The Impact of Teacher's Demo Lessons on Improving Teacher's Performance and Lesson Effectiveness: an in-service training initiative introduced in a private American school in Al Ain

تأثير الحصص التجريبية للمعلمين على تحسين أداء المعلم وفعالية الحصه: برنامج تدريب داخلي للمعلمين تم تطبيقه في احدى مدارس العين ذات المنهاج الامريكي

by

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**A dissertation submitted in fulfilment
of the requirements for the degree of
MASTER OF EDUCATION
at
The British University in Dubai**

September 2017

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Abstract

The aim of this research is to study the impact of 'teacher's demo lesson program' on improving pedagogy and lesson quality. The initiative is a part of the school in-service training programs for teachers' professional development. Combining retooling, remodeling, and revitalizing approaches to teacher continuous professional development, adopting a more socio cultural view of teacher training programs, and using assumptions from various theories of adult learning, the current study presents a training initiative that involves teachers in both teaching and learning, and thus, helps them reconsider their classroom practices.

The study took place in one of the private schools in Al Ain City in the Emirate of Abu Dhabi. The study sample included 139 middle school students and 8 middle school teachers. A mixed type approach was used for the data collection of the study. The results of the quantitative and qualitative research methods employed for the study suggest that the program has improved teachers' overall performance and has a direct positive impact on lesson effectiveness. In spite of the high benefit of the initiative for teachers' professional development, it cannot replace other in-service development programs that involve real classroom learning environment.

البحث باختصار

الهدف من هذا البحث هو دراسة تأثير "برنامج الحصه التجريبيه للمعلمين" على تحسين التدريس وكذالك جودة وفعالية الحصه. وتشكل هذه المبادرة جزءا من خطة المدرسه للتدريب الداخلي من أجل التطوير المهني للمعلمين. الدمج بين طرق إعادة التأهيل، وإعادة التشكيل، وإعادة التحفيز والتنشيط للتطوير المهني المستمر للمعلم، واعتبار الجانب الثقافي الاجتماعي لبرامج تدريب المعلمين، وكذلك الاستفاده من افتراضات نظريات مختلفة لتعليم الكبار، تقدم الدراسة الحالية مبادرة تدريبية تتيح للمعلمين فرصة للتعليم والتعلم في نفس الوقت بما يساعدهم علي مراجعة وتطوير الممارسات التربويه والتعليميه داخل الصف. وقد أجريت الدراسة في إحدى المدارس الخاصة في مدينة العين في إمارة أبوظبي. وشملت عينة الدراسة 139 طالب وطالبة في المرحلة المتوسطة و 8 معلمين للمرحلة المتوسطة. ولم تقتصر الدراسة على استخدام اسلوب واحد فقط لجمع وتحليل البيانات. وتشير نتائج أساليب البحث الكمية والنوعية المستخدمة في الدراسة إلى أن البرنامج قد حسن الأداء العام للمعلمين وله تأثير إيجابي مباشر على فعالية الدرس. وعلى الرغم من الفائدة العالية للمبادرة للتطوير المهني للمعلمين ، تشير النتائج إلى إنها لا تغني عن غيرها من برامج التنمية الداخلية التي تنطوي على بيئة تعليمية حقيقية داخل الفصول الدراسية.

Dedication

To my mother whose prayers are the veins of my life;

To those who believe that only hard work makes dreams alive;

To my dear wife and children whose sacrifices caused this work to thrive;

To Dalia Kamel, GIPA principal; due to her endless support, this work was shown to light

Acknowledgement

Great appreciation to Dr Solomon Arulraj David, who guided me to the choice of my dissertation topic. His assertion on choosing a subject that is directly related to my work as a school assistant principal helped increase the feasibility of the empirical research of my study. His gentle guidance and effective feedback lead to taking the utmost benefit of the unique context of the study, and resulted in introducing an initiative that could be worth applying in similar or different contexts.

The great support I received from the school principal, Mrs Dalia Kamel was one of the main reasons for accomplishing this work. Her encouragement and endless support facilitated the empirical research of this study and resolved many obstacles. Our intention to introduce something unique and beneficial to education literature was beyond the choice of the dissertation topic and dedication to implementing the study initiative. Many thanks to the school principal and all teachers participated in the study.

No words of appreciation can express my gratitude to the sacrifices given by my family during my Master's journey. In the last couple of years, studies, research, lectures, and deep thinking filled the very limited intervals I had out of work time. Thanks to my wife and children to whom I owe any success in my life.

Through my long journey in education, I have learnt that teaching is a message rather than a profession. I acknowledge this work to teachers and educators who dedicate their lives to the benefit of young learners. The common thing I recognised among all successful teachers I have met throughout my journey is that they believe their best reward is the happiness and success they see in the eyes of their students. Thanks to these great people who devote their lives to build up our future.

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List of Acronyms

ADEC	Abu Dhabi Education Council
IT	Information Technology
SEEQ	Students Evaluation of Educational Quality
SETE	Students Evaluation of Teaching Quality

Chapter 1: Introduction

1.1 Overview

Nowadays, the vast informational and communication technology has affected and challenged the traditional way of teaching and learning, and the whole education process. Mass communication, as well as easy access to Information technology (IT) at homes and everywhere have provided rapid sources of collecting data and obtaining knowledge. This has led to the great demand of integrating IT in school curricula and class activities. The introduction of technology in classrooms has dramatically changed the way students perceived teacher's role. Teacher is no longer seen as the only or the main source of knowledge, but rather a facilitator or an interactive medium between students and knowledge. The role of students in classroom has also turned from passive learners to active participants. They start to play an important role in acquiring knowledge, and take increased responsibilities for their own learning.

Unlike traditional way of teaching, making use of technology gives students more autonomy and allows them to discover solutions to problems themselves, both independently and collaboratively. Education now no longer requires students to perceive gaining knowledge as a superior aim to achieve; instead, knowledge is perceived as an instrument of mastering. Thus, educators now should strive to find ways to engage students with their subjects beyond the superficial level, make them active learners who have a strong desire for discovery and knowledge, take the utmost benefit of information and communication technology to master knowledge and acquire skills required for their future careers, and perceive learning as a lifelong activity.

School leaders play an important role in preparing their teachers, students, and the school environment to cope up with this dramatic change. Transformational leadership should help school leaders establish policies and develop strategies that stimulate school personnel and other stakeholders adopt and work towards this non-traditional modern approach to education. Instructional leadership team, through coaching and mentoring, should guide teachers to state of the art teaching methodology. Teachers' training programs and professional development should focus on embedding this new approach to teaching in lesson planning and classroom activities. Simultaneously, school facilities and resources should support this new trend of education; classrooms should be well equipped with internet access

and smart devices that enhance students' independent learning and effective use of technology.

1.2 Statement of the Problem

As the school assistant principal, who has both academic and administrative responsibilities, the researcher is deeply involved in teachers' recruitment process and teachers' training programs. Unfortunately, out of the many interviews the researcher conducts with teacher candidates every year, very few teachers have digested this new teaching paradigm and well apply non-traditional teaching methodology in the classroom.

Through long experience in the field, the research realizes that a highly qualified candidate is not necessarily a highly effective one. Most of the demonstration lessons delivered by candidates show big reliance on teacher's personal abilities as a performer more than as a facilitator. Teacher centered approach that include too much lecturing and lots of ineffective teacher talk time, still dominates candidates' lessons and way of teaching. The researcher's observation is in line with what (Good, 2010) revealed in his report of normative classroom practices from 1968 to 2008. Good (2010) stated that although curriculum standards have been changed to promote students' active participation, and critical thinking and problem solving skills, the normative teaching practices remain teacher centered.

Teachers' education and pre service training and sometimes teacher's personal traits do not fully support this transition of the role of teacher. Lucas & Unwin (2009) indicated that teachers' pre-service training programs are insufficient to provide an adequate set of skills. Learning through practice with others is an essential aspect of the development of expertise in workplaces (Lahiff, 2015). Therefore, teachers' in-service training programs are needed to fill in the gaps from pre-service training and for continuous professional development (KOÇ, 2016). They significantly play an important role in keeping teachers' up to date throughout their profession, and in enhancing student centered teaching approach that focuses more on the learner and learning outcomes.

1.3 Purpose of the Study

 As a member of the school instructional leadership team, the researcher has participated in developing differentiated workshops and training programs based on teachers' level of performance and professional needs to support teachers and improve the quality of pedagogy.

Classroom observations, peer visits, walkthroughs along with regular department meetings played an important role in enhancing student centered approach of teaching and delivering more effective lessons. The individual and group feedback sessions conducted after lesson observations or walkthroughs helped raise teachers' efficacy by providing well focused personalized feedback.

One of these initiatives that were introduced to help teacher acquire essential knowledge and skills to provide more effective productive lessons is "teacher's demo lesson training program". Through classroom observations, teachers' feedback, and school inspection report, the program was found to have a positive impact on pedagogy and lesson effectiveness. The program was introduced by the researcher few months prior to the school inspection.

The main aim of this study is to investigate the impact of teachers' demo lessons on teachers' performance and pedagogy. Throughout the study, the researcher targets to measure the impact of the introduced program on different aspects of lesson effectiveness, and to identify direct and indirect influences of the initiative on teachers' professional development.

1.4 Study Hypothesis

The researcher assumes that the introduced program was one of the main reasons for improving the quality of teaching and learning in the school through which the school improved its performance quality level in the last inspection report. The inspection team makes its judgments about the quality of pedagogy based on performance standards, indicators, and elements that include aspects of effective learner centered approach of teaching (students' active engagement; effective use of technology; students' progress and attainment, for instance). Accordingly, the current study hypothesis is that teachers' demo lessons have positive impact on improving teachers' performance and lesson effectiveness.

1.5 Study Questions

The demo lesson initiative requires all teachers within their own departments (Math department; Science department; etc…) to give a demonstration lesson of a new topic that has not been taught before in class to peers and senior leaders before giving it to students. In other words, each teacher is supposed to teach a new lesson to the teachers of their own department prior to the actual delivery of this lesson to students in class. During the demo lesson, teachers act as real students. The demo lessons are attended by the leadership team of

the school. After the demo lesson, a feedback session takes place in which peers, and instructional and senior leaders give their feedback about the lesson. Prior to the actual delivery of the lesson to students in class, teachers are supposed to make essential amendments to their lesson plans for more effective methodologies and class activities that lead to a high quality lesson, based on the feedback given by peers and instructional leaders. The purpose of this study is to answer the following research question:

(1) Does teachers' demo lessons initiative have a direct positive impact on improving teachers' performance and lesson quality?

The methodology employed for the current research should help achieve the study objectives by answering the following specific questions:

(2) Does the program have the same impact on all the aspects of an effective lesson?

(3) Is the program beneficial for teachers' professional development?

(4) Does the program have any indirect positive impacts?

1.6 Study Rational

The aim of teachers' in-service professional development is to enrich teacher effectiveness and thus improve student outcomes. In some countries, it is obligatory to participate in in-service training for professional development (Yolcu and Kartal, 2017). In Finland, Hungary, Luxembourg, Malta, Portugal, and Romania, for instance, the minimum number of hours for which a teacher should attend in-service training courses is identified (Yolcu and Kartal, 2017). In Holland, Slovenia and United Kingdom (Scotland), joining a minimum level of professional development courses is acknowledged as a condition for staying in the profession (Yolcu and Kartal, 2017).

In the emirate of Abu Dhabi, the performance evaluation process for teachers helps them identify areas that require particular attention and professional development (ADEC, 2017). In line with Abu Dhabi Education Council's education reform strategy, ADEC has launched a program called Empowering Educators "Tamkeen" to provide teachers with appropriate professional development programs that enable them to improve their professional performance to help improve student learning outcomes (ADEC, 2017).

The current study offers an initiative of teacher's in-service professional development program that was implemented in one of the UAE private schools. The program can be very useful for school leaders who seek a practical in service training to improve teachers' efficacy

and lesson quality. The qualitative research of the study provides insight about the strengths and weaknesses in the program implementation. Combining quantitative and qualitative research methods in the study provides rich insight data that supports the credibility of generalizing the study findings to schools in the United Arab Emirates (UAE) or other contexts.

1.7 Study Context

"Education is a fundamental element for the development of a nation and the best investment in its youth." (Vision2021.ae, 2017)

The UAE Vision 2021

In 2014, the UAE National Agenda was launched as an extension to achieve the UAE Vision 2021. Education is one of the most vital sectors of the UAE National Agenda and gets an important focus. Achieving the eight objectives of the UAE National Agenda education sector should lead the UAE to be among the most successful countries in providing world-class education. These objectives target important areas in education related to students, teachers and school leaders (Anon, 2017). The UAE government requires school leaders to work hard towards achieving these objectives by taking actions and adopting strategies that make their schools among the highly performing educational institutions in the world and reach levels of students' achievements that are similar to those in the best educational systems in the world (Anon, 2017).

One of the most important factors that helps UAE achieve a world-class educational system is to have a high-standard reliable evaluation system to measure the quality of schools performances. This comprehensive evaluation system should provide schools with a unified evaluation framework that guides schools' improvement plans and leads school leaders towards achieving their educational goals and improving students' outcomes. This framework also provides unified evaluation language and criteria to be used by all school inspection teams that pay regular inspection visits to schools in the UAE. This should support consistency among the work of different inspection teams, and contribute to the transparency of the evaluation process of all schools in the UAE.

The UAE School Inspection Framework is based on comprehensive performance standards that define the essential aspects of a quality education; each standard is broken down into specific indicators and elements, and detailed descriptors and illustrations guide inspection

judgments and school improvement (Anon, 2017, p.7). Using the UAE unified school inspection framework, school overall performance judgment is concluded according to the following six performance standards: (1) Students' achievement; (2) Students' personal and social development, and their innovation skills; (3) Teaching and assessment; (4) Curriculum; (5) The protection, care, guidance and support of students; (6) Leadership and management (Anon, 2017, P.18). Based on the inspection team final judgment, schools are ranked using the following six-level scale of quality: low performing schools of Band **C** (very weak; weak); average performing schools of Band **B** (acceptable); high performing schools of Band **A** (good; very good; outstanding).

