgate: Aldershot.

- Caine, R., & Caine, G. (1994). *Making connections: Teaching and the human brain*. Menlo Park, CA: Addison-Wesley. Chicago: The University of Chicago Press.
- Calderhead, J. (1996). Teachers: beliefs and knowledge. In D. Berliner & R. Calfee (eds), *Handbook of research on educational psychology*. New York: Macmillan, pp, 709-725.
- Campbell, K., Campbell, B. & Dickinson, D. (2004). *Teaching and learning through multiple intelligences* (3rd edn). Boston: Pearson Education, Inc.
- Carolan, J. & Guinn, A. (2007). Differentiation: Lessons from master teachers. *Educational Leadership*, vol. 64(5), pp. 44-47.
- Carr, W., and Kemmis, S. (1986). *Becoming critical: Education, knowledge, and action research*. Philadelphia: Falmer Press.
- Chall, J. S., & Conard, S. S. (1991). *Should textbooks challenge students? The case for easier or harder textbooks*. New York: Teachers College Press.
- Chang, K., Chen, I., & Sung, Y. (2002). The effect of concept mapping to enhance text comprehension and summarization. *The Journal of Experimental Education*, vol. 71(1), pp. 5-23.
- Chaudhary, S. B. (2013). The classroom teacher is a major stakeholder. *Gulf News* [online]. [Accessed 1 July 2013]. Available at: <http://gulfnews.com/life-style/education/the-classroom-teacher-is-a-major-stakeholder-1.1200247>
- Chien, C. W. (2015). Influence of differentiated instruction workshop on Taiwanese elementary school English teachers' activity design. *Theory and Practice in Language Studies*, vol. 5(2), pp. 270-281.
- Clandinin, D. J. (1986). *Classroom practice: Teacher images in action*. Philadelphia: The Falmer Press.
- Clark, C. M. & Peterson, P. L. (1986). Teachers' thought processes. In M. C. Wittrock (ed), *Handbook of research on teaching*. New York: Simon and Schuster Macmillan. (pp. 255 - 296)
- Crabtree, S. A. (2010). Engaging students from the United Arab Emirates in culturally responsive education. *Innovations in Education and Teaching International*, vol. 47(1), pp. 85-94.
- Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2008). *Educational research* (3rd edn). Upper Saddle River, NJ: Pearson.

- Crim, C. L., Kennedy, K. D. & Thornton, J. S. (2013). Differentiating for multiple intelligences: A study of students' understandings through the use of aesthetic representations. *Issues in Teacher Education*, vol. 22(2), pp. 69-91.
- Curry, L. A., Nembhard, I. M., & Bradley, E. H. (2009). Qualitative and mixed methods provide unique contributions to outcomes research. *Circulation*, vol. 119, pp. 1442-1452.
- Dadour, S. and Robbins, J., (1996). University-level studies using strategy instruction to improve speaking ability in Egypt and Japan. In: Oxford, R. (ed), *Language learning strategies around the world: cross-cultural perspectives*. Manoa: University of Hawaii Press.
- Dahlman, A., Hoffman, P. & Brauhn (2008). Classroom strategies and tools for differentiating instruction in the ESL classroom. *Minne WITESOL Journal*, vol. 25(1),
- Dass, L. C., & Ferguson, P. (2012). Interaction in a constructivist classroom in a Malaysian undergraduate ESL setting. *Malaysian Journal of ELT Research*, vol. 8(2), pp. 50-72.
- Davis, B. M. (2012). *How to teach students who don't look like you: Culturally responsive teaching strategies*. 2nd edn. Thousand Oaks, California: Corwin Press.
- De Lay, A. M. (2010). Technology as a differentiated instruction tool. *Agricultural Education Magazine*, vol. 83(3), pp. 15-17.
- DelliCarpini, M. (2006). Scaffolding and differentiating instruction in mixed ability ESL classes using a Round Robin activity. *The Internet TESL Journal*, vol. 12(3). [Accessed 4 May 2014]. <http://iteslj.org/Techniques/DelliCarpini-RoundRobin.html>
- Delisle, J. R. (2000). Mom...apple pie...and differentiation. *Gifted Child Today*, vol. 23(5), pp. 36-37.
- Demos, E. S., & Foshay, J. (2009). Differentiated instruction: Using a case study. *New England Reading Association Journal*, vol. 44(2), pp. 26-30.
- Denzin, N. K., and Lincoln, Y. S. (2000). Introduction: The discipline and practice of qualitative research. In N. K. Denzin and Y. S. Lincoln (eds), *Handbook of Qualitative Research*. London: Sage Publications.
- Deulen, A. A. (2013). Social constructivism and online learning environments: toward a theological model for Christian educators. *Christian Education Journal*, vol. 10(1), pp. 90-98.
- Dewey, J. (1929). My pedagogic creed. *Journal of the National Education Association*, vol. 18(9), pp. 291-295.
- Dewey, J. (1933/1998). *How we think* (Rev. ed). Boston, MA: Houghton Mifflin Company.

- Díaz-Rico, L. T. & Weed, K. Z. (2010). *The cross-cultural, language and academic development handbook*, 4th edn. Boston, MA: Allyn & Bacon.
- Dixon, F. A., Yssel, N. McConnell & Hardin, T. (2014). Differentiated instruction, professional development, and teacher efficacy. *Journal for the Education of the Gifted*, vol. 37(2), pp. 111–127.
- D'Orio, W. (2013). Finland is #1! Finland's education success has the rest of the world looking north for answers. *Administrator Magazine: Curriculum*. (Online). [Accessed 20 December 2014]. <http://www.scholastic.com/browse/article.jsp?id=3749880>
- Dornyei, Z., (2001). *Motivation Strategies in the Language Classroom*. Cambridge University Press, Cambridge.
- Driskill, K. M. (2010). *A qualitative study of teacher understanding and use of differentiated instruction to promote reading achievement*. Unpublished Dissertation. University of Phoenix.
- Dube, R. & Orpinas, P. (2009). Understanding excessive school absenteeism as school refusal behavior. *Children and Schools*, vol. 31(2), pp. 87-95
- Duffy, T. M. & Jonassen, D. (eds), (1992). *Constructivism and the technology of instruction: A conversation*. New Jersey: Lawrence Erlbaum Associates.
- Dunkin, M. J. & Biddle, B. J. (1974). *The study of teaching*. New York: Holt, Rinehart and Winston, Inc.
- Dunn, R. (1983). Learning style and its relation to exceptionality at both ends of the spectrum. *Exceptional Children*, vol. 49(1), pp. 496–506.
- Dunn, R., Dunn, K., & Price, G. E. (1984). *Learning style inventory*. Lawrence, KS, USA: Price Systems.
- Dunn, R., Hongsfeld, A., Shea Doolan, L., Bostrom, L., Russo, K., Schiering, M.S. & Tenedro, H. (2009). Impact of learning styles instructional strategies on students' achievement and attitudes: perceptions of educators in diverse institutions. *Clearing House*, vol. 82, p. 135-40.
- Dunn, R. S., & Dunn, K. J. (1993). *Teaching secondary students through their individual learning styles: Practical approaches for grades 7–12*. Boston: Allyn & Bacon.
- Edyburn, D. (2004). Technology supports for differentiated instruction. *Journal of Special Education Technology*, vol. 19(2), pp. 60-62.
- Elliott, J. (2005). *Using narrative in social research: Qualitative and quantitative approaches*. London: Sage.
- Ellis, E., Gable, R. A., Gregg, M. & Rock, M. L. (2008). REACH: A framework for differentiating classroom instruction. *Preventing School Failure*, vol. 52(2), pp. 31-47.

