

**Realization of Effective Reflective Practices in Teacher Professional Development
in International Schools in Egypt**

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By

Nevine El Souefi

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Nevine El Souefi

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ABSTRACT

There is a growing demand for authentic continuous professional learning (Webster-Wright, 2009; El-Fiki, 2012; Hunzicker, 2011). This demand increases with national teachers working in international schools in developing countries, as they are teaching curriculums that were designed in a context different than their own. Although the concept of reflection was viewed as a successful mean for professional renewal and professional learning (Dowey, 1933, Schon, 1983), very few actually used it in their practical life, even when it was mandatory (Marzano, et. Al., 2012).

The study was exploring conditions affecting reflection from the perspective of teachers in the context of international schools in Egypt. The study took place in a first-year candidate IBPYP (International Baccalaureate Primary Years Programme) school in North East Cairo. Teachers participating in the study were a homogenous group of seven Egyptian teachers. Teachers went through five cycles of reflection-on-action in six weeks. These were; a collaborative reflection, three lesson reflective questionnaires, and a reflective journal. A qualitative approach was adopted to provide a detailed rich description seizing the feelings, perceptions, and views of teachers. Data was collected through a focus group discussion with all the seven teachers, three in-depth interviews with three volunteering teachers from the seven participants, a document review of the action plan resulting from the collaborative reflection, the lesson reflective questionnaires answered by teachers and the Reflective Journals written by teachers.

The study was mainly set to explore conditions affecting reflection as a mean for professional learning in the context of international schools in Egypt. The exploration dug deeper into the reflective process itself, which led to three major findings for the study; the reflective spiral with its specific facets and how they work, the conditions and sub-conditions and how they affect the reflective spiral facets, and how some aspects of sub-conditions can be used to create a spiral of conditions supporting the reflective process.

Furthermore, the study offered insights to a new angle to see reflection from the teachers' perspective, shedding light on the complexities and the sensitivity that teachers face going through the reflective process. This insight led to introducing a solution to support reflection by instilling a spiral of conditions focusing on key aspects that move all the rest. The study investigated the effectiveness of the lesson reflective questionnaire designed and provided an amended version of the questionnaire to support teachers in reaching critical reflection. The research adds to our understanding of the role different levels of context in shaping teachers' feelings, thoughts, actions and reaction.

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I dedicate this work to the loving memory of my father, mother and brother. Your words, beliefs and faith never left me. May Allah (SWT) rest their souls in eternal peace and grant them the highest paradise. Ameen

Declaration

I wish to declare that this thesis, or any part of it, has not been submitted for the award of a degree in this or other institutions of learning or universities.

Signature.....

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Abbreviations

ALACT	Action, Looking back on action, Awareness of essential aspects, Creating alternative methods of action and Trial.
AR	Action research
CCSSO	Chief State School Officers in the USA
CTD	Collaborative Teacher Development
ECES	Egyptian Center for Economic Studies
ELC	The Experiential Learning Cycle
IBO	International Baccalaureate organisation
IBPYP	International Baccalaureate, Primary Years programme
ICT	Information and Communication Technology
MOETE	Ministry of education and Technical Education
NAQAEE	National Authority for Quality Assurance and Accreditation of Education
OECD	Organisation for Economic Co-operation and Development
UNICEF	United Nations International Children's Emergency Fund
PD	Professional Development
PL	Professional Learning
PLCs	Professional learning communities
UNDP	United Nations development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNHDI	United Nations Human Development Index
ZPD	Zone of Proximal Development ()

CHAPTER 1

Introduction

1.1. Introduction

The chapter gives an overview of the main issues studied leading to the research rationale and the research questions. Next, the chapter introduces the statement of the problem and the significance of the study. Finally, the chapter concludes with an outline, giving a brief account of each chapter of the study.

In a developing complex interactive world, there is an increasing focus on the future of the coming generation, and consequently, their education. Questions arise such as; how can we prepare our students for the world in which they will grow? How can we prepare our students for the world of tomorrow? Such questions press researchers for solutions to problems arising in teaching today's students. As much as this is a global issue, still more challenges arise in developing countries, where they pursue ways for a better future. Egypt, as a developing country, aspires to provide contemporary education, with the scarcity of qualified teachers hindering the achievement of this goal.