The present study took place in "The Gulf International Private Academy", one of the private schools of AL Ain Educational Region in the Emirate of Abu Dhabi. Al Ain educational private sector offers a wide variety of curricula: American; Bangladeshi; British; Canadian; French; German; Indian; International Baccalaureate; Iranian; Japanese; Ministry Of Education; Pakistani; Philippines; SABIS (ADEC, 2017). The school is one of the private schools that are governed by the American system. The total number of students K-12 in the school is around 1200 (average capacity compared with other private schools in Al Ain). Like many other private schools in Al Ain, the students of the school come from different regions of the world (around 18 different nationalities); however, the high majority of students are Arab locals and residents.

In the last two inspections, the school was ranked as a Band B school. Aiming at improving the school performance, specifically in the main two performance standards (standard 1; standard 3) that are directly related to pedagogy and students' achievement, the school has developed a new observation tool to measure the quality of pedagogy that is taking place in all classes at all grade levels. It is also a good tool to evaluate teachers' performance and guide teachers' training programs and professional development. The unified observation tool provides teachers with clear guidelines about the school expectations of a high-quality lesson; provides middle and senior leaders with unified judgment criteria that ensure consistency in teacher and lesson evaluation process.

This tool is used by all staff at all levels; by teachers for peer observation; by subject leaders for teachers' follow up and support plans; and by senior leaders for staff appraisal and professional development. The observation tool is composed of 13 items that cover different aspects of an effective lesson. These items are based on the UAE school inspection

framework indicators and elements of a high-quality lesson, specifically those related to performance standards 1 and 3. This congruence between the school observation tool and the inspection framework should help teachers and school instructional leaders familiarize themselves with and focus more on important elements of effective pedagogy to meet UAE expectations and requirements of quality education, and, consequently, improve the school overall performance level.

Schools in the Emirate of Abu Dhabi are inspected every two years. In 2015 inspection, the school performance quality was judged as acceptable; thus, the school was ranked as a Band B school. Since the last visit the school has worked hard on improving its performance level making use of the inspection report recommendations for improvement. Focusing on students' achievement (standard 1), and teaching and assessment (standard 3), the school developed its improvement plan, aiming at achieving a high-performance level by the following inspection, and, hence, being ranked as a Band A school. Implementing the school improvement plan, as a part of teachers' professional development and directed training programs, the demo lesson initiative was introduced at the beginning of the academic year 2016-2017 (few months prior to the inspection visit).

The feedback that was given to teachers during the demo lessons by peers and instructional leaders was based on the unified vision of elements of effective lesson, as a result of using the unified observation tool with all teachers at all levels. Teachers used the feedback they got in their demo to make essential amendments to their lesson plans, and, thus, improve the quality of pedagogy. This harmonious steps and strategies have positively impacted the quality of pedagogy and students' achievement. This improvement was clearly reflected in the 2017 inspection report. The school was judged as a high-performing school, and, consequently, ranked as a Band A school. One of the main reasons for this achievement is the significant improvement in the quality of pedagogy, as stated in 2017 inspection report, since the last inspection. The researcher assumes that the demo lesson initiative that was introduced prior to the inspection visit played an important role and had a direct effect on improving the quality of lessons delivered to students. The aim of this research is to empirically study this hypothesis, and investigate the impact of teachers' demo lessons on improving lesson effectiveness and the quality of pedagogy.

1.8 Structure of the dissertation

After explaining something about the background and the rationale for choosing the dissertation topic in the introduction chapter, the literature review in chapter 2 provides an overview of the sources the researcher has explored during the study, and demonstrates where the research exists within the larger field of the study. In chapter 3, the methodology provides the reader with the rationale for the researcher's chosen techniques used to collect and analyze data implemented to understanding the study topic. The methodology chapter of the dissertation also allows the reader to evaluate the validity and reliability of the study. The results and discussion in chapter 4 present and interpret the findings of this study. This chapter also provides insights about the study based on the study findings. The conclusion in chapter 5 summarizes the study key findings, and points to the implementation of these findings. In this chapter, the researcher also refers to some challenges and limitations of the study, and provides recommendations for future research.

Chapter 2: Literature Review

2.1 Out Line of the Chapter

Through the conceptual analysis section of this chapter, the author highlights some important elements and defines key concepts of the training initiative presented in the current study. It is important, then, in the theoretical framework section, to determine what theories and ideas underpin the study introduced program. This section also provides scientific justification for the researcher's investigation. Situating the current study among relevant literature in the last section of this chapter should provide insight about the uniqueness of the introduced program and its link and position to other or similar studies in the field.

2.2 Conceptual Analysis

Because the training initiative presented in the study was a part of the school "teachers' training programs" and professional development, it is important to investigate how the term is conceptualized among literature related to teachers' in service training. By means of conceptualizing instruction leadership through literature, the researcher aims to highlight the vital role played by the instructional leadership team during the introduced program. The discussion section of this study shows how observation feedback played a significant role in the introduced program; therefore, literature about effective feedback is the author's third concept to be discussed in this section.

The dynamic mission of the teacher as being a model and guide, and the leader of development, along with his/her responsibility for building the future of the society and individuals makes teacher's constant versatile improvement mandatory (Yolcu and Kartal, 2017). In service training should provide teachers with required knowledge, skills and attitudes that help them manage their demanding duties and support their role as educators who seek and work towards students' comprehensive development. In-service training of teachers refers to any kind of activities such as short courses, seminars, workshops, certificate/diploma programs and postgraduate programs, which result in professional development of teachers (Koç, 2016). Similarly, Okon and Anderson (1982, p.89) stated that through teachers' meetings, seminars , workshops, training sessions and academic study circles, opportunities can be provided for teachers to keep abreast of new development in their field. Kabadayi (2016) stated that teachers' in service training is one of the most

effective ways of sharing professional experiences and a medium of sustainable education in the society (P.5).

Many definitions that have been given to Instructional Leadership in different studies assert that this type of leadership plays an important role in achieving school goals and meeting academic standards. According to De Bevoise (1984) instructional leadership is school administrators' behavior they exhibit themselves or cause others to exhibit to increase students' success. Similarly, Şişman (2004) perceived instructional leadership as behaviors administrators exhibit themselves or make others exhibit by influencing them. Daresh and Liu (1985) defined instructional leadership as school administrators' behaviors that directly or indirectly affect teaching and learning situations.

In literature, there are different point of views to identify the specific nature of the instructional leadership and its related responsibilities generally, and the instructional management functions of the school principal specifically (TOPRAKÇI, BEYTEKİN & CHIPALA, 2016). Generally, (Brauckmann et al., 2016) considered the following as the basic goals of instructional leadership: improving teachers and teaching profession; promoting effective teachers; and genuinely improving the deep learning that takes place in schools. More specifically, the following five functions presented by (Krug, 1992) demonstrate instructional leadership: defining and communicating a clear mission, goals and objectives; managing curriculum and instruction; supervising teaching; monitoring learner progress; promoting instructional climate. Correspondingly, Harchar and Hyle (1996) included the following in key elements of instructional leadership: establishing vision, developing trust, fostering collaboration, and demanding respect for all the school community.

Information, growth and reflection are common elements in the definition given to feedback in literature (Leiva, Montecinos & Aravena, 2016). Because of the fundamental role feedback plays in learning and improving practice (Hattie & Timperley, 2007; Schartel, 2012), the training initiative presented in this study depends mostly on the quality of the feedback given to teachers by peers, and instructional and senior leaders, as a result of their observation that has been reported by O'Sullivan (2006) to illuminate the quality of the teaching and learning taking place. Quality observation and feedback have been reported in literature to be fundamental elements for improving teacher's practices, knowledge, competencies and

performance (Blase & Blase, 2000; Fink & Resnick, 2001; Neumerski, 2013; Robinson, 2010; Shute, 2008; Southworth, 2002).

2.3 Theoretical Framework

Sachs (2007) proposed that approaches to teachers' continuous professional development can be described as retooling; remodeling, and revitalizing. Based on a practical view of teaching, immediate application within classrooms is a main objective of the retooling approach to teachers' professional development. This approach is congruent with Kennedy's (2005) transmission model, where teachers adapt existing classroom practices to ensure they are compatible with the national agenda. Kennedy (2005) presented nine models of teachers' continuous professional development. These models are categorized into three categories: transmission; transitional; and transformative. Kennedy's categorization and organization of models '*suggests increasing capacity for teacher autonomy as one moves from transmission, through transitional to transformative categories*' (Kennedy, 2005, p.248).

As teachers are seen as performers, 'remodeling' professional development mainly supports a practical approach to teaching, without changing teachers' beliefs or conventions. This approach represents Kennedy's (2005) transitional model. Both 'retooling' and 'remodeling' approach teacher as uncritical consumer of knowledge, and are concerned with improving specific skills in order to attain immediate change in classroom practices (Mansour et al., 2014)

Unlike the first two approaches, the main focus of 'revitalizing' approach to teachers' professional development is teachers' learning. Through connecting teachers with each other and with the needs of students, this approach helps teachers rethink their own practices and become reflective practitioners (Mansour et al., 2014). This approach represents Kennedy's (2005) transformative model.

The current study presents a model of teachers' in-service professional development that holds the characteristics of the three approaches discussed above. While the main objective of the presented training initiative is to develop teachers' competencies and bring about improvement in classroom practices and lesson effectiveness, the learning community and meaningful interaction the program provides allow teachers to be critical participants and reconsider their own performances as well as the practices of others.

Although there are many models representing cognitive approach to teachers' learning, they all share a common view of individual teachers gain skills, knowledge and understandings in one setting, and then use these acquired skills, and knowledge in other settings (Kelly, 2006). This problematic concept of transfer of knowledge has been reviewed by a considerable body of research (Kelly, 2006), arguing that knowledge acquired in one setting is rarely used by learners elsewhere. Additionally, this cognitive approach ignores teachers' own perspectives as well as the wider social context where they work (Woods and Jeffrey, 2002).

The training program presented in the current study adopts a more socio-cultural approach to teacher learning, where teachers have an active and dynamic relationship with their knowledge-in and knowledge-of-practice (Schön, 1983, 1987). Through introducing teachers to both theoretical and practical methodological approaches, and by providing teachers with opportunities for reflecting on their own knowledge and sharing their own experiences (Verloop, Van Driel & Meijer, 2001), the introduced training model supports this socio-cultural view that involves the development of teacher identities as well as engaging teachers in the process of knowing-in-practice to ensure their full participation in classroom activity (Kelly, 2006).

Age theorists (example, Sheehy, 1976; Levinson, Darrow & Klien, 1979) stated periods of adult life that are related to their age and focused on issues and problems that affect adult learning each age period. They reported that as people age, they become more reflective of their careers and can take more cognizant decisions about their futures (Trotter, 2006). Thus, Professional development programs should value the practical knowledge of teachers and include teachers' reflections (Trotter, 2006). This feature is one of the main characteristics that distinguish the model of the professional development introduced in the current study.

Stage theorists were less concerned with age or growing older; they were more concerned with the ability of growing wiser (Trotter, 2006). Jean Piaget's (1972) theories of cognitive development, Hunt's (1975) conceptual development, Loevinger's (1976) ego development, and moral judgment of Kohlberg (1981) all assume a sequence of hierarchical stages for human cognitive development. Teachers at higher, more complex stages of development seem to be more effective in classrooms, with a wider range of learning styles, and more effective in interpersonal interactions than their peers at lower stages (Oja, 1990).

Through understanding these various stages of development, teacher's professional development should provide appropriate activities that help teachers move to a higher stage of development, increase their stage growth, and broaden their techniques and methods to meet the demands of both students and standards (Trotter, 2006). Using assumptions from cognitive development theories, the training initiative introduced in the current study comprises the following focal points, which Oja (1980) considered essential for teacher's development to occur: occur: (1) opportunities for practical application of new learning, followed by reflection on those experiences; (2) chances to try out more complex roles, with emphasis on learning to take the perspective of others; (3) on-site supervision consulting among teachers and staff; and (4) a supportive environment to deal with the times of cognitive conflict in the acquisition of new learning (Oja, 1980).

2.4 Reviewing Related Literature

Teacher's training should increase teacher's ability to deal with students' individual differences and enhance his/her role as a leader rather than a technician (Yolcu and Kartal, 2017) who just focuses on preparing students for exams, whose performance is evaluated solely according to the number of correct questions solved by students, and who does not have any input in curriculum planning or participate in any decision making process. For that reason, ADEC (Abu Dhabi Education Council) sponsors training programs to help teachers through professional development meet the following expectation: "*As a teacher, you play a crucial role in the overall development of our society: equipping and empowering our youth with the skills and knowledge they will use throughout their lives*" (ADEC, 2017).

Because of this dynamic nature of teaching profession, it is basis that teacher training itself be a dynamic process (Alkis-Küçükaydin, and Sagir, 2016). Teachers' demo lesson program presented in this study offers a lively interactive example of in service training that do not depend barely on one way information transfer. The initiative provides classroom environment where teachers practically examine their own competencies, and not only talk about but also show and share their own experiences. This advantage the program gives to teachers is correspondent with what (Kabadayi, 2016) stated that in-service training is one of the most effective ways of sharing professional experiences. The initiative also allows teachers to get instant feedback about their performance. Through cooperation and sharing ideas, the program helps teachers meet their own specific needs, an important element of an effective in-service training application (Alkis-Küçükaydin, and Sagir, 2016).

By improving teachers' performance level and increasing teachers' capability to deliver more effective lessons through the practical personalized training opportunity offered in teachers' demo lessons, the school aims at increasing its potential in providing quality pedagogy and therefore improves its overall performance level. In congruence with what (Omar, 2014) stated that the main purpose of in service training is to increase the knowledge and skills of employees and thus increase the potential of the school to attain its goals and objectives; and as a part of teachers' professional development routine plan to stimulate curiosity, functional intelligence, interpersonal skills and self-confidence (Sacco and Marvin, 1976), the school introduced the demo lesson initiative to genuinely provide individual teachers with required knowledge and skills that raise their efficacy in meeting students' learning objectives and achieving school's educational goals.