- Erguvan, D. (2014). Instructors' perceptions towards the use of an online instructional tool in an academic English setting in Kuwait. *The Turkish Online Journal of Educational Technology*, vol. 13(1), pp. 115-130.
- Eryilmaz, A. (2002). Effects of conceptual assignments and conceptual change discussions on students' misconceptions and achievement regarding force and motion. *Journal of Research in Science Teaching*, vol. 39, pp. 1001-1015.
- Fahey, J. A. (2000). Who wants to differentiate instruction? We did. *Educational Leadership*, vol. 58 (1).pp. 70-72.
- Fairbairn, S., & Jones-Vo, S. (2010). *Differentiating instruction and assessment for English language learners*. Philadelphia: Caslon.
- Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Researcher*, vol. 38(1), pp. 47-65.
- Feryok, A. (2010). Language teacher cognitions: Complex dynamic systems? *System*, vol. 38(2), pp. 272-279.
- Filstead, W.J. (1979) Qualitative methods: a needed perspective in evaluation research. In Cook, T.D. and Reichardt, C.S. (Eds) *Qualitative and quantitative methods in evaluation research*. Sage, Beverley Hills.
- Fine, D. (2003). A sense of learning style. *Principal Leadership*, vol. 4(2), pp. 55-60.
- Flem, A., Moen, T. & Gudmundsdottir, S. (2000). Towards inclusive schools: a study of how a teacher facilitates differentiated instruction. Paper presented at the *European Conference on Educational Research*, Edinburgh, 20-23 September 2000.
- Ford, K. (2011). Differentiated instruction for English language learners. [Viewed 20 December 2013] <<http://www.adlit.org/article/41025/>>
- Forstenlechner, I. & Rutledge, E. J. (2010). Growing Levels of National Unemployment in the Arab Gulf: Time to Update the 'Social Contract', *Middle East Policy*, vol. 17(2): 38–51.
- Fox, R. D. (1984). Learning styles and instrument preference in continuing education for health professionals: a validity study of the LSI. *Adult Education Quarterly*, vol. 35, pp. 72-85.
- Fox, W.H. (2008). The United Arab Emirates and policy priorities for Higher Education. In C. Davidson & P.M. Smith (eds). *Higher Education in the Gulf States: shaping economies, politics and culture* (pp. 110-125). London: Saqi.
- Fox, J. & Hoffman, W., (2011). *The differentiated instruction book of lists*. San Francisco: Jossey-Bass.

- Fraenkel, J. R., & Wallen, N. E. (2008). *How to Design and Evaluate Research in Education*. New York: McGraw Hill.
- Frawley, W. & J. P. Lantolf (1985). Second language discourse: A Vygotskian perspective. *Applied Linguistics*, vol. 6(1), pp. 19–44.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York: Basic Books.
- Gardner, R. C., (1988). The socio-educational model of second-language learning: assumptions, findings, and issues. *Language Learning*, vol. 38(1), 101–126.
- Gay, L. R. (1981). *Educational research: Competencies for analysis and application*. Columbus, OH: Merrill.
- Gilmour, J. (2013). Meddlers in the middle. *Educating Future Leaders*. (Online).[Accessed 5 January 2014].
- Gitsaki, C., & Bourini, A. (2013). IELTS pedagogies: A teacher professional development program. In P. Davidson, M. Al-Hamly, C. Coombe, S. Troudi & C. Gunn (eds), *Achieving excellence through life skills education* (pp. 333-341). Dubai, UAE: TESOL Arabia.
- Gitsaki, C. Robby, M. A. & Bourini, A. (2014). Preparing Emirati students to meet the English language entry requirements for higher education: a pilot study. *Education, Business and Society: Contemporary Middle Eastern Issues*, vol. 7 (2/3).
- Glesne, C. (2006). *Becoming qualitative researchers: An introduction*. 3rd edn. Boston, MA: Pearson Education, Inc.
- Grafi-Sharabi, G. (2009). *A phenomenological study of teacher perceptions of implementing the differentiated instruction approach*. Unpublished Dissertation. Available from ProQuest Dissertations and Theses database. (UMI No. 3393495).
- Grand, D. D. (2011). *Examining teacher beliefs about diverse students through transformative learning: The common beliefs survey and the disorienting dilemma*. Ph.D. Thesis. University of Maryland.
- Gregory, G. & Chapman, C. (2002). *Differentiated instructional strategies: One size does not fit all*. Thousand Oaks, CA: Corwin Press, Inc.
- Griffin, T. D. & Ohlsson, S. (2001) Beliefs versus knowledge: a necessary distinction for explaining, predicting and assessing conceptual change, in J.D. Moore and K. Stenning (Eds) *Proceedings of the Twenty Third Annual Conference of the Cognitive Science Society*. Mahwah, NJ: Lawrence Erlbaum Associates.

- Guba, E.G. and Lincoln, Y.S. (1994). Competing paradigms in qualitative research. In Denzin, N.K. and Lincoln, Y.A.S. (Eds) *Handbook of qualitative research*. Sage, Thousand Oaks.
- Gubbins, E. J., Westberg, K. L., Reis, S. M., Dinnocenti, S. T., Tieso, C. L., Muller, L.M., Park, S., Emerick, L. J., Maxfield, L. R. & Burns, D. E. (2002). *Implementing a professional development model using gifted education strategies with all student*. Storrs, CT: The National Research Center on the Gifted and Talented, University of Connecticut.
- Guthrie, J. T., Wigfield, A. & Perencevich, K. C. (2004). *Motivating reading comprehension: Concept-Oriented Reading Instruction*. Mahwah, NJ: Erlbaum.
- Hair, J. H. Jr., Anderson, R. E., Tatham, R. & Black, W. C. (1995). *Multivariate data analysis*. New Jersey: Prentice Hall.
- Heacox, D. (2002). *Differentiating instruction in the regular classroom*. Minneapolis, MN: Free Spirit Publishing Inc.
- Hedegaard, M. (1996). The ZPD as basis for instruction. In Harry Daniels (ed) *An Introduction to Vygotsky*. London: Routledge.
- Herrmann, E. (2014). *Grouping students: Heterogeneous, homogeneous and random structures. Multibrief Exclusive*. (Online). [Viewed 30 December 2014] <http://exclusive.multibriefs.com/content/grouping-students-heterogeneous-homogeneous-and-random-grouping-structures/education>
- Hess, M (1999). *Teaching in Mixed-ability classrooms*. (Online). [Viewed 22 April 2012]. <http://www.weac.org/kids/1998-99/march99/differ.htm>
- Hume, K. (2008). *Supporting and sustaining differentiated instruction: an administrator's guide*. Toronto, ON: Pearson Education Canada.
- Jonassen, D., Mayes, T., & McAleese, R. (1993). A manifesto for a constructivist approach to uses of technology in higher education. In T. M. Duffy, J. Lowyck, & D.H. Jonassen (Eds), *Designing environments for constructive learning*. Heidelberg: Springer-Verlag, pp. 231–247.
- Johnson, K. E. (1994). The emerging beliefs and instructional practices of pre-service English as a second language teachers. *Teaching & Teacher Education*, vol. 10(4), pp. 439-452.
- Johnson, K. E. & Golombek, P. R. (2011). *Research on second language teacher education*. London: Routledge.
- Johnston, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come, *Educational Researcher*, vol. 33(7), pp. 14-26.