According to El Fiki (2012), the teacher is one of the central agents in any educational improvement efforts. Hargreaves and Fullan (1992) also mentioned that teachers' thinking, beliefs and actions in the classroom, shape students' learning. Teacher professional development is defined as, "planned activities practiced both within and outside schools primarily to develop the professional knowledge, skills, attitudes and performance of professional staff in schools" (Blandford, 2000, p. 6). Professional development strategies can take different forms; such as, but not limited to; training workshops, seminars, courses, school-based Professional Development activities training programmes, and reflection, (EL Fiki, 2012). Professional development efforts can include some of these activities combined, or limited to one form.

Diaz-Maggioli (2003) saw that professional development is not a one event, but rather, "an ongoing learning process in which teachers engage voluntarily to learn how best to adjust their teaching to the learning needs of their students" (p.1). Lee (2005) examined reflective teacher education as an alternative method to teacher preparation programmes. York-Barr et al. (2001) defined reflective practice as, "An inquiry approach to teaching that involves personal commitment to continuous learning and improvement" (p.3). Reflective teacher education does not only improve teachers' reasoning about the strategies they apply in class and how to improve them, but also it sustains professional growth throughout their professional career (Lee, 2005).

1.2. Rationale of the Study

Reflective practice proved to be one of the prominent approaches in teacher education (Cruickshank, 1985; Dewey, 1933; Schon, 1987; Sparks-Langer and Colton, 1991). Since the beginning of the twentieth century, educational research continues to provide solutions for practice problems using reflection.

The purpose of the study is to explore the perceptions of in-service teachers in international schools in Egypt about conditions that affect reflection as a tool for professional development. This exploration focuses on three aspects; design of the reflective task, different abilities of teachers to approach the task, and effect of the school culture on approaching the task. The study traces the link between reflective tasks and changes in practice. The rationale of the study addresses; what exactly happens that makes teachers change their practices? What have they done differently as a result of this reflection? What were the conditions of this reflective task that resulted in this change? The outcome of the study should enable school policy makers, leaders and teachers to facilitate the conditions that would consolidate teachers' understanding and skills through reflective practices.

1.3. Research Questions

The following research questions are used to find the link between reflective tasks and changes in practice.

- ❖ How do teachers perceive the conditions that help reflective practices lead to their professional development in international schools in Egypt?
 - What are the challenges facing teachers, in international schools in Egypt, to reflect and apply reflective outcomes in their practice?
 - What conditions, in international schools in Egypt, do teachers identify as helping them to reflect, construct learning and apply it in their practice?
- ❖ How does teachers' capacity to use reflection affect reflection as a tool for professional development?
 - What are teachers' different perspectives about reflection?
 - How do background knowledge and skills of the teacher affect the quality of their reflection?
- ❖ How does the nature of the reflective task lead to better application of practice?
 - How does the analytical level of the task help teachers deeply reconsider their practice?

- How does the analytical level of the task lead to the teachers' awareness of what they should change?
- How does the nature of the task lead teachers to take the decision to apply what they found out?
- ❖ How do teachers in international schools in Egypt perceive the relationship between school culture and reflection as means for professional development?
 - How does school culture affect reflection?
 - How do leadership practices and decision making affect reflection?

1.4. Statement of the Problem

Effectiveness of teaching practices is largely bound to context (El-Fiki, 2012), what would work in one context may not necessarily work within another. International schools' curriculum started in countries where these curricula were influenced by very different cultures than of the hosting country. Although international schools sharing the same accreditation, share the same curriculum standards. Teaching and learning practices are affected by the context where the school is located. One of the strong qualities of reflection as a mean for professional development is that it enables teachers to contextualise the challenges they encounter, and develop responses and solutions that are context-appropriate (Powell, 2004). Harrison et al. (2006) saw that the process of teachers' learning should be correlated with practice and acquired from this practice. This observation indicates that teachers' practice can be used as a medium for continuous professional learning.

In addition, reflection can be identified as more economical in time, efforts and money compared to other means of professional development for in-service non-qualified teachers. In Egypt, there are no specific hiring requirements that private schools have to abide to (El Fiki, 2012). The commercialisation of the English language and the shortage of qualified teachers led to school owners being flexible in the criteria of hiring teachers, prioritising language fluency over knowledge of pedagogy (El Fiki, 2012). Most if not all international schools in Egypt are for-profit. Decisions of professional development are affected by this model (James and Sheppard, 2014). Compared to other modes of professional development such as; training workshops, seminars, courses, school-based professional development activities, and overseas training programmes, reflection appear to be empowering (William and Power, 2009) as well as its economical aspect in time, efforts and money.