Perceiving education as a lifelong process, successful teachers should continue to learn all through their life. According to (Kabadayi, 2016), no one should decide to be a teacher unless he/she has a strong desire to learn and is determined to be a student throughout his/her career. Urging teachers to learn is one of the main aims of the in-service training program introduced in the current study. In order to meet the school and ADEC expectations of effective teaching, teachers should always be updated with teaching methodologies and strategies that result in high standard pedagogy. Giving the teachers the opportunity to plan for a highly effective lesson; practice delivering the lesson in front of peers and instructional leaders; make use of the knowledge coming from the feedback in order to make essential amendments to the lesson plan; and try more effective methods and strategies that help raise teachers' efficacy is a true learning experience to all teachers who give demo lessons through the program. Additionally, increasing the capacity to efficiently observe a lesson, and give effective feedback that matches teacher's specific needs and abilities and help improve pedagogy is another learning opportunity the program offers to all participants.

As per (Dyer et al., 2004) recommendation that it is much more effective to support teachers in doing what they already do in a better way than to change to a completely different concept of education, the demo lesson initiative introduced in this study help teachers improve their own performances by giving them the chance to do what they are capable of and comfortable with in a more effective productive way. (Dyer et al., 2004) also indicate that good quality programs are practical and focus on methods that are understandable by the teachers and can be used in their own classrooms. Thus, teachers' demo lessons initiative

allows teachers to practically examine the effectiveness of their employed methodologies and strategies, and benefit from peers and leaders' applicable feedback for a better performance in the delivery of the same lesson to students in the classroom.

The distributed instructional leadership model represented in the training program introduced in this study displays what Neuman and Simmons (2001, p. 9) proposed that in order for learning to become the job and main focus for every member of the entire education community, leadership should be distributed. The training program introduced in this study was initiated by the researcher, as one of the school senior leaders; and attended, followed up, and supervised by other senior and middle leaders, in addition to the school principal. This introduced model agrees with what Lambert (2002, p.40) indicated that when instructional leadership is everyone's work, it is a mistake to look to the principal alone for instructional leadership. The introduced program also typifies the school instructional leadership essential role to bring about instructional improvement as defined by Glickman et al. (2001): "*helping teachers acquire teaching strategies consistent with their general teaching styles that increase the capabilities of students to make wise decisions in varying contexts*" (Glickman et al., 2001, p.105).

The focal point of teachers' demonstration lessons is to give teachers the opportunity to make use of the given comments and feedback to make essential amendments to the lesson prior to its actual delivery to students in class. Buskist's (2002) survey to teachers who won teaching awards for effective teaching showed that "many awardees believed that observations of others' effective teaching methods and feedback on their own teaching were key to their becoming effective teachers" (Buskist, 2002, p.188). This reliance on feedback as an effective tool for improvement is also asserted by Lia's (2016) claim that "*When teachers are observed and given meaningful, constructive feedback on their teaching, they have the knowledge to know what adjustments to make to change*" (Lia, 2016, P.311).

Teachers' responses to feedback are related to their perceptions of four characteristics: the usefulness of the feedback, the accuracy of the feedback, the credibility of their evaluator, and their access to resources (Cherasaro et al., 2016). In responding to feedback (Cherasaro et al., 2016) study analysis suggests that teachers' perceptions of the usefulness of the feedback and the credibility of their evaluator could be more important than their perceptions of the accuracy of the feedback and their access to resources. This assertion of the credibility of the observer and the quality of the feedback is reported in other studies (Zimmerman & Deckert-

Pelton, 2003) where teachers state that their daily interaction with principals, together with the nature of feedback, helps make classroom observation useful for improving their performance.

These four characteristics are existed in the type of the feedback given to teachers in the training initiative presented in the current study. The existence of senior leaders and/or the school principal as active participants in the feedback sessions following the demo lessons supports the credibility and accuracy of the feedback given to teachers. The disciplinary and pedagogical knowledge the principal provides, when he/she is the source of the feedback, is essential in supporting teachers' professional development (Robinson, 2010; Tuytens and Devos, 2011). Instead of initially trying them with students in the class, the introduced training program allows the teacher to practically evaluate the effectiveness of the methods and resources employed for the lesson, through the received feedback; this, enhances the utility and practicality of such feedback.

(Sadler, 1989) argued that in order to select an appropriate effective type of feedback, it is important for the school principal to decide where the teacher is now and where he/she wants him/her to move; in other words, defining the difference between real performance and the expected one. Determining this gap between teachers' starting points and the target level of performance is essential to decide the type of feedback given to them. Thus, the feedback provided during the demo lesson program was based on well-identified items of evaluation and clear expectations. All teachers use the same criteria to deciding the more effective type of pedagogy to be used in the classroom. This established a more transparent criterion-based (Simmonds, 2003) type of feedback.

The presence of subject leaders (Head of Departments) as well as senior leaders and/or the school principal, during the demo lessons, ensures the appropriateness of the feedback given to teachers, according to each teacher's performance level. Peers' active participation offers rich feedback underpinned with different experiences. This participation helps engage both the observed teacher and peers into a meaningful 'dialogue', which is very important to the feedback practice (Bloxham & Campbell, 2010). As demonstrated in the current study results, through providing 'actionable information' (Schartel, 2012, p.79), the practicality of the type of the feedback given to teachers during the program helped teachers improve their performance in all aspects of delivering an effective lesson. The study findings suggest how a

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balanced well-focused feedback, based on teachers' different competencies and on clear objectives, can improve teachers' capacities and performance level.

2.5 Situating the Current Study

In order for the school principal and leaders to function their instructional responsibilities aiming at making a difference in the school academic standards, they should be knowledgeable about educational practices and theories that help teachers get over their daily challenges for a better implementation of the curriculum. Since teaching is a non-static ever-changing process, being updated with the latest teaching methodologies and ways of integrating modern technology in curriculum should help school principals and instructional leaders be in a better position when giving teachers academic advice about how to employ a more effective state of the art teaching styles and strategies that are relevant to the 21st century.

The training initiative presented in this study practically reflects the functions, elements and requisites of instructional leadership stated above. Aiming at improving the school overall performance and academic level the school leadership team has employed a number of strategies for teachers' academic follow up, guidance, and professional development; one of which is the demo lesson initiative. Through the program the principal's and leadership team role as academic advisors and instructional mentors was noticeable in the endless support given to teachers prior to and during the demo lessons. The training program helped the instructional leadership team stimulate teachers' competences; promote teachers' collaboration; enhance teachers' effective communication; work on a clear mission, namely, improving the quality of pedagogy; and target a well-defined goal, that is, raising the school academic performance level to meet the high-quality performance standard.

The findings of the current study suggest that the introduced training initiative was an effective tool for improving pedagogy and for teachers' professional development. The training program introduced in this study has the same elements of an effective in service training program, which were stated by teachers in the study (Kabadayi, 2016) conducted to suggest an effective in service training model based on teachers' needs. In Kabadayi's (2016) study, teachers' participants specified the following elements to be very important for effective in-service training courses, and to meet their needs at the highest level: teachers share teaching experiences with the teachers from various provinces (in the current study,

teachers share teaching experiences with teachers of different grade levels); at the end of the in-service training course, teachers are equipped with mostly practicing knowledge; the in-service training is carried out with the interaction and co-operation of trainers and trainee (Kabadayi, 2016). The current study results are also consistent with the general agreement among researchers that in-service training and workshops are all significantly related to improved teacher instructional techniques, and the overall academic performance of students (Essien, Akpan, and Obot, 2016).

In conclusion, the current study presents a training initiative that involves teachers in both teaching and learning, and, thus, helps them rethink their practice (Darling-Hammond and McLaughlin, 1999). The type of professional development presented in this study offers teachers '*a learning process resulting from meaningful interaction with the context*' (Kelchtermans, 2004, p.220). The empirical research findings presented in the following chapters of this study suggest that this type of interaction the program provides leads to change in teachers' performances as well as in teachers' thinking about their professional practice.

Chapter 3: Methodology

3.1 Outline of the Chapter

In this chapter the author will provide: (1) a presentation of the research methodology of this study; (2) a rationale for the choice of methodology for data gathering and data analysis (3) a clear description of the equipment and the techniques used for gathering the data; (4) an account of the procedure used in designing the research instruments; (5) an explanation of how the data was gathered and analyzed; (6) a description of the sample selection, (7) an explanation of the statistical procedures used to analyze the data.

3.2 Study Approach

For the purpose of the study, the researcher decided to use a mixed method approach. Mixing quantitative and qualitative research tools allows the researcher to maintain the strengths and amend the weaknesses in both designs (Caruth, 2013). Out of the seven purposes for mixed method research presented by (Venkatesh, Brown, and Bala, 2013), the researcher has determined that six are essential to provide a more robust approach to his study. (1) Complementarity – on the one hand, it is important to obtain teacher's point of view about their experience in the demo lesson training initiative, on the other hand it is crucial for the study to collect get students' feedback about the quality of the lessons delivered to them as a result of the teachers' training program. (2) Completeness – by designing research instruments that allow the inclusion of different stakeholders that are involved in the training initiative (students; teachers; senior leaders) in the study research, the researcher can ensure the attainment of total representation of experiences.

(3) Expansion – combining in depth qualitative research tool to quantitative research method helps to clarify or elaborate on the data collected from students' questionnaire used for the purpose of the current study. (4) Corroboration – using two different research methods in the current study helped the researcher evaluate the trustworthiness of the data collected from both methods. (5) Compensation – using a quantitative research method, allowed the researcher to involve as many participants as he could to support the data collected from the questionnaire used in the study, and hence, give more reliability to the findings of this quantitative method and can increase the capability to generalize its results ; however, relying

on a quantitative method solely will not provide in depth knowledge about the strengths and weaknesses of the training program initiative investigated in the study.

Adding a qualitative research method helps the researcher investigate the research subject from various aspects, gives him the opportunity to view the study subject from different perspectives, and adds insight and understanding that might be missed if only a single quantitative research design is used. Thus, employing two different research methods in the current study helped to counter the weaknesses of both. (6) Diversity – aiming to collect rich quantified data for the research by obtaining diverse viewpoints of the same experience, students' questionnaire was designed and administered for the quantitative part of the study, whilst teachers' in-depth interviews were prepared and conducted to represent the qualitative part of it.

The two research methods used in the present study were convergent parallel. The researcher simultaneously collected quantitative and qualitative data. However, due to the specific nature of the quantitative method used in the study as explained in detail in the data collection section of this paper, its data was collected over a longer period time than that of the qualitative part of the study. Additionally, the quantitative research method of this study was represented by students' questionnaire to evaluate the quality of the lesson delivered to students as a result of the training program initiative investigated in the study; thus, the quantified data collected from students' questionnaire is of great importance as it reflects the impact of the training program on pedagogy and lesson delivery and its results has more weight and gets more emphasis than that of the qualitative part of the study which was designated to take the teachers' and senior leaders feedback on the training initiative in order to obtain more insight interpretation to the data and numbers collected from the quantitative research.

3.3 Quantitative Research Instrument

In order to evaluate the quality of teachers' demo lesson initiative, a tool is needed to evaluate the quality of the lesson delivered by a specific teacher before giving the demo lesson or before exposing to the experience of delivering demo lesson to peers and senior leaders, and the quality of the same teacher's lesson after the training initiative and after making use of the feedback given to him/ her by peers and instruction leaders. The researcher has determined that a questionnaire about teaching effectiveness is to be given to students to

evaluate the quality of the lesson delivered to them by the same teacher before and after the training program. In literature, there are thousands of studies that date back to the 1920s and earlier on students' evaluations of teaching effectiveness SETE (March, 1987). These studies provide various examples of well-constructed SETE instruments with well-defined factor structures that offer measures of different evaluation scales (Marsh and Bailey, 1993).

 Based on his review, Marsh argued that SETEs are probably "the most thoroughly studied of all forms of personnel evaluation, and one of the best in terms of being supported by empirical research" empirical research" [Marsh, 1987, p. 369]. The researcher has found that some characteristics of SETEs stated by Marsh (1982, 1984) are essential to provide his study with robust quantitative data. For the trustworthiness of the study quantitative instrument, Marsh concluded that SETEs are reliable and stable. In congruence with the main aim of this research to study the impact of a training initiative on improving teacher's performance and the quality of lesson delivery, Marsh suggested that SETE is mostly a function of the instructor who teaches a course rather than of the course that is taught. Seeking appropriate valid items for the present study research instrument, Marsh stated that SETE is relatively valid against a variety of indicators of effective teaching. Aiming at taking the utmost benefit of the data collected with the study quantitative instrument, an adapted form of SETE was suitable for its utility, as indicated by Marsh, to be used by teachers as feedback about their teaching, by administrators for guiding in personnel decisions, and by researchers. Accordingly, using an adapted version of SETE as the quantitative research tool of this study was the researcher's apt choice.

Out of several examples of SETE instruments, The Students' Evaluation of Educational Quality (SEEQ) instrument appears to measure the most broadly representative set of scales and to have the strongest factor analytic support of these instruments (Marsh and Bailey, 1993, p.2). The results of March and Bailey (1993) investigation revealed that SEEQ measures a broadly representative set of evaluation factors and supported the generalizability of the SEEQ factor structure (Marsh and Bailey, 1993). Developing a quantitative instrument for this study, the researcher has adapted Marsh's SEEQ to design the ten-item students' questionnaire. Skipping two of SEEQ factors that are irrelevant to the focus of the present study, the ten items of the students' questionnaire were selected from the following seven SEEQ factors: Learning; Enthusiasm; Organization; Group Interaction; Individual Rapport; Examination (Assessment); and Overall. The language of the ten items of the students'

questionnaire is slightly graded and adapted to fit the level of participants (grades 6 & 7 students). Each item of the students' questionnaire is evaluated on a four-level scale: Weak; Acceptable; Good; Very Good. Trying to provide more feasibility in administrating the students' questionnaire, match the cognition level of participants for whom the questionnaire is designated, ensure a more focused students' responses, the students' questionnaire is limited to the following ten items:

1. You have learnt and understood the subject material of this lesson.
2. Teacher's style of presentation held your interest during class.
3. Teacher's explanations and instructions were clear.
4. Lesson materials and activities were well prepared.
5. Lesson objectives were all achieved.
6. Students were encouraged to ask questions and participate in class discussions.
7. Students were invited to share their ideas and knowledge together.
8. Teacher showed a keen interest in my needs.
9. Methods of assessing student's work were reasonable and appropriate
10. The overall evaluation of this lesson is.