- Jukes, I., McCain, T., & Crockett, L. (2010). *Understanding the digital generation: Teaching and learning in the new digital landscape*. Kelowna, BC, Canada: 21st Century Fluency Project Inc.
- Kagan, D. (1990). Ways of evaluating teacher cognition: inferences concerning the Goldilocks principle. *Review of Educational Research*, vol. 60 (3), 419–469.
- Kagan, S. & M. Kagan. (2005). *Raising smarter children – creating an enriched learning environment*. San Clemente, CA: Kagan Publishing.
- Kao, P. (2010). Examining second language learning: taking a sociocultural stance. *ARECLS*, vol. 7(1), pp. 113-131.
- Kaviany, K., Khany, R. & Gowhary, H. (2014). Developing Iranian EFL learner's reading skill through Web2.0 tools, using differentiated instruction strategy. *Asian Journal of Research in Social Sciences and Humanities*, vol. 4(6), pp. 271-281
- Kelly, G. (2013). Differentiated Instruction in the Classroom ProQuest, UMI Dissertations Publishing, Walden University. Viewed 18 April 2013. <http://search.proquest.com.ezproxy.aus.edu/docview/1424274598>
- Khany, R., & Khosravian, F. (2013). The application of Wikipedia for enhancing Iranian EFL students' reading proficiency. *Proceeding of the Global Summit on Education*, vol. 7(3), pp. 135-142.
- Klein, P. D. (1997). Multiplying the problems of intelligence by eight: A critique of Gardner's Theory. *Canadian Journal of Education*, vol. 22(4), pp. 377-394.
- Klingner, J.K, Artiles, A.J., Kozleski, E., Harry, B., Zion, S., Tate, W. Duran, G.Z. & Riley, D. (2005). Addressing the disproportionate representation of culturally and linguistically diverse students in special education through culturally responsive educational systems. *Education Policy Analysis Archives*, vol. 13 (38).
- Kolb, D. A. & Fry, R. (1975). Towards an applied theory of experiential learning. In C. Cooper (ed) *Theories of Group Process*, London: John Wiley.
- Kolb, D. A. (1986). Learning style inventory: *Technical manual* (Rev. ed.). Boston, MA: McBer.
- Kuhn, T. S. (1970). *The structure of scientific revolutions*. 2nd edn. Chicago: The University of Chicago Press.
- Kutz, E. & Roskelly, H. (1991). *An un-quiet pedagogy*. Portsmouth, NH: Heinemann.
- Kvale, S. & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*. Thousand Oaks, CA: Sage.

Landau, V. (2001). Constructivism and the student-centered approach. (Online). [Viewed 1 August, 2013], Round World Media: http://www.roundworldmedia.com/cvc/module3/notes3.html?&lang=en_us&output=

Landrum, T. J. and McDuffie, K. A. (2010). Learning styles in the age of differentiated instruction. *Exceptionality*, vol. 18(1), pp. 6-17.

Lave, J. (1988). *Cognition in practice: Mind, mathematics, and culture in everyday life*. Cambridge, UK: Cambridge University Press.

Lave, J., & Wenger, E. (1990). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Leaver BL, Oxford RL, Ehrman ME. (2003). A Brief overview of individual differences in second language learning. *System: An International Journal of Educational Technology and Applied Linguistics*, vol. 31(3), pp. :313-330.

Leont'ev, A. N. (1981). The problem of activity in psychology. In J. Wertsch (ed), *The concept of activity in the soviet psychology*. Armonk, NY: Sharpe.

LePage, P., Darling-Hammond, L., & Akar, H. (2005). Classroom management. In L. Darling-Hammond & J. Bransford (Eds), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 327–357). San Francisco: Jossey-Bass.

Lepper, M. R. & Hodell, M. (1989). Intrinsic motivation in the classroom, in: R. Ames & C. Ames (eds), *Research on motivation in education, vol. 3: Goals and cognitions*. New York: Academic Press.

Levy, H. M. (2008). Meeting the needs of all students through differentiated instruction: Helping every child reach and exceed standards. *The Clearing House*, 81(4), 161-164.

Lilienfeld, S., Lynn, S., Ruscio, J., & Beyerstein, B. (2009). *50 great myths of popular psychology: Shattering widespread misconceptions about human behavior*. Malden, MA: Wiley- Blackwell.

Locke, E. A. (2005). Why emotional intelligence is an invalid concept. *Journal of Organizational Behavior*, vol. 26(4), pp. 425-431.

Logan, B. (2011). Examining differentiated instruction: Teachers respond. *Research in Higher Education Journal*, 13, 1-14. Retrieved from <http://search.proquest.com/docview/889136509?accountid=7113>

Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago: University of Chicago Press.

- Mansour, N. (2009). Science teachers' beliefs and practices: Issues, implications and research agenda. *International Journal of Environmental & Science Education*, vol. 4(1), pp. 25-48.
- Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. San Francisco: Jossey-Bass.
- Meyer, D. L. (2009). The poverty of constructivism. *Educational Philosophy and Theory*, vol. 41(3), pp. 332-341.
- Meyor, J. H. F., Shanahan, M. P. & Laugksch, R. C. (2005). Students' conceptions of research: A qualitative and quantitative analysis. *Scandinavian Journal of Educational Research*, vol. 49(3). pp. 225-244.
- Mezirow, J. (2000). *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco: Jossey-Bass.
- Miles, M.B. & Huberman, A.M. (1994). *Qualitative data analysis*. Thousands Oaks, CA: Sage.
- Montessori, M. (1946). *Education for a new world*. Madras, India: Kalakshetra Publications.
- Morelock, M., & Morrison, K. (1999). Differentiating developmentally appropriate: The multidimensional curriculum model for young gifted children. *Roeper Review*, vol. 21(3), pp. 195-200.
- Morgan, D. (2007). Paradigms lost and pragmatism regained. Methodologies implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, vol. 1 (1), pp. 48-76.
- Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, vol. 40(2), pp. 120-123.
- Morse, W. (1994). The role of caring in teaching children with behavior problems. *Journal of Contemporary Education*, vol. 65(1), pp. 32-46.
- Mortimore, P. & Sammons, P. (1987). New evidence on effective elementary schools. *Educational Leadership*, vol. 45 (1), pp. 4-8.
- Mullock, B. (2003). What makes a good teacher? The perceptions of postgraduate TESOL students. *Prospect*, vol. 18 (3), pp. 3-24.
- Mvududu, N., & Thiel-Burgess, J. (2012). Constructivism in practice: The case for English language learners. *International Journal of Education*, vol. 4 (3), pp. 108-118.
- National Admission and Placement Office. (2013). *Your Guide to Higher Education in the UAE*. [Online]. [Viewed 4 February 2014] http://ws2.mohesr.ae/NAPO/Default_EN.aspx

Ngeow, K. K., & Yoon, S. (2001). Learning to learn: preparing teachers and students for problem-based learning. ERIC Digest. Viewed 12 December 2012. http://www.ed.gov/databases/ERIC_Digests/ed457524.html

Nicolae, M. (2014). Teachers' beliefs as the differentiated instruction starting point: research basis. *Procedia - Social and Behavioral Sciences*, vol. 128, pp. 426 – 431

Nunan, D. (1990). Second language classroom research. ERIC Digest. (Online). [Accessed 21 April, 2013]. <http://www.ericfacility.net/databases/ERIC_Digests/ed321550.html

O'Neill, R. (2005). The Advantages and Disadvantages of Qualitative and Quantitative Research methods. [Viewed 28 March 2013]. <www.roboneill.co.uk/papers/research_methods.pdf.

OECD (2009). *Creating effective teaching and learning environments: First results from TALIS*. Paris: OECD.

Ozden, M. & Gultekin, M. (2008). The Effects of Brain-Based Learning on Academic Achievement and Retention of Knowledge in Science Course. Electronic. *Journal of Science Education*, vol. 12(1) pp. 1-17.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, vol. 62(3), pp. 307-332.

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. 2nd edn. Newbury Park, CA: Sage.

Pedersen, S., & Liu, M. (2003). Teachers' beliefs about issues in the implementation of a student-centered learning environment. *Education Technology Research & Development*, vol. 51(2), pp. 57-76.