The study aims to improve teachers' practice in international schools by understanding the hidden beliefs and values about the use of reflection and their complex effect on teachers' interaction with their teaching environment.

1.5. Significance of the Study

The study will investigate the effective reflective practices in the Egyptian context with in-service Egyptian teachers in private for-profit international schools. In these schools, most teachers do not have a pre-service teacher education. Teachers selected for the study come from the same socioeconomic status and share the same cultural background; with all being Egyptian females with Egyptian parents. The selected teachers' age is between 26 and 39 years, with years of experience between 4 and 14 years. They all studied at private language schools in Cairo; and graduated from governmental universities in Cairo with different majors; and all do not have education major degree. They all do not have any teacher certification. Of significance to note that according to El Fiki (2012), "little or no research has looked into teaching and instructional innovations in the private school sector despite the fact that it is rapidly expanding in the country" (p.4).

Reflective practice is not a new idea. Centuries ago, Socrates taught his students that unexamined life is not worth living. Reflection as "an active thought process aimed at understanding and sequencing improvement" appeared as a shared idea throughout literature of reflective thinking (Marzano, 2012, P.12). Reflective practice has been recognised as an influential practice to enhance teacher professional development. According to Powell (2004), "Reflective practice is a hallmark of quality instruction" (P.2). Although reflective practice appears to have gained the attention of practitioners, yet after all the research conducted in this area, it is not fully practised. Marzano (2012) reported on a study conducted by the Council of Chief State School Officers, USA, where the study found that a number of teachers use reflective practice superficially. Hence, not leading to real development or long-term solution for problems. A focus group discussion with some teachers from an international school in Egypt with good knowledge about reflection showed that they do not use reflective practice unless required by the school policy. The focus group also indicated that due to limited time, they do not give reflection much consideration as a tool to improve their practice.

An important finding from the Zero Project of Harvard University regarding creating a culture of thinking about thinking indicates that skills and abilities do not solely create effective learning. Alertness to situations and positive attitudes toward thinking and learning assist in creating effective learning (Ritchhart et al., 2013). These findings call for more research in cultural, social and psychological aspects affecting reflection (thinking about thinking) to reach the best practices in a certain context.

El Fiki (2012) did a comparative study of professional development effectiveness of English teachers in three types of schools in Cairo; public, private and international schools. The study identified three phases that teachers go through when exposed to professional development, with different results in each context. The study mentions that this just a beginning and there is a need for, “a deeper understanding of the process of teacher conceptual development could be obtained. Such information would be helpful in developing context-specific professional development strategies to assist teachers in their work and change prospects” (p.267). Richards (1998) mentioned that reflective practice has a variety of individual and social dimensions. Therefore, reflective practice has to be contextualised to be able to detect the best practices in a certain context. Noting that not all reflective practices would work the best in different contexts, the study will be focusing on this aspect.

The study have significance to practitioners of the field. With practitioners of the field being; pedagogical leaders and teachers at international schools. School owners and pedagogical leaders are the ones who put in place conditions supporting reflection. Fieldwork research is conducted with focused investigation on the context conditions affecting teachers’ reflection. This approach is most appropriate for discovering the relevant variables and building a detailed rich description of these conditions. The study identifies these context conditions, and examines how they can be used to further promote professional development in the context of international schools in Egypt with in-service teachers.

Moreover, the study will have significance to policy makers. Accreditation entities are the quality controllers of education in international schools. Standards set should be assuring the efficiency of the operating systems at the school. These standards are one of the conditions that the study will be exploring. Where the study will explore to what extent do the standards of different international systems support reflection as a tool for professional development. The research outcomes given by Chapter 7 of the study reflect on these standards and offer some recommendations for policy (standards) makers to consider some practices that support reflection into consideration.

1.6. Study Outline

Chapter 1 presented herein gives an introduction to the rationale of the study, research questions, and the significance of the study. Chapter 2 explores the context of the study being in Cairo, Egypt. The chapter gives an overview and some background information about Egypt’s geographical location, economy, political and social status, with a closer look at its education system. The chapter presents an overview of the international education from around the world and in Egypt.