3.4 Pilot Study

Before giving the questionnaire to the selected classes (students' sample), the questionnaire was piloted with different classes of the target group. A total number of 102 questionnaires were administered in three middle school classes (2 girls & 1 boys), and two high school classes (1 boys &1 girls). The questionnaires were completed in the presence of the researcher and administered with the same way (discussed below in detail) used with the study questionnaires. This pilot study gave the researcher the opportunity to calculate the time taken to administer the questionnaire in each class. Because the questionnaires were administered during the school day, this therefore, was very useful when conducting the same procedures with the study selected classes. It also tested the appropriateness of the language used in the questionnaire to the target group level, and the order of the questionnaire items.

3.5 Qualitative Research Instrument

To design the interview tool, the researcher has reviewed the literature about teachers' training programs where researchers used similar tools to get participants' feedback about the programs. Using (Geeraerts et al., 2014; Onchwari and Keengwe, 2008; Slater and Simmons,

2001; Snydman et al., 2013; Wingrove et al., 2015) as references to designing his qualitative research instrument, the researcher has developed the following nine questions to be asked to teachers' participants of the study:

1. In what ways have you found the demo lesson initiative helpful in supporting and enhancing your teaching?
2. What are some of the aspects of the training program that you have implemented in your teaching and classrooms?
3. What level of support have you received from the leadership team in the program?
4. What kind of support have you received from peers during the program?
5. How far has the program given you self-confidence in your teaching?
6. How has the program helped you think about more effective methods of teaching?
7. In what ways has the program improved your collaboration skills?
8. Do you recommend "Teachers' Demo Lessons Initiative" to be a routine practice all through the year? How often?
9. What supports might be needed for this to happen?

Open-ended interviews were conducted with a sample of the middle instructional leaders (in our case, the subject leaders) who were participating in the program. The leadership interviews were designed to capture and reflect contextual complexities and the uniqueness of the training initiative. The following two open-ended questions were asked to the three core subjects (Math, English, and Science) heads during the one-one-one interview held with each:

1. How beneficial was the initiative for the school, for individual teachers and for you as a leader?
2. How can the school improve or develop the program to be more beneficial?

3.6 Site and Sample

The total student population of the school where the study was conducted is 1,161 with age range of 4-18 years. The breakdown of the total number of students is as follows: 223 KG students; 527 Primary school students; 272 Middle school students; 139 High school students. Because of the adopted research method of this study that requires students' active participation, and the employed research instrument that is designed to evaluate lesson effectiveness, the study targets the students of the middle and high school, with age range of 11-18, aiming at raising the quality of students' responses, and hence giving more reliability

to the questionnaire results. Additionally, administering a large number of questionnaires might be easier with upper grades students than with lower grades students.

Eight middle school classes, specifically grades 6 & 7, were stratified selected for the study. The school where the study took place has complete segregation policy between boys and girls students. The eight classes represent boys and girls classes. The students' sample is composed of 87 boys and 52 girls with total number of 139 participants. Thus, the study student sample represents approximately 51% of the middle school students, 33.8% of the target student population, and 12% of the whole school population. The 87 boys represent 5 classes and the 52 girls represent 3 classes.

This discrepancy between the number of selected boys and girls classes is for the feasibility of the empirical research. The study research requires each class to be visited and surveyed twice. As a male researcher, due to the segregation policy the school adopts, it is easier to carry out empirical research and administer students' questionnaires in boys' classes than classes of the girls section.

The school teacher population is around 80 teachers, from Kindergarten to grade 12. Only 40 teachers participated in the demo lesson program. Eight core subjects (English, Math, Science) teachers were stratified selected among the teachers who teach the eight sample classes of the study. Thus, the teacher sample represents 10% of the total teacher population and 20% of the target teacher population. Only core subjects' teachers were selected for the specific nature of the study. These subjects are all required; are all taught in English; are attended by the entire students of the class; and are taught more frequently than other subjects.

3.7 Data Collection

The students of each class were given the questionnaire about teaching effectiveness to evaluate the quality of the lesson at the end of the lesson. Each class was given the questionnaire to evaluate the quality of the lesson of specific teacher twice; once prior to the demo lesson training initiative and another after the demo lesson. In other words, class x was given the questionnaire to evaluate the effectiveness of the lesson given by teacher y before this teacher demonstrates another lesson to peers and senior leaders, as per the training program schedule. Then after teacher Y gives the demonstration lesson to peer teachers and

senior leaders and gets the feedback and makes needed amendments to the lesson, he/she gives the demonstrated lesson to the students.

Class X is given the questionnaire to evaluate the effectiveness of the lesson delivered by teacher Y for the second time. So each class evaluates the quality of the lesson given by the selected teachers twice, before and after the teachers give the demo lessons to peer teachers and senior leaders. The researcher then collected two questionnaires from each class about the same teacher; pre demo lesson questionnaire and post demo lesson questionnaire. The most important thing is that the same group evaluates the quality of the lesson given by the same teacher twice; prior and post the training program. So each class acted as the control group when they were given the questionnaire for the first time, and as the test group when they were given the questionnaire for the second time.

The demo lesson initiative included all grades 4- 12 teachers in all subjects. Around 40 teachers of different teaching grades and subjects were requested to give a demo lesson of a new lesson to peers and senior leaders prior its actual delivery to students in the classroom. Among the 40 teacher participants, eight teachers were stratified selected for a one on one interview with the researcher. The sample interviewed teachers represented different subjects and different teaching grade levels. A one on one interview was conducted with each teacher. The interviews lasted between 20 to 30 minutes and the teachers answered the ten interview questions asked by the researcher.

3.8 Triangulation

To verify the students' questionnaire findings, a qualitative instrument represented by teachers' interviews were used in the study. Semi-structured one-on-one interviews were held with the selected sample of teachers participating in the program. The interviews were conducted after the delivery of the demonstrated lesson in the class to students. The one-on-one semi structured interview method was chosen to support the research aim and elicit a depth of data to capture participants' perspectives about the program.

The face-to-face interviews are appropriate to this study where depth of meaning is important. Additionally, because the sample size for this qualitative part of the study is relatively small (only eight teachers), this method is more likely to provide a very flexible technique and more useful data for small scale research (Drever, 1995). This flexible

technique provided the opportunity to generate rich data; the language used by participants was considered essential in gaining insight into their perceptions.

3.9 Role of the Researcher

Prior to each interview, the researcher prepared the interview questions on a sheet where he keeps space after each questions for notes taking. During the interviews, the researcher was listening carefully and fully attending to the interviewee. In order to give full attention to the interviewee and allow for a more interactive interview, the researcher used his secretary to write down the transcript of the interviewee's answer to each question in the given space on the interview questions sheet. At the end of the interview, the researcher read the transcript of the interviewee's responds to each question and got the teacher's signature on the interview questions/answers sheet.

3.10 Ethical Consideration

Teachers' participants were informed that Participation in this study was voluntary and that they had the option to withdraw at any time if they no longer wanted to participate. The researcher guaranteed the participants that they would remain anonymous. All participants were informed with the purpose of the study and handed a copy of the interview questions prior to the interview. The interviewees' answers script was written down during the interview, and teachers signed at the bottom of the script sheet after reviewing their reply to each interview item. The selected teachers were asked to set the date and time of his/her interview, then the interview schedule was set by the researcher accordingly. The researcher conducted interviews with individual teachers in his office and ensured teachers' comfort during the interview. The warm interaction between the interviewer and interviewees help build rapport and stimulate curiosity throughout the interviews.

3.11 Innovative way of data collection

At the end of each lesson, as one way of plenary, teachers at GIPA give students 3- 5 questions about the lesson. The aim of this practice is to make sure that lesson objectives have been met and individual differentiated outcomes have been achieved by all students. In order to do this in a short time, "Plickers" was introduced to teachers to be used as an effective way of formative assessment that gives teachers clear data about students'

attainment and guides them to more effective planning for the coming lessons based on students' end/starting points.

"Plickers" is one of those applications where questions can be generated and tests can be sent with grades and averages are automatically calculated and immediately displayed if required. The beautiful thing about "Plickers" is that it gives the teacher the opportunity to motivate a learning conversation with individual students in real time while learning is taking place. Due to the fact that many students are reserved and do not like to identify themselves or are shy about what they have learnt and how well they are doing, "Plickers" keeps students answers and responds anonymous to public display; teacher is the only one who can identify the answers of individual students.

With "Plickers" each student gets a card which is assigned to them; the teacher at the end of instruction or at various points in the lesson shows students the assigned generated multiple choice questions and asks them to determine the right answer from the four options A, B, C, or D. Responding to each question, each student turns the card to the appropriate position and holds it up. Then using teacher's mobile device with "Plickers" application, he/she enables the camera and scan the room. In few seconds, the application reads each of the cards, identifies the answer the students has selected and returns an overall graph of the results. Furthermore it privately links the answer back to each individual student for the teacher to view; other students cannot identity other responses but the teacher can via the application.

The researcher used this smart application for data collection. The students' survey questions were installed into "Plickers" application and given to students in classrooms. "Plickers" application was chosen by the researcher in students' questionnaire for more than one reason. First, the selected classes and sample students are already familiar with the application and they are already using it almost daily in their classes by all teachers; data collection, thus, will not take much time, especially, that students were surveyed in their classrooms during instruction time. Second, the application generates automatic graphs of students' responses that help the researcher in collecting data result and making analysis. Third, this way of data collection allowed the researcher to interact directly with the study sample clarifying the aim of the study, eliminating any ambiguity in survey questions, and asserting the importance of honesty in students' responses aiming at collecting more realistic and reliable data out of this quantitative tool.

Finally, and the most importantly, this smart way of data collection was an innovative solution to one of the biggest problems of quantitative research tools. Data collection in quantitative research methods is a time consuming, especially with the high demand of increasing the number of the sample population to develop general laws which can be generalized to the larger population. Relying solely on the participants to complete the questionnaire and submit it could reduce the number of responses the researcher may receive and, thus, inhibit the possibilities of generalization. Respondents, especially younger students, might start to fill in the questionnaire and then give up if they find it hard work to complete. By using "Plickers", the researcher ensured to receive questionnaire responses from all target population of the study. In the current study, 266 questionnaires were administered and the same number of responses was collected.

As mentioned above, eight grades 6 & 7 classes with total number of 139 students were selected for the study. Each class was visited at the end of a lesson of one of the eight selected teachers of study. The students of each class were required to evaluate the effectiveness of the lesson that has been delivered directly at the end of the lesson. The researcher gave the students "Plickers" cards and asked them to give a score for each of the ten item of the questionnaire. On displaying each item, the students raise their cards to give an evaluation score. Via his mobile camera, the researcher scans students' cards shapes; and in less than 20 seconds, the application generates a chart of the average score for each item (see figure 1).

Each item is evaluated on a four-level scale: A (Very Good), B (Good), C (Acceptable), D (Weak). On completing the evaluation of the ten items, the application generates an overall report of students' response with charts representing the average of each item. Using this smart way in data collection and administering students' questionnaires, had allowed to take the utmost benefit of the survey and ensured the submission of the maximum number of responses to this important quantitative part of the research.
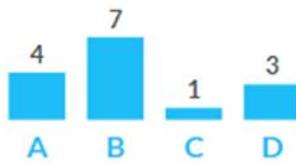
Figure 1
"Plickers" score chart for each questionnaire item

The "Demo Lesson Initiative" requires teachers to demonstrate a new lesson to peers and senior leader before its actual delivery to students in the classroom. Teachers are supposed to use the feedback given by peers and instruction leaders to make essential amendments to their lesson plans, material, activities, and methodology for a more effective delivery of the lesson. On the day of the demonstrated lesson actual delivery in the classroom, the selected teachers' lessons effectiveness are evaluated by students using the same ten-item students' questionnaire.