Pham, H. L. (2012). Differentiated instruction and the need to integrate teaching and practice. *Journal of College Teaching and Learning*, vol. 9(1), pp. 13-20.

Piaget, J. (1985). *The equilibration of cognitive structures*. Chicago, IL: University of Chicago Press.

Piaget, J. (1950). *The Psychology of Intelligence*. New York: Routledge.

Piaget, J., & Inhelder, B. (2000). *The psychology of the child*. New York NY: Basic Books.

Polit, D. E. & Hungler, B.P. (2001). *Essentials of Nursing Research: Methods, Appraisal and Utilisation*. 5th edn. Philadelphia: J.B. Lippincott Company.

Prawat, R. S. (1992). Teachers' beliefs about teaching and learning: A constructivist perspective. *American Journal of Education*, vol. 100(3), pp. 354-395.

- Radencich, M. C. & McKay, L. J. (1995). *Flexible grouping for literacy in the elementary grades*. Boston, MA: Allyn and Bacon.
- Raymond, E. (2000). *Learners with mild disabilities*. Needham Heights, MA: Allyn & Bacon.
- Reiser, Brian J. (2004). Scaffolding complex learning: The mechanisms of structuring and problematizing student work. *Journal of the Learning Sciences*, vol. 13(3), pp. 273–304.
- Renzulli, J. S., & Reis, S. M. (1991). The reform movement and the quiet crisis in gifted education. *Gifted Child Quarterly*, vol. 35(1), pp. 26-35.
- Richards, J. C. (1998). *Beyond training: Perspectives on language teacher education*. Cambridge: Cambridge University Press.
- Richards, J.C., Gallo, P. B., & Renandya, W. A. (2001). Exploring Teachers' Beliefs and the Processes of Change. *PAC Journal*, vol. 1(1), pp. 41-58.
- Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In Sikula, J. Buttery J., T. & Guyton E. (eds), *Handbook of research on teacher education*. New York: Macmillan.
- Rokeach, M. (1972). *Beliefs, attitudes, and values: A theory of organization and change*. San Francisco: Jossey-Bass.
- Rowan, M. & Huston, P. (1997). Qualitative research articles: Information for authors and peer reviewers. *Canadian Medical Association Journal*, vol. (157)10: pp. 1442-6.
- Ruiz, G. M. A. (2012). *Providing suitable feedback to fifth-grade students through scaffolding and modeling to promote their oral language development*. (Online). Ph.D. Thesis. [Viewed 20 July 2014]. Available at: <http://recursosbiblioteca.utp.edu.co/tesis/textoyanexos/4180071A715.pdf>
- Rumelhart, D. E. (1980). Schemata: The building blocks of cognition. In R. J. Spiro, B. C. Bruce, and W. F. Brewer, Eds, *Theoretical Issues in Reading Comprehension*. Hillsdale, pp. 33-58., NJ: Erlbaum.
- Santrock, J. (2004). *A Topical to life-span development*. New York, NY: McGraw-Hill.
- Savasci-Acikalin, F. (2009). Teacher beliefs and practice in science education. *Asia-Pacific Forum on Science Learning and Teaching*, vol. 10(1), pp. 1-14.
- Scheurman, G. (1997). *Using principles of constructivism to promote reflective judgment: A schooling in social context*. Cambridge: Cambridge University Press.
- Schreiner, E. (2010). Differentiated Instruction and Learning Styles. Viewed 12 July 2011. <http://www.ehow.com/list_6189496_differentiated-instruction-learning-styles.html#ixzz17nMROQHg>

Shkedi, A. (2005). *Multiple case narrative: A qualitative approach to studying multiple populations*. Amsterdam: John Benjamins Publishing.

Smith, J. (2011). *Differentiated instruction: exploring implementation at the middle level*. Unpublished Dissertation. University of Colorado.

Souleles, N. (2013). Teaching and learning in secondary and post-secondary education: views of undergraduate art and design students in the United Arab Emirates. *Learning and Teaching in Higher Education: Gulf Perspectives* 10(1). (Online). [Accessed 18 June 2013]. <http://lthe.zu.ac.ae> [pdf file]

Sousa, D.A. (1998). Brain Research Can Help Principals Reform Secondary Schools. National Association of Secondary School Principals. *NASSP Bulletin*, vol. 82(598), pp. 21-28.

Stake, R. E. (1994). Case studies. In N. K. Denzin and Y. S. Lincoln (eds), *Handbook of qualitative research* (pp. 236-247). Thousand Oaks: Sage.

Stanford, B. & Reeves, S. (2009). Making it happen: Using Differentiated Instruction, Retrofit framework, and Universal Design for Learning. *TEACHING Exceptional Children Plus*, 5(6) Article 4 (Online). [Viewed 23 March 2013] <http://escholarship.bc.edu/education/tecplus/vol5/iss6/art4>

Sternberg, R. (1991). Death, taxes, and bad intelligence tests. Editorial. *Intelligence*, vol. 15(3), pp. 257-269.

Strickland, C. (2007). *Tools for high quality differentiated instruction: An ASCD action tool*. Alexandria, VA: ASCD.

Stuyf, V. (2002). Scaffolding as a teaching strategy. [Viewed 11 August 2011]. <<http://www.oppapers.com/essays/Scaffolding-As-A-Teaching-Strategy/400850>>

Subban, P. (2006). Differentiated instruction: A research basis. *International Education Journal*, vol. 7(7), pp. 935-947.

Tashakkori, A. & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.

Taylor, B. (1987). *Classroom discipline*. Dayton, OH: Southern Hills Press.

Tharp, R. G., & Gallimore, R. (1988). *Rousing Minds to Life: Teaching, learning and schooling in social context*. Cambridge: Cambridge University Press.

Thurmond, A. V. (2001). The point of triangulation. *Journal of Nursing Scholarship*, vol. 33(3), pp. 253-258.

Tibi, S. (2010). School Reform: Differentiating Instruction and Curriculum. (Online). [Viewed 22 August 2011]. <<http://alami.ae/49.html>>

- Tirri, K., Nokelainen, P. & Komulainen, E. (2013). Multiple intelligences: Can they be measured? *Psychological Test and Assessment Modeling*, vol. 55(4), pp. 438-461
- Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms*. 2nd edn. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. A. (2005). Traveling the road to differentiation in staff development. *National Staff Development Council, Fall 2005*, vol. 26 (4), pp. 1-5.
- Tomlinson, C. A. & Allan, S. D., (2000). *Leadership for differentiating schools and classrooms*. Alexandria, VA: ASCD.
- Tomlinson, C., Brimijoin, K., & Narvaez, L. (2008). *The differentiated school: Making revolutionary changes in teaching and learning*. Alexandria, VA: ASCD.
- Tomlinson, C. A. & Imbeau, M. (2010). *Leading and managing a differentiated classroom*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. A. & Kalbfleisch, L. (1998). Teach me, teach my brain: A call for differentiated classrooms. *Educational Leadership*, vol. 56(3), pp. 52–55.
- Tomlinson, C., Kaplan, S., Renzulli, J., Purcell, J., Leppien, J., & Burns, D. (2002). *The Parallel Curriculum Model: A design for developing high potential and challenging high ability learners*. Thousand Oaks, CA: Corwin Press.
- Tomlinson, C. A. & McTighe, J. (2006). *Integrating differentiated instruction and understanding by design*. Alexandria, VA: ASCD.
- Tomlinson, C.A. & Strickland, C.A. (2005). *Differentiating in practice: A resource guide for differentiating curriculum - grades 9-12*. Alexandria, VA: ASCD.
- Torff, B. & Sessions, D. (2006). Issues influencing teachers' beliefs about use of critical-thinking activities with low-advantage learners. *Teacher Education Quarterly*, vol. 33 (4), pp. 77-91.
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher-efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, vol. 17, pp. 783–805.
- Tulbure, C. (2011). Differentiating instruction upon learning styles in higher education: A controversial issue. *Bulletin of the Transilvania University of Brasov*, vol. (4)53, pp. 79-84.
- Van-Boxtel, C. A. (2000). Collaborative concept learning: student interaction, and the learning of physics concepts. PhD Thesis. Netherlands: Utrecht University.