Chapter 3 presents the literature review, first highlighting transition from professional development to professional learning, and how this transition affects reflection. Next, the chapter reviews reflection as a concept, and delineates conditions affecting reflection. The chapter ends by setting the conceptual framework of the study based on the literature review.

Chapter 4 is concerned with the research design, where the chapter clarifies the research paradigm the study is adopting, and gives a description of the research methodology. The chapter then considers data analyses methods, along with an overview of the pilot study. Finally, the chapter gives an account of the ethical issues of the study.

Chapter 5 reports on the study findings. Three main findings of the study are reported as outcomes of the study. The first finding is about the reflective spiral and specific facets with two types of reflection; reflection-on-action, and reflection-in-action. The second finding is about the conditions affecting the reflective spiral considering; the task, the teacher and the context. The chapter ends by providing interpretations of the study findings.

Chapter 6 presents the discussions of the findings. The chapter commences by presenting a model for viewing the reflective process, and the conditions affecting the reflection process. Followed by discussions of the three findings/outcomes of the research, namely; the reflective spiral, the conditions affecting reflection, and the proposed solution to encourage supportive spiral of conditions that move with the reflective spiral.

Chapter 7 is the conclusion, where an overview of the study and the main research outcomes are presented. Next, the chapter identifies the contribution to knowledge of the study. Further, the chapter presents the study; implications, limitations, and recommendations. Recommendations are intended for, policy makers of the IBO (International Baccalaureate Organisation), school leaders and teachers. The chapter concludes with a set of general recommendation for future research.

CHAPTER 2

Context

2.1 Introduction

The chapter describes the context in which participants live and work. I first present a general background about Egypt and specifically Cairo to give a sense of the social and economic situation of the context. I then describe the development in education Egypt has gone through with a focus on international education in Egypt, and the status of teachers in international schools in Egypt.

The study took place in Egypt. The site is an international IB school in Cairo, and participants are all Egyptian females working as teachers in this school. Understanding the context where the school is and where teachers come from gives a clear vision approaching conditions affecting reflection. In the current study reflection is viewed as an empowering tool for teachers that helps them continue to develop independently (William and Power, 2009). Sociocultural contexts change the way the social brain works and consequently change the strategies used for self-reflection (Ma et al., 2012). Contexts shape us, they tell us who we are and what we have to be. Reflective practice has different results in different contexts; contextual conditions that influence reflection (Powell, 2004). This will be discussed more in chapter 3 highlighting the effect of context on reflection.

2.2. Egypt's Background Information

Egypt is a transcontinental country extending the southwest corner of Asia and the northeast corner of Africa. Located North east Africa, between the Mediterranean Sea on the north and the Red Sea on the east. It is bordered by Libya to the west, Sudan to the south and Palestine northeast. (UNESCO, 2007, OECD, 2015). Through history Egypt has taken a strategic political and economic status globally. By controlling the Suez Canal, it connected the Indian Ocean and the Mediterranean Sea, and by controlling the Sinai Peninsula, it controlled the only land bridge between Africa and the rest of the eastern hemisphere (OECD, 2015). Egypt is well known for its pharaonic civilisation and the great monuments and artifacts standing on the Egyptian land to this day. However, there is more in Egypt than what meets the eye.

2.2.1 Country profile

Egypt, known officially as the Arab Republic of Egypt, is one of the most populous countries in Africa and the Middle East. With an estimated population of 102.33 million (World population review, 2020). 40 % among them are children under the age of 18 and almost 1 in every 5 is an adolescent; Egypt has the largest, most densely settled population among the Arab countries (UNICEF, 2017). Its total area is

1.01 million km², of which 995 450 km² is land. Over 97% of the population lives in the narrow strip of the Nile Valley and in the Nile Delta, which is merely 5% of the country's total land (OECD, 2015). Its main features are the River Nile and the desert. Arabic language is the common and official language, while English and French are widely used by the educated classes (Mikhail, 2008).

2.2.2 Political, economic and social status

Due to its special location, Egypt has been ruled by different powers through history, and consequently affected by different cultures. Egypt got fully independent from Britain in 1952 with a revolution that overthrew the Egyptian Kingdom and declared Egypt as an independent republic (OECD, 2017). From 1952 to 2011 Egypt has passed through a number of political and economic changes affecting different aspects of Egyptians' social life. In 2008, the United Nations Human Development Index (UNDP, 2008) marked economic growth in Egypt as rapid. It is not among the world's poorest countries but rather a middle-income country (World Bank, 2019). The poverty rate is high; 19.6% of the population lives under the poverty level of US \$2 a day (UNDP, 2008).