 Each class was surveyed directly after the delivery of the demonstrated lesson using the same tool and the same way of data collection. Students of each class were required to evaluate the effectiveness of the lesson delivered by the same teacher they evaluated the first time. In other words, the students of each class had completed two surveys for the same teacher. In the first survey, they evaluated the effectiveness of any lesson delivered by the teacher; in the second survey, they evaluated the effectiveness of the demonstrated lesson delivered by the same teacher. Thus, for each class, we have two questionnaires for the same teacher; the pre-demo lesson questionnaire and the post-demo lesson questionnaire (see figure 2).
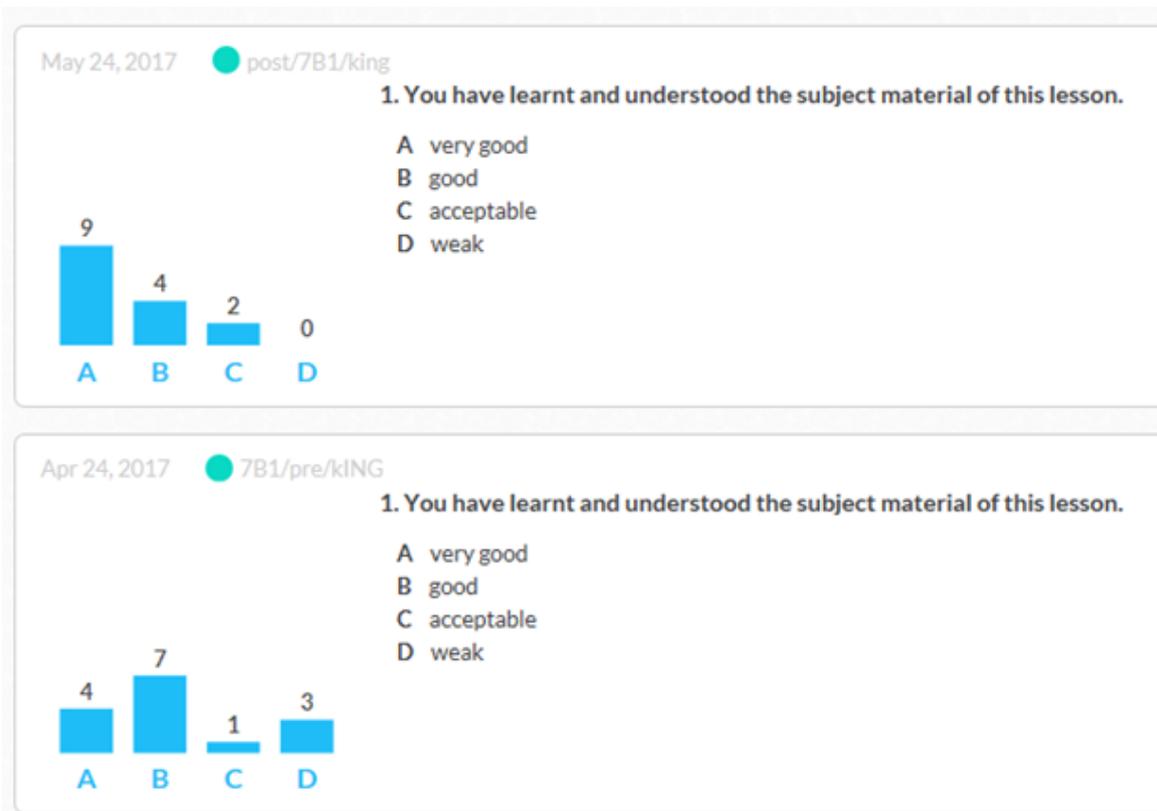
Figure 2
"Plickers" score chart of the same item in the pre and post demo lesson questionnaires of one class for the same teacher

3.12 Reliability & Trustworthiness

Before presenting the research results and discussing the study findings in the following chapter, it is important to highlight some of the strategies adopted in the current study to promote the trustworthiness of its data:

The researcher used Triangulation aiming at providing a stronger research design, and more valid and reliable findings. Using quantitative research attempted to control bias so that the obtained results could be understood in an objective way, whereas, Qualitative approach was employed to understand the perspective of participants to provide in depth meaningful data. Triangulation, hence, provided a balance between logic and stories.

Conducting a pilot survey prior to the actual, extensive one brought about many benefits for the researcher. One of these advantages is that it helped him test the appropriateness of questions to the target student population. Because the study survey targeted young population, it was very important for the researcher to check the accuracy of the instructions

and whether all participants would be able to follow the directions as designated. The pilot questionnaire also helped the researcher insure that the type of survey was effective in accomplishing the purpose of the study.

To control bias responses and eliminate ambiguity, the actual questionnaire was conducted in the presence of the researcher in all classes. As the school assistant principal, who has strong rapport with students, his presence ensured the seriousness of the whole process. Using "Plickers" application for data collection assured the students that their answers would stay anonymous.

Using innovative way for data collection maximized the number of responses to the distributed/administered questionnaires (100%). This, subsequently, gave more credibility to the collected data.

Aiming at obtaining more reliable data, the second questionnaire (post demo lesson questionnaire) was conducted on the same day of the actual delivery of the lesson. By doing this, the researcher increased the probability of collecting genuine fresh data from respondents. Additionally, in both questionnaires (pre & post demo lesson), the researcher avoided giving students the survey directly before or after breaks and PE lessons to provide convenient circumstances for administering the questionnaires and prevent anticipated rush or disturbances throughout the process.

The researcher interactive role during teachers' interviews helped build rapport with interviewees and enrich the conversations. It also aroused curiosity and provided more insight about the investigated program of the study. Giving full attention to the interviewees gave the researcher the opportunity to recognize and consider the non-verbal cues. In order to accomplish this, the researcher employed his secretary to write down the script of the interviews responses and he acted only as a facilitator.

In order to verify the interviews data, the researcher requested the interviewees to read the script of their responses and got them sign the interview question/answer sheet.

Chapter 4: Results and Discussion

4.1 Data Analysis

For each teacher, we have two records of two different questionnaires evaluating the effectiveness of two different lessons delivered by him/her. One of these questionnaires evaluates teachers' performance after taking the advantage of demonstrating the lesson to peers and instructional leaders prior to its actual delivery to students in the classroom. The data resulting from comparing the same teacher's records in the two questionnaires can be an indicator of the impact of the demo lesson training initiative on pedagogy. To be able to make this comparison, the questionnaire data should be transferred into numbers. The researcher, therefore, has given a number to each level of the scale evaluating each questionnaire item: A(Very Good) = 4; B(Good) = 3; C(Acceptable) = 2; D(Weak) = 1. This was done to the scores of each one of the eight teachers in the pre and post demo lesson questionnaires results. The scores of the eight teachers in each of the ten items are then added together. In order to make the comparison, this was done to the pre and post demo lesson questionnaires results.

Item	Teachers								Total
	Ed B	Ed G	Hadeel	Youm	King	Jaber	Rafat	Reem	
1	50	43	57	34	42	55	46	65	392
2	44	34	43	31	38	54	42	61	347
3	54	42	51	37	47	52	38	54	375
4	56	36	46	24	46	53	43	67	371
5	55	46	61	28	50	51	42	44	377
6	49	36	65	29	43	57	38	57	374
7	43	37	59	24	35	54	47	39	338
8	39	22	62	41	35	57	39	53	348
9	42	37	60	38	44	57	39	59	376
10	48	37	56	24	40	60	41	49	355
Total	480	370	560	310	420	550	415	548	

Table 1

Pre-demo lesson questionnaire results for all sample teachers of the study

Table 1 presented above demonstrates the results of the pre demo lesson questionnaire of all teachers in all ten items of the students' survey. The eight columns show the score of each individual teacher in all ten items. Comparing the total scores of teachers is not valid as the scores of each teacher are directly affected by the number of students in each class. However, the total score of each teacher presented in the bottom row is helpful when comparing the

total score of each teacher in the pre and post demo lesson questionnaires. The last column to the right shows the total score of all teachers in each column. This column is important when comparing and determining the quality level of the ten aspects of lesson effectiveness in the pre demo lesson questionnaire.
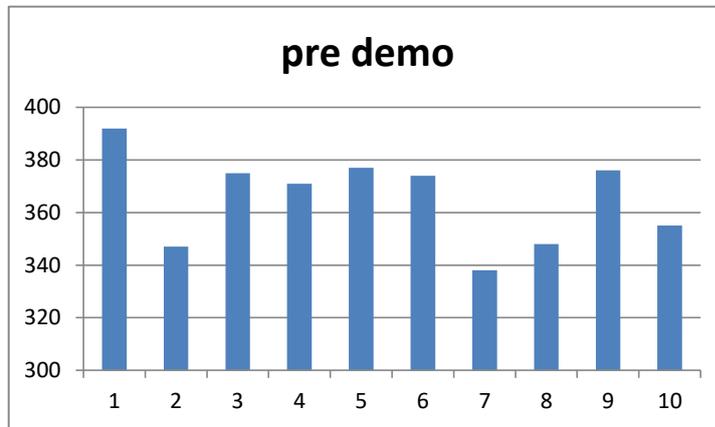

Chart 1
Total score results of all teachers in each pre demo lesson questionnaire item

Chart 1 is comparing the total scores of each evaluation item of lesson effectiveness. it is clearly shown that before teachers give their demo lessons the highest score is for item 1, which is related to achieving lesson objectives, while the lowest score is for item 7, which is related to group work and students' active participation in class. Comparing the results of the pre demo lesson questionnaire and that of the post demo lesson one may reflect the impact of the demo lesson initiative on lesson effectiveness.

Item	Teachers								
	Ed B	Ed G	Hadeel	Youm	King	Jaber	Rafat	Reem	Total
1	51	53	60	40	52	59	43	57	415
2	49	44	44	30	50	55	42	69	383
3	51	52	54	37	53	54	46	62	409
4	50	40	59	29	52	58	47	66	401
5	48	48	61	39	54	58	41	47	396
6	48	47	59	28	44	54	45	59	384
7	48	49	67	36	50	54	43	53	400
8	48	39	56	32	42	58	43	49	367
9	45	46	55	42	52	59	45	52	396
10	52	51	54	34	48	56	46	58	399
Total	490	469	569	347	497	565	441	572	

Table 2
Post-demo lesson questionnaire results for all sample teachers of the study

Table 2 represents teachers' scores in the ten items evaluating lesson quality, after giving their demo lessons. Comparing teachers' results displayed in figure 5 with those of the pre demo lesson one (figure 3) shows that all eight teachers' scores have significantly improved in the post demo lesson questionnaire, after giving their demo lessons.
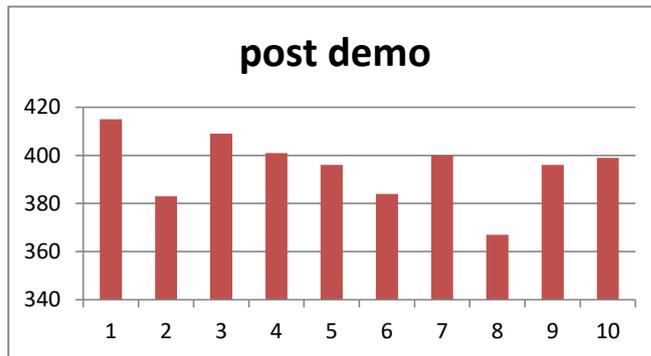

Chart 2
Total score results of all teachers in each post demo lesson questionnaire item

Chart 2 is comparing the total scores of all teachers in each item of the post demo lesson questionnaire. Similar to that of the pre demo lesson questionnaire, the highest score is for item 1, which is related to achieving lesson objectives. Unlike the pre demo lesson questionnaire, the lowest score in the post demo lesson questionnaire is for item 8, which is related to assessment methods.
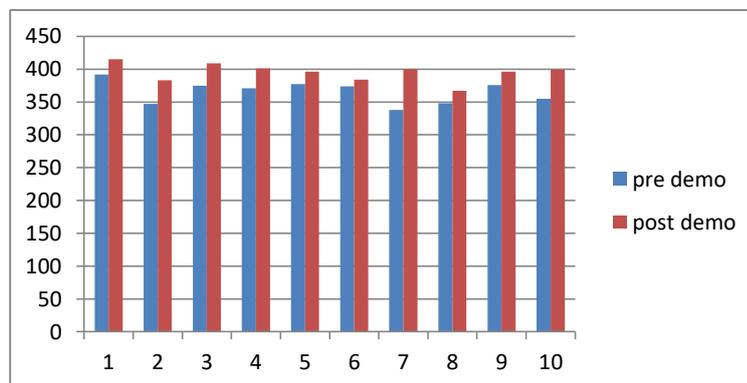

Chart 3
Comparing between the total scores of each item in the pre and post demo lesson
questionnaires for all teachers

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Chart 3 is combing the results shown in charts 1 & 2. The blue color represents the score of each item in the pre demo lesson questionnaire, while the red color represents their scores in the post demo lesson questionnaire. This chart summarizes the results of the quantitative research design of this study. The main features illustrated in this chart and the figures above are discussed in the following section.

4.2 Students' Questionnaire

Although the results of the pre demo lesson questionnaire show that the highest score recorded is for item 1 *(You have learnt and understood the subject material of this lesson)*, and, similarly, the results of the post demo lesson questionnaire show that the highest score recorded is also for the same item, the second highest score recorded in both questionnaires is different. In the pre demo lesson questionnaire results, the second highest score recorded is for item 5 *(Lesson objectives were all achieved)*, while the second highest sore recorded in the post demo lesson questionnaire is for item 3 *(Teacher's explanations and instructions were clear)*. These results suggest a positive impact of the demo lesson training program on pedagogy.

 In both questionnaires the students' responds clearly indicate that they learnt and understood the subject material of the lesson. However, the second highest score in the pre demo lesson questionnaire suggests that this was due to achieving the lesson objectives regardless the quality of pedagogy or the effectiveness of teaching methodology, whilst the second highest score in the post demo lesson questionnaire suggests that students have learnt and understood the subject material of the lesson due to teachers' clear instructions and explanation.

The shift in the lowest score recorded between the results of the pre and post demo lesson can be another indicator of the positive impact of the teachers' demo lesson initiative on pedagogy. Since the school adopted a student centered approach to teaching, all teachers training and workshops delivered to teachers focus on teaching methodologies and aids that enhances this approach in class. As a part of teachers' professional development, the demo lesson initiative was introduced as a practical training program to support this approach among teachers. Therefore, one of the most important aspects that dominated the feedback given to teachers by peers and instructional leaders during the demo lessons was how to involve students in the learning process and find ways for their active participation to be positive learners, as a significant outcome of student centered approach.

The results of the pre demo lesson questionnaire show that the lowest score is recorded for item 7 *(Students were invited to share their ideas and knowledge together);* but this is not revealed in the results of the post demo lesson questionnaire. This change in the records of the lowest score item of the two questionnaires and the shift of item 7 from the tenth position in the pre demo lesson questionnaire to the fourth position in the post demo one suggests that the teachers, because of the training program, have given more focus to the Group Interaction factor of the SEEQ.

Comparing the results of the pre and post demo lesson questionnaire, it is obvious that the scores of all ten items of the students' questionnaires have noticeably increased. This increase suggests a positive impact of the demo lesson initiative on all evaluation aspects, and consequently, on the overall quality of pedagogy and lesson delivery. However, the percentage of this increase is not consistent among all items. The significant increase is shown in item 7 *(Students were invited to share their ideas and knowledge together)* and item 10 *(The overall evaluation of the lesson)*; the score of item 7 in the post demo lesson questionnaire exceeds that of the pre demo lesson by about 15.5%, and similarly, the score of item 10 in the post demo questionnaire exceeds that of the pre demo one by about 11%. This significant change in the scores of these two items (item 7, 10) suggests that the training program has resulted in more students' engagement and active participation in the class, and consequently, students' overall evaluation of the quality and effectiveness of the lesson has improved.