- Van der Veer, R., and Valsiner, J. (1991). *Understanding Vygotsky: A quest for synthesis*. Cambridge, MA: Blackwell.
- Van Compernelle, R. A., & Williams, L. (2013). Sociocultural theory and second language pedagogy. *Language Teaching Research*, vol. 17(3), pp. 277–281.
- Vibulphol, J. (2004). *Beliefs about language learning and teaching approaches of pre-service EFL teachers in Thailand*. Ph.D Thesis, Oklahoma State University, Oklahoma.
- Villegas, A.M., & Lucas, T. (2002). Preparing culturally responsive teachers: Rethinking the curriculum. *Journal of Teacher Education*, vol. 53(1), pp. 20-32.
- Visser, B. A., Ashton, M. C., & Vernon, P. A. (2006a). Beyond g: Putting multiple intelligences theory to the test. *Intelligence*, vol. 34(5), pp. 487-502.
- Vygotsky, L. S. (1962). *Thought and language*. Cambridge, MA: The MIT Press.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge: Harvard University Press.
- Vygotsky, L. S. (1987). Thinking and speech. In R. W. Rieber & A. S. Carton (Eds.), *The collected works of L. S. Vygotsky: Vol. 1. Problems of general psychology* (pp. 39-285). New York: Plenum Press.
- Vygotsky, L. S. (2004). The historical meaning of the crisis in psychology: a methodological investigation. In R. W. Rieber & D. K. Robinson (Eds), *The essential Vygotsky* (pp. 227–344). New York, NY: Kluwer/Plenum Publishers.
- Wadsworth, B. J. (2004). *Piaget's Theory of Cognitive and Affective Development*. 5th edn. Boston, MA: Pearson Education.
- Wagner, T. (2008). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need - and what we can do about it*. New York, NY: Basic Books.
- Walls, R., Nardi, A., von Minden, A., & Hoffman, N. (2002). The characteristics of effective and ineffective teachers. *Teacher Education Quarterly*, vol. 29(1), pp. 39-48.
- Ward, V. (1986). Theory in the practice of differential education for gifted. *Roeper Review*, vol. 8(1). pp. 263-271.
- Wane, N. N. (2000). Rethinking teaching using a systems discourse, in: J.M. Iseke-Barnes & N.N. Wane (Eds). *Equity in Schools and Society*. Toronto: Canadian Scholars Press.
- Weinstein, C. (1989). Teacher education students' perceptions of teaching. *Journal of Teacher Education*, vol. 40(2), pp. 53-60.
- Wells, G. (1999). *Dialogic Inquiries in education: Building on the legacy of Vygotsky*. Cambridge: Cambridge University Press.

Wertsch, J. V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, MA: Harvard University Press.

Whiting, G. W., & Ford, D. Y. (2009). Black students and AP classes: Summary, concerns, and recommendations. *Gifted Child Today*, vol. 32(1), pp. 23-26.

Williams M. & Burden R. L. (1997). *Psychology for language teachers: a social constructivist approach*. Cambridge: Cambridge University Press.

Willis, S, & Mann, L. (2000). Differentiating instruction. ASCD Online. [Retrieved October 10, 2011] [http:// www.ascd.org/ed_topics/cu2000win_willis.html](http://www.ascd.org/ed_topics/cu2000win_willis.html).

Wood, D., & Middleton, D. (1975). A study of assisted problem-solving. *British Journal of Psychology*, vol. 66(2), pp. 181–191.

Wood, D., Bruner, J. S. & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Psychology and Psychiatry*.17 (1), 89-100.

Zeichner, K. M. & Tabachnick, B. R. (1981). Are the effects of university teacher education 'washed out' by school experience? *Journal of Teacher Education*, vol. 32(3), pp. 7-11.

APPENDICES

Appendix A: Consent Form

a) Questionnaire

Differentiated Instruction in the Mainstream English Language Classroom in the UAE Public Secondary Schools: Exploring Teachers' Beliefs and Practices

Dear teacher,

This questionnaire is the main instrument for a study on differentiated instruction. It has been developed as part of a doctoral research study at the British University in Dubai. The purpose of the present mixed methods research is to explore English language teachers' beliefs and knowledge about differentiated instruction and to examine how they implement it in the English language classroom.

The study will be conducted in public secondary schools in the United Arab Emirates (UAE). Expectedly, the output of the study will provide more knowledge and clarification on this area. It might be helpful for the educational systems planning to carry out the required reforms in teaching strategies.

The questionnaire is completely anonymous, and all information you provide will be treated confidentially.

Please tick (✓) the following boxes to indicate your agreement:

- ☐ I have read the information provided about the purpose of the study.
- ☐ I understand that the data collected will be completely anonymous and that my privacy and confidentiality will be respected.
- ☐ I understand that I have the right to withdraw from this study at any time without prejudice.
- ☐ I understand that any reports that will result from the data collection will not identify any individual participants.

Signature: _____ Date: _____

Thank you for your cooperation.

Consent Form

b) Interview and Classroom Observation

Please tick (✓) the following boxes to indicate your agreement:

- ☐ I have read the information provided about the purpose of the study.
- ☐ I understand that the data collected will be completely anonymous and that my privacy and confidentiality will be respected.
- ☐ I understand that I have the right to withdraw from this study at any time without prejudice.
- ☐ I understand that any reports that will result from the data collection will not identify any individual participants.

- ☐ I am willing to participate in classroom observation
- ☐ I am willing to participate in the interview.

Signature: _____

Date: _____

Appendix B: Teacher Questionnaire

A. BACKGROUND INFORMATION			
<i>Gender:</i>	<input type="checkbox"/> Male <input type="checkbox"/> Female		
<i>Age:</i>	<input type="checkbox"/> under 25 <input type="checkbox"/> 26-30 <input type="checkbox"/> 31-35 <input type="checkbox"/> 36-40 <input type="checkbox"/> 41-45 <input type="checkbox"/> 46-50 <input type="checkbox"/> over 50		
<i>Nationality:</i>			
<i>Education Zone</i>	<input type="checkbox"/> Abu Dhabi <input type="checkbox"/> Al-Ain <input type="checkbox"/> Western Zone <input type="checkbox"/> Dubai <input type="checkbox"/> Sharjah <input type="checkbox"/> Sharjah Office <input type="checkbox"/> Ajman <input type="checkbox"/> UAQ <input type="checkbox"/> RAK <input type="checkbox"/> Fujairah		
<i>School</i>	<input type="checkbox"/> Model <input type="checkbox"/> MAG <input type="checkbox"/> Regular <input type="checkbox"/> Joint <input type="checkbox"/> Other (Please specify)		
<i>Teaching experience:</i>	<input type="checkbox"/> less than 5 years <input type="checkbox"/> 5-10 years <input type="checkbox"/> 11-15 years <input type="checkbox"/> 16-20 years <input type="checkbox"/> 21-25 years <input type="checkbox"/> over 25 years		
<i>Highest Qualification:</i>	<input type="checkbox"/> College Certificate (2 year diploma) <input type="checkbox"/> B.Ed. <input type="checkbox"/> B.A. <input type="checkbox"/> MA <input type="checkbox"/> Ed.D. <input type="checkbox"/> Ph.D. <input type="checkbox"/> Other, specify		
<i>What is your teaching load per week?</i>	<input type="checkbox"/> 10 hours or less <input type="checkbox"/> 12 <input type="checkbox"/> 18 <input type="checkbox"/> 20 or more		
<i>Did you receive any training on Differentiated Instruction and observing individual differences? If yes, please specify.</i>		<input type="checkbox"/> Yes	<input type="checkbox"/> No
		By	
<i>What grade students are you currently teaching?</i>		<input type="checkbox"/> Grade 10	<input type="checkbox"/> Grade 11
		<input type="checkbox"/> Grade 12	<input type="checkbox"/>
<i>Your school is a:</i>	<input type="checkbox"/> Boys' School		<input type="checkbox"/> Girls' School

Please make sure you have signed the consent form on Page 2.