In 25th January 2011, massive anti-government demonstrations erupted into Cairo's Tahrir Square and other Egyptian urban centres leading to the president standing down and handing the power to the army. "Social inequality and inadequate human development coupled with the lack of political reforms have been among the main factors that led to the outbreak of the revolution" (ECES, 2011, p.7). A lot of tension marked this time and the uprisings changed the political and socio-economic context of Egypt (Ghanem, 2014). Although the middle class in Egypt was around 22% of the population in 2010, it was the force that began and drove the uprisings (Ghanem, 2014). The economy is recovering, but macroeconomic imbalances are narrowing, which lead to social conditions to remain challenging. Egypt started to set mega development projects. Fostering human development is one of the pillars of the Egypt Vision 2030 (World Bank, 2018).

2.2.3 Cairo as a research context

Cairo is the capital of Egypt for over a thousand years, and an important political and cultural focal point in the region (Sims, 2003). The population of Cairo is around 20 million, which makes it the largest city in Africa and the Middle East. It is a very homogenous city with 35% under the age of 15 (World population Review, 2020). Government and most of higher-order private sector are concentrated in Cairo, with a high mix of both historical and modern life regions (Sims, 2003). Cairo has a big mix of social classes; poor, middle class and the elite. The city has different kinds of schools; public, private, and international schools (Sims, 2003). Female participation in labour force is higher than the rest of the country (Institute of National Planning, 1998).

2.3 Education in Egypt

According to the constitution, education is a constitutional right for Egyptians. Half of Egypt's population is less than 40 years of age (Baseera, 2016). Around 22 million students are enrolled in the different stages of the pre- university education system in Egypt (MOETE, 2020). Egypt today has the largest students and teachers' population in the Middle East and Africa in the basic education phase (Grades 1-9) (Baseera, 2016). There are issues of quality and equality, and low learning outcomes. This is due to low quality of teaching and rote learning (World Bank, 2019).

2.3.1 Educational reform efforts

Although Egypt has a long history of reformation of education, in 2002, the World Bank published a review for education in Egypt stating that education in Egypt faced numerous challenges to attain its educational goals in spite of all the effort exerted. The reform took a new perspective. In 2003, the ministry developed the national Standards for Education, and the Teachers' Cadre law in 2007. The professional teacher academy was established in 2008 to be responsible for public teacher's continuing professional development and to manage the promotional criteria set by the Cadre law (Baraka, 2019). In 2007, a National Authority for Quality Assurance and Accreditation of Education (NAQAEE) was established to evaluate schools of all types according to international quality standards. In spite of these efforts, "The educational system in Egypt is struggling between attempts of reform and challenges" (Baraka, 2019, p.10). The public educational sector in Egypt did not provide quality education (Centre for Economic and Social Rights, 2014) to meet the labour market demands. This increased the private school market (Egyptian Ministry of Education, 2014) as an alternative to public education.

In recent years, a new agenda of 'learning' is adopted by the Egyptian Ministry of Education through: (a) reforming the current system, referred to as Education 1.0 (EDU 1.0), and (b) transforming the education sector, referred to as Education 2.0 (EDU 2.0). Two foundational projects support these reform efforts; establishing the Egyptian Knowledge Bank, and Teachers First for teachers' continuous professional development.

2.4 International education

International schools started in the mid-nineteenth century. By the mid twentieth century it reached 1000 international schools worldwide (Matthews 1989) and it has been increasing ever since. Lately, students attending international schools are rapidly growing in number (James and Sheppard, 2014). Consequently, international education is moving to the focus of educational research after it was

marginalised, as it was not the focus of research before (Dolby and Rahman, 2008). Although a specific definition of the term international schools was not agreed on, UNESCO International Institute of Educational Planning (2008) has identified some characteristics that international schools can share. There are a number of accreditation bodies initiated over the years as can be seen in Appendix 1. Most international schools will ask for recognition of one or more of these accreditation bodies. Schools will have to follow the country requirements for international schools as well as requirements of the accrediting body/bodies (Hayden and Thomson, 2008).