The difference between the results of the pre and post demo lesson questionnaires of all items generally and these two items specifically reflects what happened during the teachers' demo lesson. In most demo lessons attended by the researcher, as one of the school senior leaders, the teachers were well prepared for the demo lesson with well-structured and robust lesson plans. However, as an effect of traditional teacher centered approach of teaching, teachers had the normal tendency to over teach.

Most of the feedback given to teachers focused on how to reduce teachers' unimportant talk time, and increase students' active participation. In some cases, teachers were advised to change the lesson methodology and activities to support the teacher's role as a facilitator rather than a performer. The technical feedback given by instructional leaders (subject leaders) help teachers find more engaging ideas to involve different groups of students (boys and girls, for instance). The demo lesson practice gave the teacher the opportunity to examine

the methodology, material, procedure, and activities of the lesson and make essential amendments prior to its actual delivery to students in the class.

During the teachers' demo lesson, teachers deliver a new lesson to peers, and senior and instructional leaders, who play the role of the students in the classroom. When teachers finish their demo lessons, they start receiving feedback about teacher's performance, lesson material, activities and adopted methodology from peers and leaders. The feedback given to teachers is guided by the observation tool used by school to evaluate the quality of lesson delivered to students. This observation tool is used by teachers when visiting their peers in peer observation; by subject leads when visiting their teacher for support and follow up; and by senior leaders to evaluate staff. This observation/evaluation tool consists of thirteen items that are more or less similar to those items under Marsh's SEEQ factors. Consequently, teachers demo lessons are also evaluated against these items, and thus, teachers, during demo lessons, receive consistent well focused feedback that is in congruence with the school adopted student centered teaching approach. The presence of instructional and senior leaders in these demo lessons ensures this consistency.

This initiative gave teachers the opportunity to practice their lessons before delivering them to students, and improved their performance; this is reflected in the scores of the post demo lesson questionnaire, compared with those of the pre demo lesson one. This practice, however, was not of the same effectiveness in improving the aspects of individual rapport evaluation factor. Many teachers during their demo lesson, as noticed by the researcher, could not deal with participants (peers and leaders) as real students, in terms of differentiating teaching methods, asking different types of questions, grading their language, offering more challenging tasks, giving support to struggling students, effective monitoring of group and individual activities. Similarly, the type of interaction and participation of the audience was not as genuine as that of students.

This limited impact of the initiative on improving this important aspect of an effective lesson is clearly reflected in the results of the post demo lesson questionnaire in which item 8 *(Teacher showed a keen interest in my needs)* noticeably recorded the lowest score. This finding suggests that although teachers' demo lesson initiative is a good practice for teachers to improve their performance and enhance quality pedagogy, it cannot replace other training or professional development programs (peer observation, walkthroughs, co-teaching, for

instance) that take place in genuine classroom environment where students are actively engaged and teachers are truly challenged.

4.3 Teachers' Interviews

Themes	Teachers							
	AN	KI	DU	SO	ED	RE	AB	MO
Supporting and enhancing teaching	Very helpful; new ideas; different tasks	Helps gain confidence	New teaching methodologies	Very helpful; different experiences	Very supportive; improving teaching practices	Very effective; rich feedback	Very helpful; new ideas	Very useful and effective
Implemented aspects	Time management; engaging activities	Picking the right level of teaching	Student centered approach; peer teaching	Using Plickers; assessment for learning tools	Questioning techniques; positioning of tasks	Assessment for learning tools; new activities	Differentiated activities	Ideas for Starter activities; use of Plickers
Leadership team support level	Very supportive	Enough support especially from subject lead	Guiding teaching to meet the needs of student	Reviewing lesson plans; providing new ideas	Enough support; effective feedback	Useful directions; effective feedback	A lot of support; advice for effective preparation	Wonderful support; positive feedback; encouraging comme

			s and standards				nts
Peers support	Share ideas; rich feedback	Exchange ideas	Very supportive; more open	Ideas for activities; effective feedback	Advice; help define work	Active interactions; useful feedback	Getting new and different experiences	Benefit more from feedback of lower grades teachers
Impact on self confidence	Not so much	Very supportive	Not very much	Very supportive, especially among adults	Improved to an extent	Very much; helped me a lot in class	Indeed, improved my confidence in class	I become more confident especially among adults
More effective methods of teaching	Group work; students engagement	Flipped classroom	More effective teaching strategies	Focus more on the quality not the number of activities	More effective activities	Shorter and more efficient preparation	Preparing for a more comprehensive lessons	More effective use of resources
Improving	Very much;	Very open to	Very much,	Increased	Enhanced	Improved a lot	Promotes	Indeed, especial

collaboration skills	Build my collaboration skills	suggestion	especially in group preparation	teachers' communication	communication	after the program	teamwork spirit	ly in feedback sessions
Program frequency	Strongly recommend; once a week	Highly recommended weekly to enhance collaboration	Recommended once per term for each teacher	Highly recommended; once per term	Recommended; twice per term	Only in the beginning of each term	Recommended twice per academic year	Highly recommended; once per academic year
More required support	Reduce teaching load	No more support needed	To be optional not mandatory for all	The continuous presence and support of senior leaders	More time for feedback	Providing teachers with required tools and materials	Honoring the best demo lessons; the presence of some students	Consulting senior leaders prior to demo lessons

Table 3
Summary of Teachers' Interviews

Table 3 above summarizes the results of the eight interviews conducted with teachers. The rows represent the interview themes, while the columns represent each teacher's respond to each item. The results of each interview item are discussed below:

Question 1: *In what ways have you found the demo lesson initiative helpful in supporting and enhancing your teaching?*

The aim of the first question is to take teachers' feedback and to know their opinion about the training program generally before asking them the follow up questions about detailed aspects of the initiative. All teachers stated that the demo lesson initiative was totally helpful to them and they all found the experience very beneficial in enhancing and supporting their teaching. Then each teacher stated some specific aspects of the training program that were of great importance to them: two teachers stated that the program gave them the opportunity to see the best of their peers and take many good ideas of them that could be applied in their own classes. Making use of peers' different experiences through watching them giving their demo lessons or getting peers' feedback about their own lessons was mentioned by three teachers. Two teachers specified the benefit of the feedback they received about their own lessons in enhancing their own teaching; however, the following was stated by one teacher about the "negative feedback":

"The program was really beneficial. It made me sure that I am on the right track and the methods I am using in my class are the right ones. I really liked the positive feedback I received, but I didn't like some of the negative comments and feedback I got. However, I tried to make use of the positive ones leaving the negative ones behind."

One of the science teachers

Two teachers stated that the program helped them think of various activities for their lessons and one named starter activities specifically. Responding to the interviewer follow up question, they added that the program also helped them in the execution of these activities. One teacher stated the following about how the program was beneficial in terms of supporting his self-confidence:

"The program helped me gain my confidence as I was giving my lesson while other teachers and school leaders were observing me."

One of the Math teachers

To sum up, responding to question 1, all teachers clearly stated that the program was very helpful in supporting and enhancing their teaching generally, and listed the following aspects specifically: new teaching ideas; different teaching methodologies; various class activities; effective feedback; supporting self-confidence; exposing to different experiences; and execution of classroom tasks and activities.

<u>Question 2</u>: *What are some of the aspects of the training program that you have implemented in your teaching and classrooms?*

Teachers' responses to this question show practically how the program was really helpful in supporting and enhancing teaching in the classroom, and how the implementation of critical aspects of an effective lesson like the ones that are mentioned below enriched pedagogy and improved the quality of lessons delivered to students. The results also verify and clarify the results of students' questionnaires that showed the positive impact of the training program on teachers' performances and raising the scores of all items evaluating lesson quality.

The in depth interviews conducted with teachers generally and teachers' responses to this item specifically suggest that the program was not only helpful in terms of giving the teachers the opportunity to practice teaching their own lessons, benefit from the feedback, and make essential amendments to their lesson plans prior to the actual delivery of these lessons to students in the class, but was also helpful in terms of giving teachers a great opportunity to be exposed to different experiences, learn new teaching methodology, and get ideas of more effective classroom tasks and activities that can be applied in their classrooms, by observing the demo lessons of their peers and taking part in the feedback sessions of these lessons. The program was a really good chance for teachers to learn from each other; and this was clearly indicated by one of the English teachers who stated the following:

"I implemented some of the methods used by Mr. (MS) in reading and writing lessons. I learnt from Mr. (RF) how to differentiate between boys' and girls' classes in instruction and class activities. I applied some of the techniques used by Mrs. (MN) to build rapport with students. I also liked the way Mrs. (AL) uses to answer students' questions."

As stated by teachers in reply to this interview question, the following aspects and strategies were tried or implemented by teachers in the classroom as a result of the demo lesson initiative: picking the appropriate level of teaching material; AFL (assessment for learning) tools (stated by three teachers); more effective use of science labs; varying questioning techniques; appropriate order of class activities; differentiating students' tasks and activities (stated by two teachers); new ideas for starter activities and lesson plenaries; more robust preparation; better use of instruction time (time management); effective use of "Plickers" (stated by two teachers); keeping students always busy (ideas for extension activities); peer teaching and peer assessment; role playing; ways to deal with students' childish disruptions.

Question 3: *What level of support have you received from the leadership team in the program?*

The results of this item show how important the presence of instructional and senior leaders was for the success of the training program. Teachers reported that they hot high level of support from the leader team prior to, during, and after the demo lesson. One English teacher stated the following about the support she received from her subject lead:

"*Before giving my demo lesson, I went to Mrs. HG (the English subject leader) and reviewed with her my lesson plan. She gave my some effective ideas and advised me to make some amendments to the lesson materials. During the demo lesson, the feedback I got from Mr. MH (one of the senior leaders) helped me a lot to adapt the lesson to suit the boys' classes.*"

The leadership team attended teachers' demo lesson was composed of the subject leader of each department in addition to at least one of the school senior leaders. This combination of instructional leadership helped enrich the feedback given to teachers and ensured the consistency of the type and quality of the feedback given to them. Teachers benefited from the technical feedback they received from their subject leads and from the instructional or methodological feedback they got from senior leaders, specially that all school senior leaders have strong academic background and many years of teaching experience in their own subjects. This variety of the feedback given to teachers is clearly reflected in the above response of the English teacher and the below one reported by one of the Math teachers:

"*Generally, I received enough support from the leadership team during the program; and specifically, in concept wise, from the Math subject lead.*"

Question 4: *What kind of support have you received from peers during the program?*

The result of this interview item shows how the program was very effective in enhancing cooperation and collaborative work among teachers. The in-depth interviews allowed the researchers to discover some positive aspects and outcomes of the program that he was not aware of. As one of the school senior leaders, the school leadership team always tries to adopt policies and strategies that encourage teachers to work together, share their ideas and preparations, and exchange experiences. However, depending solely on these policies was not enough to promote the spirit of cooperation and team work among teachers, especially those who teach the same subject and the same grade levels; teachers should be intrinsically

motivated and believe in the importance of team work for achieving school goals and for teachers' personal and professional development.

The demo lesson initiative motivated teachers to work together and share their ideas in order to show their best in the demo lessons, which will be attended by peers and senior leaders. One of the English teachers stated that, prior to their demo lessons, they prepared the lesson plan together and divided the work equally among them; and this was a very positive experience for all of them. Additionally, one of the science teachers admitted that she has never benefited from her peers' experiences and ideas as much as she got from the program; the demo lessons, she added, made everybody show their best, and this added a lot to her experience and allowed her to get new teaching strategies that could be applied in her classes, without being bothered, as she stated, by the headache of begging others' cooperation. In conclusion, teachers' response to this item shows that the demo lesson initiative motivated or pushed teachers to be more cooperative, regardless their previous attitudes towards this cooperation.

Question 5: *How far has the program given you self-confidence in your teaching?*

As discussed above in the quantitative research results section of this paper, students' questionnaires findings show a significant increase in students' engagement aspect and group interaction factor of an effective lesson; this approach to teaching needs a confident teacher who openly and confidently gives space to students' participation and encourages learners to take risks in their learning without fearing of making mistakes. (Betts & McNaughton, 2004) argued that under-confident teachers are hesitant to promote students' autonomy, and are unlikely to include appealing aspects to their teaching, and thus, reducing students' engagement.

Student-centered approach to teaching requires a confident teacher who encourages independent learning, permits students' freedom, and praises their critical thinking questions; as confidence enables teachers to deal with any discrepancies or particularities they meet (Brown, 2010). The results of the quantitative research also show that the program has improved teachers' scores in all questionnaire items that evaluate effective and excellent teaching. A major factor for this overall improvement is their increased confident. The findings of Mccullouch's (2016) study show that a key feature of excellent teaching is confidence. And this was verified through teachers' interviews; seven interviewees of the

eight participants clearly stated that the program has helped them build and improve their self-confidence.

"As a novice teacher, I tell myself if I can teach the lesson to peers and leaders, it is easier to give it to students."

A Math teacher

"I always have problem addressing adult audiences. And this puts me sometimes into troubles when an inspector or any adult visitor comes to observe my lesson. I become nervous; and this is negatively reflected on my performance, especially on the execution of class activities. The program has increased my confidence and allowed me to teach normally, even in the presence of any observer."

An English teacher

Only one teacher said that the program has done nothing to her self-confidence. She is always confident in the class when being among her students. On contrary, she was less confident, during her demo lesson, and less motivated to show her best in the presence of only adult audiences with the total absence of real students.

Question 6: *How has the program helped you think about more effective methods of teaching?*

Students' questionnaire was designed mainly to evaluate the quality and effectiveness of teaching and the lesson delivered to students. The results of the questionnaires show an improvement in the quality and effectiveness of the delivered to students by all the sample teachers of the study. This item of the interview gives insight and explanation about the reason for this improvement in teachers' performances and how they benefit from the demo lesson initiative to plan for more effective lessons. The following examples of teachers' responses show how the program was successful in providing teachers with more effective tools and methods of teaching.