B. BELIEFS AND PRACTICE						
Please circle the best answer that reflects your opinion regarding the statement. The descriptors are below:						
	Strongly Agree 4	Agree 3	Disagree 2	Strongly Disagree 1		
			Strongly Agree	Agree	Disagree	Strongly Disagree
1	In my opinion, all students learn in the same way.					
2	Students should be taught in the same way to get the same outcome.					
3	Giving choices in assignments and activities confuses students.					
4	Individualizing lesson plans takes the responsibility for learning away from the student.					
5	Students do better if I just tell them what they need to know rather than guide them to their own conclusions.					
6	It is not possible to attend to the needs of individual students as those needs are so diverse.					
7	I use information about learning styles and multiple intelligences to plan my lesson.					
8	Different learning opportunities can be provided to meet the different needs of students in the same lesson					
9	I often teach to the middle level because this is the shortest way to teach all students.					
10	Adjusting the pacing to my students' readiness and needs is integral to the learning process.					
11	I know what 'differentiated instruction' exactly means.					
12	I am a teacher who employs differentiated instruction effectively.					
13	Differentiated instruction is exactly equivalent to observing individual differences.					
14	It is hard to maintain a motivating atmosphere while observing individual differences.					
15	I received sufficient training on differentiated instruction.					
16	The implementation of differentiated instruction is the best way to improve achievement.					
17	I believe differentiated instruction is effective only with a certain level of students.					
18	Differentiated instruction is not possible with all language skills.					
19	I identify my students' interests and learning styles primarily based on observing their oral classroom interaction					
20	Students in my classroom learn better through interaction with each other					
			Strongly Agree	Agree	Disagree	Strongly Disagree
21	Right from the beginning the teacher should teach at the student's level not at the level of the grade					
22	I provide varying levels of support for each student based on their actual levels.					

23	It is practical to do pre-assessment activities for students at the beginning to make instructional decisions about their levels.				
24	Technology should be used to enhance differentiated instruction				
25	I can fairly assess students' performance while still differentiating.				
26	It is easier to differentiate according to the standards than to interests and learning styles.				
27	Varying the taught content helps the teacher to meet the different levels.				
28	I vary the materials students use based on their interests and learning styles				
29	Homogeneous groups are more effective than heterogeneous groups in attending to the students' differences				
30	Practically, flexible grouping facilitates learning and social interaction.				
31	It is possible to vary the nature of products (e.g. projects) to let students pursue their interests.				
32	I rely on my teaching experience to identify the effective differentiation strategies.				
33	I believe in the idea of differentiation but do not know how exactly to implement it.				
34	Differentiated instruction is more effective with KG and primary level students.				
35	Adapting teaching to students' differences (differentiation) is possible only in theory but not in practice				
36	In my classroom, I use different types of assessment tools according the students' needs				
37	To differentiate successfully I need to have a classroom assistant.				

C. Barriers		Strongly Agree	Agree	Disagree	Strongly Disagree
<i>I believe the following are barriers to implementing Differentiated Instruction in my classroom:</i>					
38	Lack of time				
39	Lack of resources				
40	Lack of support from the school administration				
41	Lack of opportunity to study students' needs				
42	It is difficult to manage the differentiated class.				
43	Differentiated instruction is another mandate that puts pressure on the teacher.				
44	Lack of flexibility of the curriculum				
45	Lack of training				
	Other (Please specify):				
D. Strategies and aids					
<p>Please circle the best answer that reflects your opinion regarding the statement. How helpful do you find the following strategies/aids in meeting the different needs and levels of your students. The descriptors are below:</p> <p> Very helpful Somewhat helpful Not helpful 3 2 1 </p>					
	Strategy/Aid	Very helpful	Somewhat helpful	Not helpful	
a	Online lessons				
b	PowerPoint - student products				
c	Tablet (One-to-One iPad) technology				
d	Blogs and online chats				
e	Web-based activities				
f	Whole-group instruction				
g	Small group instruction				
h	Tiered lessons				
i	Formative (ongoing) assessment				
j	Graphic organizers				
k					

Comments: (Please share any information, concerns, or feelings regarding the use of differentiated instruction in your setting).

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**This tool is based on Tomlinson (1999; 2001) and Boen (2010).*

Appendix C: Interview Guide

(A Semi-Structured Interview with English language teachers)

1	What does the term “Differentiated Instruction” mean to you?
2	How do you use differential instruction in your teaching?
3	Have you attended any training sessions on differentiated instruction? (If yes, how many, tell me about the content of training)?
4	Do you believe these sessions influenced your classroom instruction? How?
5	What kind of information do you need to know about your students before teaching?
6	Is it important to collect information about students’ interests and learning profiles before teaching?
7	How do you use this information to improve classroom instruction?
8	How do you use this information to meet the varying interest levels of students in your classroom?
9	What kind of material can be used to meet the needs of different levels?
10	What strategies can be used to observe individual differences?
11	Have you encountered any problems or difficulties with implementing differentiated instruction? (If yes, like what?)

Appendix D: Differentiated Instruction Observation Protocol

Differentiated Instruction Observation Protocol (DIOP)

Teacher:	Date of Observation:		Observer:
Content Area:	Grade Level:	Time in:	Time Out:
Content	Observations	Evident?	Comments
Addressing student needs by strategically adapting the depth, pace, and delivery mode of what is taught and providing various avenues for students to access the content while still aligning to all elements of the curriculum standard(s)	<ul style="list-style-type: none"> 	<input type="checkbox"/> Yes <input type="checkbox"/> <input type="checkbox"/> No	
Process	Observations	Evident?	Comments
Addressing student needs by strategically creating student learning experiences that allows for differing student processes , while still aligning to all elements of the curriculum standard(s)	<ul style="list-style-type: none"> 	<input type="checkbox"/> Yes <input type="checkbox"/> <input type="checkbox"/> No	
Product	Observations	Evident?	Comments
Addressing student needs by strategically designing student performance tasks that will result in differing student work products , while still aligning to all elements of the curriculum standard(s)	<ul style="list-style-type: none"> 	<input type="checkbox"/> Yes <input type="checkbox"/> <input type="checkbox"/> No	
Learning Environment	Observations	Evident?	Comments

Addressing student needs by strategically adjusting the learning environment , (physical space, protocols/structures, furniture and materials and time), while still instructing all students for mastery of standard(s)	<ul style="list-style-type: none"> • • 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Data Source for DI	Possible Observations	Evident in this visit?	Comments
Readiness Level <i>The use of academic diagnostic data to inform differentiation.</i>	<input type="checkbox"/> small group instruction (groups determined by readiness) <input type="checkbox"/> homework options and/or tiered/scaffolded assignment <input type="checkbox"/> graphic organizers <input type="checkbox"/> Other _____ If observed, used to differentiate for: ____ content ____ process ____ product ____ learning environment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Learning Styles <i>The use of data regarding each student's most effective learning style to inform differentiation.</i>	<input type="checkbox"/> Learning style inventory responses <input type="checkbox"/> Teacher observation notes <input type="checkbox"/> Student choice options If observed, used to differentiate for: ____ content ____ process ____ product ____ learning environment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Interests <i>The use of data regarding collective and individual interests to inform differentiation.</i>	<input type="checkbox"/> Interest inventory responses <input type="checkbox"/> Student choice based on interest <input type="checkbox"/> Student and teacher discussions <input type="checkbox"/> "Bridging" of familiar ideas and experiences to academic content If observed, used to differentiate for: ____ content ____ process ____ product ____ learning environment	<input type="checkbox"/> Yes <input type="checkbox"/> No	

More Comments:

- Adapted from *Diagnostic Checklist for Differentiation of Instruction* by Georgia Dept. of Education - Based on: Tomlinson (1999; 2001).