2.4.1 International education in Egypt

Foreign schools became popular among Egyptian elites in the twentieth century, using modern curricula in English or French (Barsoum, 2004). All public and private schools follow the Egyptian Ministry of education curriculum, sometimes in a different language, except for international schools. International schools follow another curriculum set by an authorising body. International schools are perceived by the Egyptian parents as providing contemporary education not with rote learning and memorisation like the national schools (OECD, 2015).

International schools are rapidly increasing in Egypt (Egyptian Ministry of Education, 2014). This is because the public educational sector did not satisfy the public expectations (Centre for Economic and Social Rights, 2014) as it failed to meet the labour market demands. International schools in Egypt do not fall under the Egyptian Ministry of Education. They create their own operational systems based on the standards set by the authorising educational body. Some of these authorising bodies have standards that address all aspects of school development, while others do not. Based on these standards, schools are left with the obligation of providing details of their own teachers' performance criteria and professional development policies. The problem increases with international schools offering challenging curriculums that need well-qualified teachers.

In April 2020, there were 30 IB authorised schools in Egypt, eight of which are PYP (Primary Year Programme) (International Baccalaureate Organisation, 2020). The IB has its own standards and practises (Appendix 2) that is used as criteria for authorising the school. These standards are also used for planning an action plan for the school and reflecting on it. IB standards cover all school aspects; philosophy, leadership, and curriculum with the requirements for collaborative planning and reflection, the written, the taught, and the assessed curriculums (International Baccalaureate Organisation, 2014).

2.4.2 Teachers in International Schools in Egypt

Starting 1997 reform efforts in Egypt recognised the importance of the teacher. The private educational system, which is thirteen percent from the total number of schools (Egyptian Ministry of Education, 2014), did not get the chance to be part of these reforms (Eltamay and Ramahi, 2014). This left the private sector with the obligation of providing its own teachers' standards and professional development policies. Unfortunately, most schools did not have specific requirements for neither hiring nor evaluating teachers. The problem increased with international schools offering challenging curriculums that needed well-qualified teachers.

Teachers in IB schools are not different from other international schools. They are hired according to the school requirements and there are not specific requirements restricting the schools. The IB has a training course for candidate schools that is IB-recognised professional development. This training course is for two and a half days given to all the school teachers by IB educators. The IB also opens chances and require different professional development courses that teachers and leaders of the school can take along the life of the school (International Baccalaureate Organisation, 2014).

The managerial hierarchy in international private schools is top-down. Top- down process of professional development results in teachers not being part of the decision. PD activities in this set-up are not tailored for teachers, but maintain the system norms. The core of teacher education and professional development must centre on the activity of teaching itself, the teacher who does it, and the context in which it is done (El Fiki, 2012).

Summary

The chapter gave an overview of the context of the study. First, a brief background information about Egypt's geographical orientation, economy, political and social status. Next, it presented the situation of education in Egypt's history and today. It also gave an overview about international education around the world and in Egypt. The chapter ended with an overview of the state of teachers in international schools in Egypt. The following chapter will compile a literature reviews about reflection in the field of teacher education.

CHAPTER 3

Literature Review

3.1 Introduction

This chapter will be reviewing the topic of reflection as a mean of professional learning. First, a review is presented for both concepts of professional learning and reflection, clarifying how understanding of both terms have changed through time. Next, an overview is presented of conditions affecting reflective practice that are relevant to the research questions addressed in the study. The chapter ends with the conceptual framework for the study.

3.2 From Professional Development to Professional Learning

In the past, teacher education mostly provided teachers with the knowledge about teaching not taking in consideration teachers' beliefs or the context where teachers apply this knowledge (Hargreaves, 1994). Over the last 40 years, this vision of teacher education changed from helping teachers to master best practices, to teachers using and producing knowledge suitable to specific instructional contexts (El-Fiki, 2012).

Definition of Professional Development (PD) due to this change of vision took different directions. Lange (1990) gave a general definition of teacher PD as; "a process of continual intellectual, experiential and attitudinal growth of teachers" (p. 250). Blandford (2000) gave a more elaborated definition as the "planned activities practiced both within and outside schools primarily to develop the professional knowledge skills, attitudes and performance of professional staff in schools" (p.6). James (2001) agreed with Blandford's (2000) definition but added the goal of teacher PD to have an effect on students to "educate their learners more effectively" (p. 2).