"The program has provided me with ideas of easier and more effective methods of teaching, instead of the stretched less organized ones I used to use in the past. I also got the skill of how to plan and prepare for lessons efficiently with less effort in a shorter time."
One of the Science teachers

"Previously, I used to prepare too many activities for one lesson. Sometimes I ran out of time and could not give the students all the assigned tasks, or rush to finish all the prepared activities, even without carrying out the feedback. Through the program, I learnt to care more about the quality rather than the number of the activities. Now, I am capable of planning and delivering a more successful lesson with even one or two activities. The high quality and good execution of these activities will help students achieve lesson objectives and acquire required skills."

One of the English teachers

<u>Question 7</u>*: In what ways has the program improved your collaboration skills?*

Research suggests that teacher collaboration is very important to teachers' learning, and instructional practice (Goddard, Goddard, & Tschannen-Moran, 2007; Louis et al., 2009). Teachers' response to this item shows how collaboration played an important role to help teachers focus on instruction and take the utmost benefit of the program. It also gives explanation and insight to the quantitative research results that display a significant improvement in teachers' performance in all evaluation aspects of the post demo lesson questionnaire.

Teachers indicated that the program gave them a great opportunity to work together and enhance their collaboration skills. Some teachers also stated that due to the pressure the program put on their shoulders, as they wanted to show their best in the demo lessons, they became more cooperative and communicative. This positive way of communication allowed them to benefit from each other's experiences and feedback to improve pedagogy. This finding is congruent with research that suggests that without teachers' collaboration, little professional growth occurs (Pounder, 1999).

The students' questionnaire results, specifically of item 5, demonstrate an improvement in achieving lessons objectives in the post demo lesson questionnaire. Research on collaborative learning communities (Darling-Hammond & Richardson, 2009; Louis et al., 2009) findings suggest that students' achievement improves when teachers spend more time planning together and focusing on instructional improvement. The questionnaire results along with the finding of this interview item suggest that the demo lesson initiative had a positive impact not only on teachers' professional development but also on students' achievement.

<u>Question 8</u>: *Do you recommend "Teachers' Demo Lessons Initiative" to be a routine practice all through the year? How often?*

All teachers recommended the program to be a routine practice all through the year, and each one asserts on one or more specific benefit(s) of the program. Their recommendations were based on the program positive outcomes that were discussed above; the following example is for one of the Math teachers:

"I highly recommend it; exchanging ideas benefits all of us. This program made the Math department more collaborative with each other. I am not feeling alone anymore; it also enhanced the relationship between the Math teachers."

 Teachers did not agree about how frequent the program should take place. Their various proposals were well justified and included the following: once a weak (on a weekly basis) to observe only one teacher; once every other week (twice a month) to observe more than one teacher; twice per term to observe half of the teachers each time; and once per term to observe all the teachers of each department. However, they all agreed that each teacher should not be requested to give more than one demo lesson per semester (this means that each teacher is supposed to give three demo lessons throughout the whole academic year) in order not put more load or pressure on the teachers' shoulders and to ensure the quality of the delivered demo lessons.

<u>Question 9</u>: *What supports might be needed for this to happen?*

Teachers declared that no more support is needed; they have already taken enough support from their subject leads and senior leaders during the program. However, some teachers gave the following recommendations: the demo lesson schedule should be prepared and announced a head of time; teachers of the best demo lessons should be honored; the presence of senior leaders in all demo lessons is essential; and more time to be given to the feedback session after each demo lesson.

4.4 Subject Leaders' Interviews

	Subject Leaders		
Themes	English	Math	Science
Program benefits	Unity among department teachers; introducing high level activities; sharing ideas; teachers' become more open to criticize; enhance teachers' cooperation	Better cooperation and communication between teachers; improve teachers' competencies; exposed to different experiences; getting closer to my teachers; exploring teachers' abilities	Group preparation; develop teachers' critical thinking skills; sharing ideas; more effective use of resources; improving teachers' leadership skills; breaking stereotype models of teachers' training
Ways of improvement	Lessen pressure put on teachers; applying the program frequently	Applying the program during teachers' working hours not in the afternoons; coupling teachers in the demo lessons	The program runs once per month; each teacher gives only one demo lesson per term; honoring the best demos

Table 4
Summary of Subject Leaders Interviews

Two open ended questions were asked to the three head of departments (English, Math, and Science) or subject leaders during the interview. Table 4 summarizes subject leaders' responses to the interview items. Their reply to these two questions summarizes and verifies what was stated by teachers in the teachers' interviews. This consistency between the teachers' and subject leaders' opinion about the program is reflected in the following quote of the head of the English department:

"The initiative created a cooperative spirit at school, specifically in each department when the teachers share ideas about their lessons. Teachers opened each other's eyes through

showing new activities and new ideas. It also helped to unify the department as we listened to each other during the presentations and discussed points of strengths and weaknesses with open hearts. Lots of new ideas were introduced: use of different activities that stimulate the different learning styles; use of "Raz-kids" program and the differentiated worksheets available; use of high level activities of a variety; incorporation grammar to writing…… Just carrying on with the program is a great idea, without pressuring the teachers."

Chapter 5: Conclusion

5.1 Summary of the Study

The current study introduced 'teacher's demo lesson initiative', an example of in service teachers' training program which took place in one of the private schools in Al Ain. The aim of this study was to investigate how far the program was useful in improving teachers' performances and lesson quality. Thus, the study raised the following four questions: (1) Does the initiative have a direct positive impact on pedagogy and lesson quality? (2) Does the program have the same impact on all aspects of an effective lesson? (3) Is the program beneficial for teachers' professional development? (4) Does the program have any indirect positive impacts? The research employed mixed approach methodology has come up with the following answers to the four research questions:

5.2 Key Findings

Question 1: the quantitative research results suggest that the initiative has a direct positive impact on pedagogy and improving lesson quality. Teachers' scores in all aspects of effective lesson improved significantly in the post demo lesson questionnaire. Having the opportunity to demonstrate lessons to peers and senior leaders prior to the actual delivery of these lessons to students in class lead to the improvement of the quality of the lessons delivered by the same teachers.

Question 2: the evaluation tool used for the students' questionnaires in this study is composed of ten evaluation items. These ten items represent the following factors of lesson effectiveness: Learning; Enthusiasm; Organization; Group Interaction; Individual Rapport; Assessment; and Overall Evaluation. Although the quantitative research results suggest a positive impact of the program on the quality of lesson and lesson effectiveness, and show improvement in the scores of the post demo lesson questionnaire, the capacity of this improvement is not consistent among all aspects of lesson effectiveness. The chart shown in figure 8 illustrates the improvement rates of all evaluation factors of lesson effectiveness as indicated in the post demo lesson questionnaire results. The display suggests that the demo lesson initiative had the greatest impact on the overall quality of the lesson, and then the items related to enthusiasm and group interaction factors. It also proposes that the program

had the least impact on improving the quality aspects related to individual rapport and assessment factors.
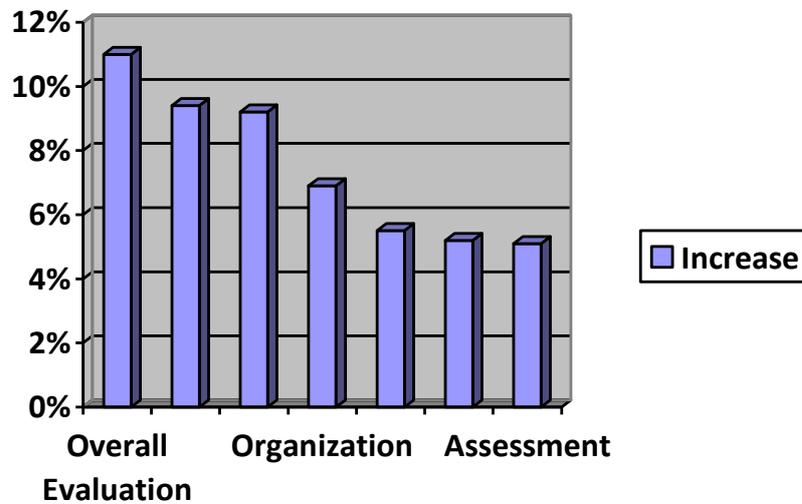
Chart 4
Increase rate of lesson quality evaluation factors

Question 3: the quantitative research results clearly indicate an improvement in teachers' performances and their capability of delivering more effective lessons. Improving the capacity to respond to and benefit from feedback during the program to improve pedagogy is an indicator of professional development. Additionally, the qualitative research findings suggest that the program improved teachers' capacity to conduct effective observation and give tailored feedback that helps teachers raise their efficacy and implement more effective teaching methods and strategies. This practice is essential for teachers' professional development, and for improving their capacity to be instructional leaders.

Question 4: the qualitative research results indicate that the program has urged teachers to work collaboratively preparing for the demo lessons. This enhanced teachers' collaboration skills and promoted teachers' effective communication. The presence of senior leaders in the demo lessons aroused team work spirit among teachers of each department. Members of each department wanted to prove that their department is the best in delivering quality pedagogy and providing effective feedback. The support given to teachers during the program by the head of departments (subject leaders) helped build strong rapport between teachers and their leaders. The excitement and curiosity the program raised before and after the demo lessons,

and after the actual delivery of these lessons to students in the class promoted continuous discussions about instruction among teachers.

5.3 Implications of the Study

The study introduces a practical beneficial example of teacher in service training courses. School principals and leaders can benefit from the program top raise teachers' efficacy and stimulate teachers' competencies. Simultaneously, the study findings support Hargreaves et al. (2001) assertion on the importance of practical training that uses real-life classroom conditions. Thus, combining teachers' demo lessons with other professional development programs that include real class room environment (peer observation, real classroom observation, walkthroughs, peer coaching, etc.) can provide a comprehensive model of teachers' in service training and professional development.

5.4 Study Challenges and Limitations

One of the study challenges was in the quantitative part of the research data collection. Each class is supposed to evaluate the quality of the lesson delivered by the same teacher twice, prior to and after the training program; by comparing the results of the same group, the collected data can be an indicator about the impact of the training program on improving pedagogy and lesson delivery. In order to obtain valid results of the students' questionnaire, because each class act as the control and test group, the number of questionnaires collected from each group/class should be the same. Because there was a time gap between the first and second questionnaire for each class (in some cases, more than 15 days), sometimes the number of students in the class was not the same when administering the questionnaire (this was due to students' absence or shuffling). For these cases, the researcher deleted the scores of participants who did only one survey, in order to make the number of responses for each class in both surveys (pre and post demo lesson) equal.

Another critical challenge that faced the researcher was trying to avoid obtaining biased responses to the survey items. Because the students' participants were middle school students, their relationship and the level of rapport they have with teachers could affect their responses (positively or negatively), especially with girls' classes. To limit the possibilities of getting biased responses, the participants were told that the aim of these surveys is to evaluate the quality of teaching in the entire school not for specific teacher; therefore, being honest in their responses would provide the school leaders and administration with a true picture about

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the quality of pedagogy taking place in the school in order to guide teachers' training programs to improve teaching effectiveness and ensure consistency in providing quality lessons to students in all subjects and all levels. Having such conversation with students prior to each survey made students express their own opinion about the questionnaire items without being affected by others (using "Plickers" for data collection gave the researcher the opportunity to closely monitor students while giving their responses), and thus, lead to less biased data.

Using "Plickers" in administering students' questionnaire had many benefits; for instance, it reduced the time and effort exerted in data collection, it guaranteed receiving the maximum number of responses to the administered questionnaires, and it gave the researcher the opportunity to monitor the process of data collection and eliminate any ambiguity in understanding the questionnaire items. However, using "Plickers" had a drawback that limited the researcher in determining the evaluation scale for the questionnaire items. Since "Plickers" cards have only four sides with four different shapes, it allows for only four options for each item in the students' questionnaire.

That's why the evaluation scale for each item of the questionnaire was limited to only four options/levels (Weak; Acceptable; Good; Very Good). This limitation might have affected the results of the students' questionnaire. The data collected from the questionnaires show slight differences in the average between the pre and post questionnaires in all ten items. This could be due to the evaluation scale of each item that was limited to only four levels. If the researcher had had the opportunity to add more options/levels to the evaluation scale (Very Weak and Outstanding, for instance), the average differences of the quantitative research results could have been different.

The demo lesson training initiative included around 40 teachers of different subjects and different grade levels. Since a single researcher worked on both the qualitative and quantitative methods of the research, out of this number of participants, only eight teachers were selected for the purpose of the study. In order to measure the impact of the training initiative on teachers' performance, the quality of the lesson delivered by these eight teachers was evaluated prior to and after giving their demo lessons. For this purpose, eight middle school classes with total number of 139 students (boys and girls) were selected to evaluate the teachers' lessons using the pre and post demo lesson questionnaires. The results of the students' questionnaires show a positive impact of the training program on pedagogy.

However, if the study included more classes from different grade levels, especially higher grades, and if the study evaluated the quality of the lessons delivered by 50% (around 20 teachers) of the teachers participated in the training program, the researcher would obtain more robust quantitative results, and this would add more credibility and reliability to generalizing the study findings.

Increasing the number of students and teachers' participants could add more consistency to the questionnaire results and give clearer picture about the real impact of the training program on improving teachers' performance, lesson delivery and the quality of all aspects of an effective lesson. Similarly, the qualitative research of the study was of great importance; teachers' in-depth interviews provided the study with rich data about the deep effect of the program on teachers and teaching. It also verified and clarified the results of the quantitative research and guided the researcher to other important aspects of the study that he was not aware of. This rich in-depth data was collected from only eight interviews. If the researcher interviewed more participants, he would gain more insight about the research study and get a better opportunity to explore the research subject from more different perspectives.

5.5 Scope for Further Research

The study findings suggest a positive impact of teachers' demo lessons on pedagogy and lessons effectiveness. Nevertheless, the exclusion of the study sample to middle school student's participants may give limitation to generalizing the study findings to other contexts. Future research on the impact of teachers' demo lessons may include students from other grade levels (elementary or high school students, for instance). Although this may require developing differentiated quantitative research instruments, it can provide rich quantified data about the impact of the program, which could apply to different contexts.