Appendix (E): Transcription Conventions

- [] brackets indicate overlapping utterances
- = equal marks indicate contiguous utterances, or continuation of the same utterance to the next line
- (.) period within parentheses indicates micropause
- (2.0) number within parentheses indicates pause of length in approximate seconds
- ye:s colon indicates stretching of sound it follows
- yes underlining indicates emphasis
- YES capital letters indicate increased volume
- °yes° degree marks indicate decreased volume of materials between
- Hhh indicate audible aspiration, possibly laughter
- hhh raised, large period indicates in-breath audible aspiration, possibly laughter
- ye(hh)s within parentheses indicate within-speech aspiration, possibly laughter
- ((cough)) items within double parentheses indicate some sound or feature of the talk which is not easily transcribable, e.g. “((in falsetto))”
- (yes) parentheses indicate transcriber doubt about hearing of passage
- yes, ^yes arrows indicate upward or downward intonation of sound they precede

Note that normal punctuation symbols (e.g., periods, commas, question marks) indicate intonation in this system rather than grammatical category. Period, for example, marks a falling pitch or intonation. A comma indicates a continuing intonation with slight upward or downward contour. A question mark indicates a rising vocal pitch or intonation.

1 Adapted from system developed by Gail Jefferson, printed in J.M. Atkinson and J. Heritage (Eds),

1984, Structures of social action: Studies in conversation analysis. pp. ix-xvi. Cambridge University

Press.

Appendix (F): Excerpts from Interviews

Interviews Transcription

Interview: 1

Interviewee: Karim (K) (<i>pseudo name</i>)	Interviewer: Researcher (R)
Gender: male	Date: 20th Nov.
Time: 11:00-11:30	Duration: 30 min
Place of interview: Resource Room	Interview: 1

R: Researcher K: Karim H: Hind

		Line no.	
Karim.1	R	1 2	Now, this interview is going to be about differentiated instruction, as you know. My first question is: what does the term differentiated instruction mean to you
Karim.2	K	3 4 5 6 7 8 9 10	The term differentiated instruction to me means that I'll try to identify my students' weaknesses and strengths. So according to this I will plan my teaching, taking into consideration these points. My students have different abilities and different skills and different interests so I at the beginning I try to identify these things; and when I plan to for my lessons I will try to do my best to take these things into consideration when planning. For example if some of my students like for example songs or like watching movies, I will try to eh trying to take some movies or use some audios, some songs; so they may get benefits from these things.
Karim.3	R	11	So you differentiate instruction? You try to differentiate?
Karim.4	K	12	Not all the time
Karim.5	R	13	Not all the time ?
Karim.6	K	14	Yeah
Karim.7	R	15	Why not all the time?
Karim.8	K	16 17 18 19 20	I do not differentiate most of the time I think eh because we have a syllabus and we have curriculum to finish, so if I eh try to take all these things into consideration I have to look at all my students' interests and what they like and what they dislike. This will take much time and it's time consuming. This is difficult for me. Maybe I can with some of them but not all of them.
Karim.9	R	21 22	But do you think that the curriculum helps you differentiate or you need to read , re-design the activities in order to differentiate
Karim.10	K	23 24 25 26 27 28	Curriculum is not flexible as I like because we have you know textbooks and we have exams and exams formats. So you know we train our students to pass the exams. So it is very difficult for us to make these things when we teach. I think the curriculum is not flexible enough. So how do you expect me to do a lot of differentiation. The book does not also give me how. (ya'ni) I mean how to differentiate. It is you know not having activities that are..
Karim.11	R	29	Activities of...?
Karim.12	K	30	Activities that are built on differentiation.
Karim.115	R	211 212	Do you expect any kind of support from other parties in education. For example in order to better differentiate from the administration from the other...

Karim.116	K	213 214 215	Yeah if we have some specialists who are only related to this kind of eh psychology if you.. who can differentiate students according to their eh abilities and according to their interests this is will give us good help
Karim.117	R	216 217 218	So, do you believe if we give more training to teachers for you for example as a teacher in the secondary stage..Do you believe that the professional development sessions would help you?
Karim.118	K	219	I think we need practical and implementation not only
Karim.119	R	220	Ah yeah ok workshops or something
Karim.120	K	221 222 223	We do not want lecturing. We want to some some specialists who come to schools and show us how to do this PD sessions I like this but I think this is not big ya'ni something big deal to help

Najla.9	R	10	So what does the term “Differentiated instruction” mean to you?
Najla.10	N	11 12 13 14 15 16 17 18	Well, I think, , as far as I can understand the term itself, maybe it is a technical term but for me I understand that the practices inside the classroom must be different, different according to the learner himself, Ok? to the process of learning, Ok? and to the product of learning, ok? So (2.0) the teacher has to take into account the different levels of learners. Some learners of course in terms of their academic achievement, ok, and in terms of their interests, alright ? And according to their also eh (2.0) what we call eh learners’ mmm (5.0) learners’ learning style
Najla.11	R	19 20	Ok, now if I, this is in theory, but if I ask you how do you differentiate as a teacher in you classroom, how do you differentiate teaching?
Najla.12	N	21 22 23 24 25 26 27 28 29 30 31	Ok, I differentiate teaching for example, according to... the exercises I give to students I give leveled or certain leveled worksheets, a kind of exercises that are different from those of low achievers, ok, and high achievers and those who are in between ? so some exercises are a little bit simple for those who are low achievers ok? in order not to feel themselves frustrated or they are not involved in the teaching process and the learning process etc.. This is 1, so different exercises different worksheets. Ah I think second of all some learners are visual, some learners are kinesthetic, some learners are ehhh (2.0) they can learn through for example they are auditory, they learn by listening.

Hind.29	R	67	Do you need to know more about differentiated instruction?
Hind.30	H	68 69 70	Of course; of course, I think we need to know more; teachers need to learn more, we need to know how to deal with especially low level students it's it's a big problem in the class, they need help
Hind.31	R	71 72	So you feel that differentiation will help the low achievers more? Is this what you think?
Hind.32	H	73	Of course, yeah
Hind.33	R	74 75	How about the bright students ?
Hind.34	H	76 77 78	The bright students, they don't need that help. They do not need differentiated instruction from me because they can depend on themselves I can leave them a worksheet to answer give them a