Definitions of teacher PD then started to incorporate an aspect of transferability of knowledge or the capacity of the teacher to implement the learned knowledge in their own context. Darling-Hammond and Bransford (2005) argued that the fundamental purpose of PD is to help teachers "become adaptive experts" (p.359) to balance between efficiency and innovation (El-Fiki, 2012). Johnson (2009) identified a new paradigm of teacher education where "structures that allow for self-directed, collaborative, inquiry-based learning that is directly relevant to teachers' classrooms" (p. 25). Feiman-Nemser (2001) proposed the notion of teacher PD as the activities or the learning opportunities as well as learning that teachers gain, but explained the notion of learning as the "transformations in teachers' knowledge, understandings, skills and commitments in what they do and what they are able to do in their individual practice as well as their shared responsibilities" (p.1038). Webster-Wright (2009) advocated a move from professional development to a holistic emphasis on learning.

In this paradigm shift, the term Professional Learning (PL) started differentiating itself from PD as being; sustained, intensive, collaborative, job-embedded, data-driven, and classroom-focused (Mattson, 2014). In this sense, PD is more associated with the top-down, training model of in-service based on the “assumption that teachers need direct instruction about how to improve their skills and master new strategies” (Martin et al. 2014, p. 7), while PL, as identified by Martin et al. (2014) to be “ownership over compliance, conversation over transmission, deep understanding over enacting rules and routines, and goal-directed activity over content coverage” (p. 147). PL is active, situated, social and constructed (Putnam and Borko, 2000).

Hunzicker (2011) offered characteristics of effective PL. She argued that school leaders should design learning opportunities for teachers that are; “supportive, job-embedded, instructionally-focused, collaborative, and ongoing” (p. 2). Timperly (2011) provided effective alternatives to top-down PD that actively involve teachers in their learning. His ideas lead to the change in teachers that make a difference, identifying fundamental shifts in thinking about PL:

“a move from thinking in terms of PD to terms of PL, focusing on students, attending to requisite knowledge and skills, engaging in systematic inquiry into the effectiveness of practice, being explicit about underpinning theories of professionalism and engaging everyone in the system in learning” (p.4).

These shifts are placed together in a framework that promotes PL “that makes a difference to students” (p.4), aligning with James’ (2001) idea of; “educate their learners more effectively” (p. 2).

Webster-Wright (2009) introduced the need for a shift in research and practice to understand and support what she identified as ‘authentic professional learning’; continues professional learning. This shift from receiving professional development, to being an active component of the teachers’ learning, means a different conceptualisation of knowledge. Eraut (1995) saw that the act of reflection and action gives teachers the opportunity to verify new concepts in context. El Fiki (2012) added that concepts develop over time; through use, and while synthesising and analysing knowledge and experience. For Webster-Wright (2009), it is professionals who define professional learning and the situation where they have learnt.

In view of the above-mentioned vision of PL teachers are considered to be reflective practitioners who can direct their own learning, design their own PD plans, and become theorists and generators of knowledge about the practice of teaching (El-Fiki, 2012). Webster-Wright (2009) mentioned when learning is activated in the person’s socio-cultural community, with critical reflection on this activation in context, transformative learning happens. For her, critical reflection is important in contextualising

learning by testing knowledge and turning it into transformative learning. She believed that professionals learn through practice and experience that is contextually situated leading to change, and reflection has a crucial role in this type of learning. Hunzicker (2011) viewed reflection as an effective follow-up activity in job embedded PD engaging teachers in learning through daily activities when trying out new ideas and analysing their effect on their actions.

Reflection then seems to be an essential component of any PL programme. The study explores the conditions that facilitate and encourage professional learning and teacher growth. Before reviewing the conditions that affect the effectiveness of reflection, a review of literature of the term 'reflection' and how it became a part of PL will be presented.

3.3 Reflection

The roots of reflective teaching are historically evident in the works of John Dewey (1933, 1938), who maintained that reflection is an important aspect of learning from experience. He is the one who brought attention to the importance of teachers' constant review of their practices and circumstances using what they learned to make decisions for their future. Although Dewey's theories about reflection were exploited by different research studies taking place in teacher education, it was difficult to achieve clarity of its definition. A variety of perspectives and conceptualisations were introduced by different authors of what it means to be reflective about teaching (Poblete, 1999).