The current study investigated the impact of the demo lesson initiative on the performance of eight teachers out of the forty teachers that conducted demo lessons during the program. The research also studied the impact of one demo lesson for each teacher. Further research on the subject may include a larger sample of teachers to enrich the data results with this diversity. Furthermore, instead of studying the instant impact of only one demo lesson for teachers, longitudinal research that investigates the impact of the program all through the year will probably provide more realistic data about the effectiveness of the program on improving pedagogy as well as teachers' efficacy.

Although the qualitative research of this study was limited to teachers' sample, it provided insight about the multiple benefits and positive impact of the program, and allowed the researcher to obtain in depth data from different perspectives. Therefore, for future research, it is highly recommended that qualitative methods should be designed to include both teachers and students' samples. Gaining insight from various resources may help identify different dimensions of the impact of the program.

5.6 Conclusion

The main purpose of this research is to study the impact of teachers' demo lessons on improving teacher's performances and lesson effectiveness. The study findings suggest that the training initiative has improved teachers' efficacy as well as lesson quality. Involving teachers in simultaneous teaching and learning gives them the opportunity to reflect their own teaching practices, expose to various teaching experiences and apply new teaching methodologies. Integrating teachers' demo lessons with other professional development practices that comprise genuine classroom environment, school principals and instruction leaders can develop a comprehensive in service teacher professional development plan that helps achieve school goals and meet the needs of both students and standards.

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Appendix A

Sample of students' questionnaires administered via "Plickers"

Apr 13, 2017   ● 6G1/pre/Israa

1. You have learnt and understood the subject material of this lesson.

A very good
B good
C acceptable
D weak

12   1   2   0
A   B   C   D

Apr 13, 2017   ● 6G1/pre/Israa

2. Teacher's style of presentation held your interest during class.

A very good
B good
C acceptable
D weak

11   3   1   0
A   B   C   D

Apr 13, 2017   ● 6G1/pre/Israa

3. Teacher's explanations and instructions were clear.

A very good
B good
C acceptable
D weak

9   4   1   1
A   B   C   D
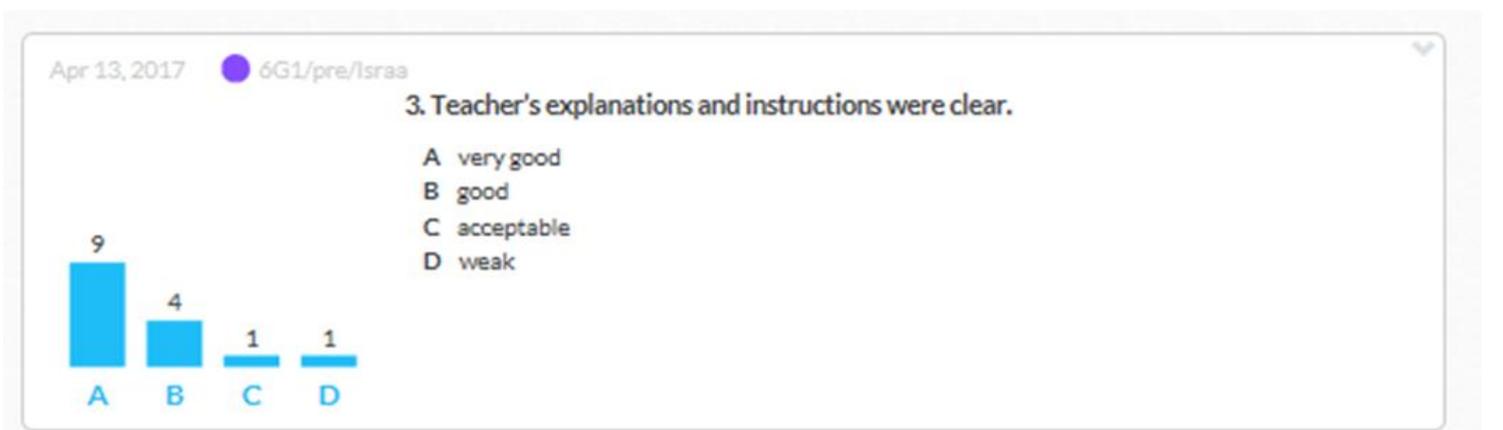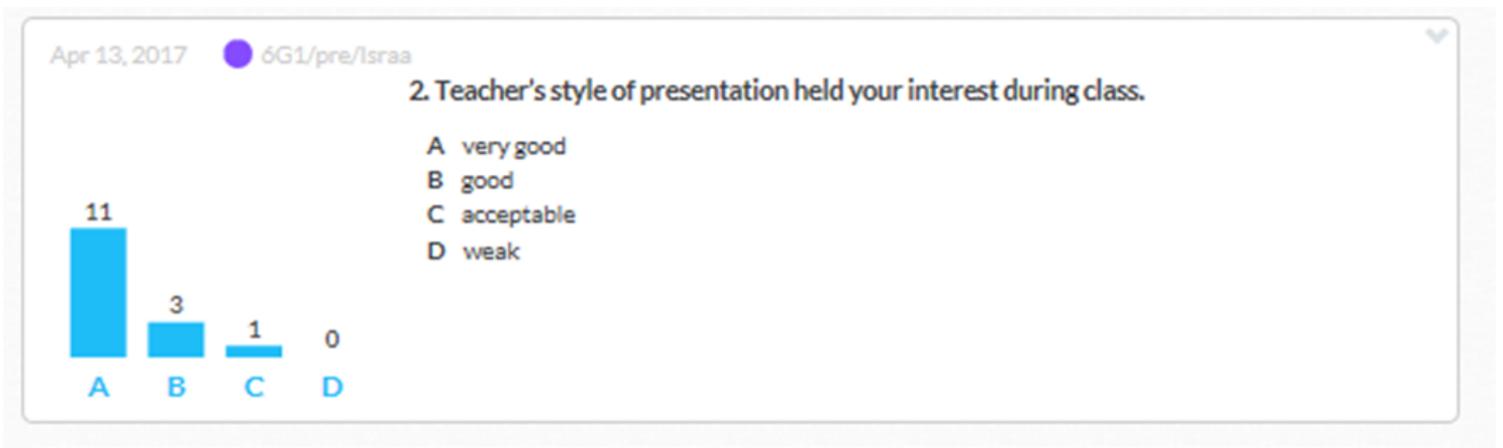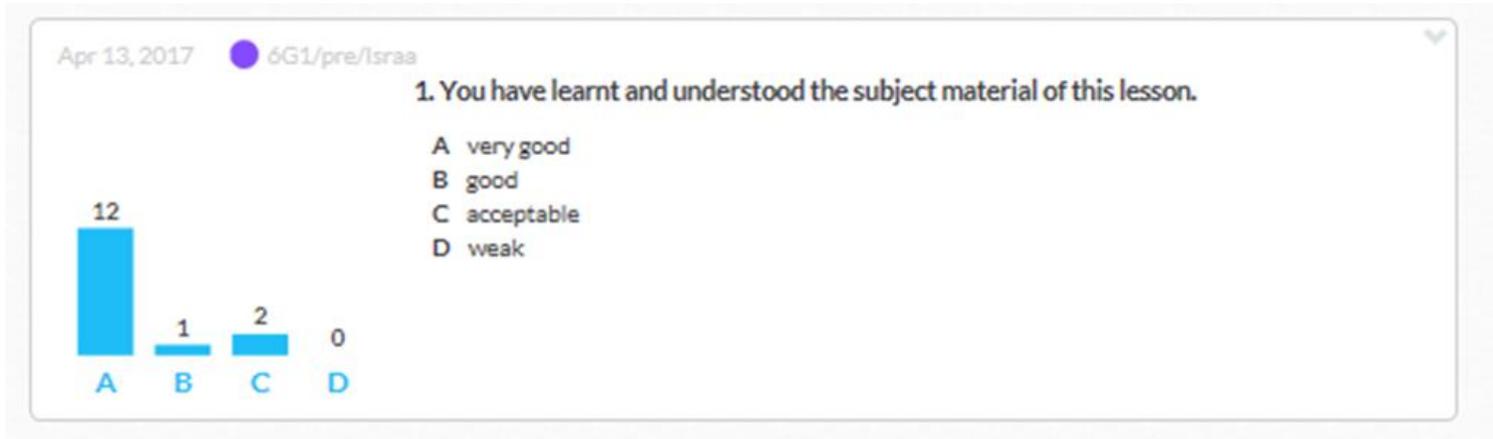
4. Lesson materials and activities were well prepared.

A very good
B good
C acceptable
D weak

A	B	C	D
7	7	0	1

5. Lesson objectives were all achieved.

A very good
B good
C acceptable
D weak

A	B	C	D
12	2	1	0

6. Students were encouraged to ask questions and participate in class discussions.

A very good
B good
C acceptable
D weak
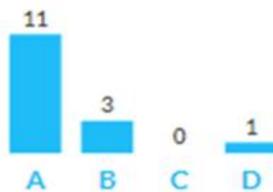
A	B	C	D
11	3	0	1

7. Students were invited to share their ideas and knowledge together.

A very good
B good
C acceptable
D weak

A	B	C	D
12	2	1	0

8. Teacher showed a keen interest in my needs.

A very good
B good
C acceptable
D weak
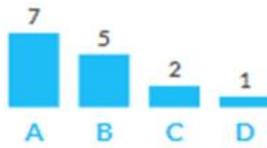
7

5

2

1

A   B   C   D

9. Methods of assessing student's work were reasonable and appropriate.

A very good
B good
C acceptable
D weak

8

4

3

0

A   B   C   D

10. The overall evaluation of this lesson is.

A very good
B good
C acceptable
D weak

12

2

1

0

A   B   C   D

Appendix B

"Plickers" Response Card
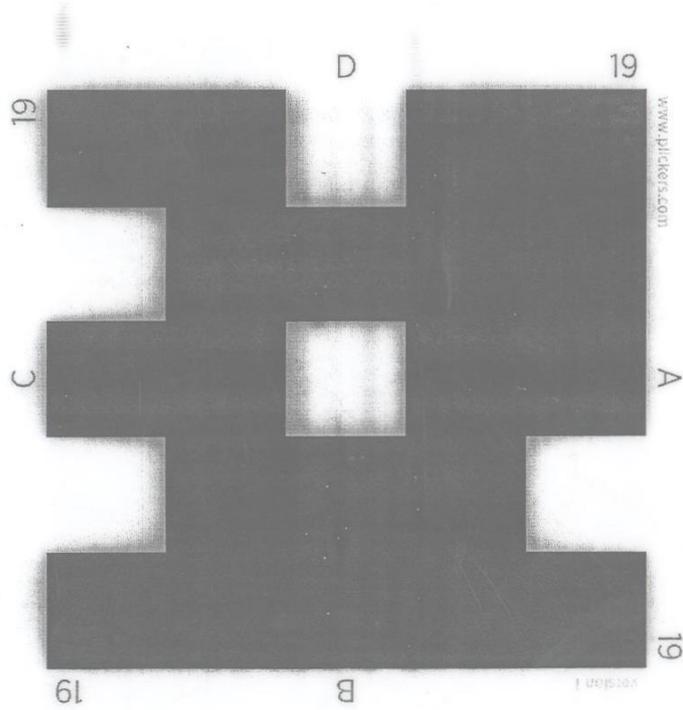
Appendix C

Sample of teacher's interviews

Name: _____   Subject: ...SSE...   Date: ...1-6-17.

1. In what ways have you found the demo lesson initiative helpful in supporting and enhancing your teaching?

They're very helpful, you get to get ideas from teachers, you get alot of information regarding different tasks

2. What are some of the aspects of the training program that you have implemented in your teaching and classrooms?

→ I've done more preparation and focus more into the process specially timing the activities pumping the kids with more work or activities.

3. What level of support have you received from the leadership team in the program?

Alot of support, gets to review my plans, helps me make good projects, how to include ideas, helps kids to think more.

4. What kind of support have you received from peers during the program?

We get to share alot of activities Miss Soma and Miss Israa, what they do in each others class. Feedbacks are very helpful and positive. Build on to the negative feedback

5. How far has the program given you self-confidence in your teaching?

It hasn't given me so much, because I'm always enfront of many people. harder situations are a piece of cake because I pass them easily.

6. How has the program helped you think about more effective methods of teaching?

→ group preparation

7. In what ways has the program improved your collaboration skills?

Alot, I used hand all to myself. It was like I was the only person. It helped build my collaboration. In case I need anything I can ask my peers.

8. Do you recommend "Teachers' Demo Lessons Initiative" to be a routine practice all through the year? How often?

I strongly recommend it, It should go at the same level, once a week.

9. What supports might be needed for this to happen?

→ Take some tasks away from us
→ lessen the workload.

Anthony
1-6-17

Name: .   Subject: Maths   Date: 31-5-17

1. In what ways have you found the demo lesson initiative helpful in supporting and enhancing your teaching?

Firstly it helps me gain my confidence as a teacher while other teachers observe me

2. What are some of the aspects of the training program that you have implemented in your teaching and classrooms?

Picking the right level of teaching, To give students the level they deserve not higher. Grading the teaching.

3. What level of support have you received from the leadership team in the program?

Enough support, in concept wise from subject lead specifically

4. What kind of support have you received from peers during the program?

Exchange ideas how to explain lessons

5. How far has the program given you self-confidence in your teaching?

If I can teach infront of my peers it makes it easier to teach infront of my students

6. How has the program helped you think about more effective methods of teaching?

I adopted some of the ways my other colleages use flipped classroom techniques

7. In what ways has the program improved your collaboration skills?

I'm very open to suggestions which I consider helpful

8. Do you recommend "Teachers' Demo Lessons Initiative" to be a routine practice all through the year? How often?

Yes, Exchanging ideas benefits all of us. This program made the maths department collaborate with each other.

9. What supports might be needed for this to happen?

8) He's not feeling alone anymore, it enhanced the relationship between the maths department. He used to do it as a singular program in his country and its very helpful

9) Weekly basis, It is fine, no more support needed, it is enough