		79 80	question or something like that they can and they have the self trust and ability to answer , others who are low level when they see them they lose self-confidence
Hind.35	R	81	Yeah
Hind.36	H	82 83	They don't want to answer because they feel that others will see they are low level
Hind.37	R	84 85	Now as a teacher what kind of information do you think you will need to know about your students before teaching? Maybe at the beginning of the year?
Hind.38	H	86 87 88 89 90 91 92 93	As for me I discover everything by myself. I don't like to have an attitude before getting into the class; I take my time to know the level of the student, to know her interests, even to know about her personality. I never listen when they are talking about students; I just close my ears and I don't want to know to have any background; I go fresh into the class and I discover and I feel it's better because I had an experience. There was a girl all the school was saying that she was bad and low achiever, and I didn't listen to them. When I got to the class I met her and tried to help her.
Hind.39	R	94	So you don't want to take an impression?
Hind.40	H	95	No
Hind.41	R	96 97 98	Now my question if we try to relate this to interests , do you think that you need to know about your students interests from the very beginning before you start teaching?
Hind.42	H	99	Beforehand or before?
Hind.43	R	100 101	Yeah , no you you as a teacher in the beginning of the year, do you think that you need to know about a student's interests before you start teaching them?
Hind.44	H	102 103 104 105	I can help her with academic skills. For example, if she likes drawing; if she likes writing; if she likes photographing and things like this because this gives me an impression about mm her ability, maybe this can give me an idea about her style of learning
Hind.45	R	106	How do you know that, through impression? Or do you give them a test or?
Hind.46	H	107 108	Through impression. .. I do not make a test to know her style of learning but I rely on my impression to know about her style
Hind.47	R	109	Impression ?
Hind.48	H	110 111	Yeah, I can get it by impression you know experience can help me to, every year you will be better you will eh be able to discover it fast
Hind.49	R	112 113	But one that take time I mean, I mean to wait for impression I mean about students interests
Hind.50	H	114	Eh I have the ability to, it can take from me 2 or 3 weeks
Hind.51	R	115	What kind of interests do you know about your students for example
Hind.52	H	116 117 118	Students like to draw something. I can use these drawings if they have time if in the class they can draw; we can put some posters and they are going to use them. Those who like writing. Even if it's not in English I can use them
Hind.53	R	119	So you employ this
Hind.54	H	120	Yeah
Hind.55	R	121 122	How about the other learning styles for example we have the kinesthetic, the visual we have the audio, do you observe these things?
Hind.56	H	123 124 125	This can be reached not at the beginning of the year. It can be reached by the middle of the year. I can discover this through our friendship together through our deals together like this

Appendix (G): Excerpts from Further Comments in the Questionnaire

Appendix G Excerpts from Further Comments in the Questionnaire			
Sn	Respondent Number (Resp.)	Question A: Barriers B: Comments	Comment
1	8	A	Lack of motivation and appreciation from me
2	12	A	Students' lack of motivation; and enthusiasm; and students lack of discipline
23	6	B	I suggest teachers should implement differentiated instruction in primary schools.
25	19	B	I think teaching according to levels needs many things if we need to apply in class, one of these things is that one teacher in a class is not enough, the teacher should be provided with an assistant so that they can both follow the different leveled groups
26	20	B	Differentiated instruction is a burden on teachers and will only be possible if classrooms are less crowded; and the teaching load per week is also less than 15.
27	22	B	Differentiated instruction is really helpful but you can never finish your curriculum if you want to apply it. To know students interests, takes quite long time. After all a teacher is a parent who has a parent's heart. Without feelings or intending to use differentiated instruction, he uses it.
29	30	B	It's difficult to implement in our classes because of the lack of time. also we are bounded to the curriculum
31	39	B	Two factors have to be considered: 1- Syllabuses/textbooks . 2- Exams and their designs
32	46	B	One basic reason why most teachers do not try to implement differentiated instruction: the classroom environment plus the carelessness of some professional development. Thanks and good luck.
33	47	B	In my opinion, there should be a common plan in the Ministry of Education to teach English according to levels; and tests should be applied to the different levels in the same grade.
34	63	B	It's important to reduce the number of students in one class. For example, it should have only 20 students not more, and teachers should have a comfortable timetable.

35	74	B	We need training on how to apply/use differentiated instruction in teaching languages.
36	84	B	I think differentiated instruction is very helpful for both the teacher and the students as it deals with each student due to his/her needs and way of learning.
37	88	B	I believe that teachers should know their students' levels from the very start. Knowing their levels will help the teacher to build a clear image of different needs
38	104	B	I applied it in our school last year and my students' level changed a lot. I advise every teacher to apply it but the problem is the final exam. It is on the same level
39	113	B	We should start from the early "stages" (primary cycle) with students so as to make or get fruitful educational aims and purposes
42	116	B	Graded exercised and stories are also helpful
43	119	B	Too many students in small-sized classes.
44	120	B	Too many demands and pressure on the teacher.
45	121	B	Lack of time, resource and finance.
46	122	B	To differentiate I select/locate teaching resources that address varying proficiency levels, learning styles. But in my view the real problem lies in lack of tracking of students' progress. So I suggest/recommend that teachers keep track of students' progress , analyse and evaluate the data (variance analysis/trend analysis) using Excel spreadsheets, bar/pie charts. Also I believe teachers need a lot of differentiation training and support.
47	126	B	I do believe that differentiated instruction is a major step in learning but classes should be small in number and students should be motivated and interested
48	129	B	Thanks a lot for this useful questionnaire and I wish a good luck for you
50	143	B	I believe in differentiation! However doing it in high school seems impossible. It is extremely frustrating because I have no proper support and resources and have to spend countless hours trying to make things on my own. It feels like an uphill battle.
51	144	B	Six of my art students have little, to no English skills. Differentiated lessons would be of no assistance if these students cannot write in differentiated exams.

52	145	B	Difficult to do as the curriculum is so strictly structured. All students have to do the same thing despite being at very different learning levels. Additionally they do not have the self discipline to do work on their own. More time is spent on classroom management than teaching.
53	146	B	We have no time or access to most of the above.
55	161	B	Many of these differentiation strategies that you discuss would be helpful; yet it's not implemented here. Also the assessment criteria is not flexible enough to allow for true differentiation.
58	170	B	We need more aids and we need teacher assistances regarding the work load we have.
61	185	B	Class sizes are too large no ethos of differentiated learning in the school because students not practiced and familiar with co-operative learning.
62	186	B	Impossible to implement because of class size.
65	193	B	Super results when there is time to organize differentiation, because differentiation is time-consuming it can be almost impossible to do in the classroom for every lesson.
66	195	B	Differentiated instruction is not something that should be considered an option for the classroom. The archaic ideology of "one-size-fits-all" is obsolete and harmful to the diversity of learning styles and multiple intelligences that researchers and theorists have discovered in the last 30-50 years
67	196	B	Class size is too large

Appendix H

توزيع المدارس (تعليم حكومي) على المناطق التعليمية للعام الدراسي 2013/2012 م
Distribution of Schools (G.E) by Educational Zones for the Academic year 2012 / 2013

ZONE	STAGE	Schools مدارس						المرحلة
		المجموع Total	ديني Religious	متعددة المراحل Multi Cycles	الثانوي Secondary	الحلقة الثانية Cycle 2	الحلقة الأولى Cycle 1	رياض الأطفال kindergarten
Abu Dhabi Edu. Zone		123		12	21	27	37	26
Al Ain Edu. Zone		111		32	11	18	31	19
Al Garbia Edu. Zone		31		14	1	1	9	6
Total		265	0	58	33	46	77	51
Dubai Edu. Zone		78	1	16	13	15	21	12
Sharjah Edu. Zone		128		29	20	21	35	23
Ajman Edu. Zone		40	1	7	7	8	10	7
Umm Al Quwain Edu. Zone		22		5	3	4	6	4
Al Fujairah Edu. Zone		62		19	7	8	17	11
Ras Al Khaimah Edu. Zone		90		26	13	16	19	16
Total		420	2	102	63	72	108	73
Grand Total		685	2	160	96	118	185	124

Appendix I

توزيع الطلبة (تعليم حكومي) على المراحل التعليمية للعام الدراسي 2012/2013 م
Distribution of Students (G.E) by Educational Stage for the Academic year 2012 / 2013