Hatton and Smith (1995) examined Dewey's original work and interpretations that followed his work. They concluded that there are four issues about reflection to be addressed. These are; whether reflection is only a thought process that happens about an action or it is always followed by an action; whether it is immediate short term, or extended and systematic; whether it is based on a problem or not; and last but not least, if it was critical taking in consideration wider historic, cultural, political values or beliefs. The term 'reflection' will be explored further in consideration to these four issues, in addition to the different reflective models of teacher education introduced in literature.

3.3.1 Reflective Thinking and Reflective Action

Most researchers agree that reflection is a distinct form of thought. They do not share the view that this thought should lead to action, or that action be considered part of reflection. Moon (2005) viewed reflection as a form of thought which does not have to be coupled with an action following it. For Moon (2005) reflection is part of learning and thinking. Further, Moon (2005) mentions that one reflects in order to learn something, or to learn as a result of reflecting, and the term "reflective learning emphasises the intention to learn from current or prior experience" (p.80). For Kember, et. al (2008),

reflection mostly is a thought process happening on action. "Reflection operates through a careful re-examination and evaluation of experience, beliefs and knowledge" (p. 370). Experienced teachers can reflect while they are teaching; "Reflection most commonly involves looking back or reviewing past actions, though competent professionals can develop the ability to reflect while carrying out their practice" (p. 370).

For Burton (2009), reflection requires cognitive processing of conceptualising teaching practice and acting upon it through a sequence of phases; developing a concern, expressing it, responding to it, relating it to experience or input, finding responses and information, applying the responses and acting upon the insights gained. Further it was explained that going through those phases results in conceptual development and consequently professional renewal. The term 'reflective action' was mentioned by Dewey (1933, 1938) as application of the solution of problems that had been thought through, which completes the cycle of professional 'action' that follows 'reflection', consequently leading to modified practice (Hatton and Smith, 1999).

3.3.2 Reflective Thinking-on-action and Reflective Thinking-in-action

Reflective Thinking-on-action and in-action were seen differently by different researchers. Schon (1983) was one of the first researchers that highlighted clearly that the only learning that influence behaviour is self-discovered. He proposed the concepts of 'reflection-in-action' and 'reflection-on-action'. Reflection-in-action occurs inside the classroom while teachers are teaching which leads to changing their practice (Schon, 1983). Reflection-in-action is unconscious thinking and application while on the job. Reflection-on-action occurs outside the classroom, where teachers reconsider decisions they made in the class after they taught and use this knowledge to make future decisions about their practice.

For Garman (1986), reflection is a process of inquiry that generates knowledge by reparative experiences with written interpretations. Reflection-on-action is a procedure for examining current experiences to understand them and develop a conceptual framework to use it in practice. On the other hand, reflection in-action refers to what happens when the teachers are faced with a problem and how to solve the problem in the context of action. In other words, reflection in-action unites research and practice.

Farrell (2012) argued that both reflection-on-action and reflection-in-action can encourage teachers to another type of reflection; reflect-for-action. Reflective teachers being alert to what is happening in their class, consequently take a step of reflecting specifically to take an action. In his view, all types of reflections are engagement in evidence-based inquiry enabling teachers to "articulate to themselves

(and others) what they do, how they do it, why they do it, and what the impact of one's teaching is on student learning" (p.14).

McKnight (2002) viewed reflection as a process for learning in practice. The term reflective thinking identifies a multifaceted process that "is an analysis of classroom events and circumstances. By virtue of its complexity, the task of teaching requires constant and continual classroom observation, evaluation, and subsequent action" (p. 1). McKnight (2002) highlighted that for teachers to reach the competency required they have to conceptualise the experience through deeper considerations of the context, and reasons behind what is happening in the class.

3.3.3. Time Frame

The issue of time frame; reflection being immediate short term or, extended and systematic, is linked to the concepts of reflective thought and reflective action. For Schon (1983, 1987) reflection-in-action is simultaneous reflecting and doing. This is needed for the teacher to be skilled in thinking consciously about what is happening in the class and to modify actions immediately. Reflection on-action mostly is looking back to the experience some time after it had taken place (Hatton and Smith, 1995). In technical reflection, the teacher reflects almost immediately after an attempt at implementation, and then making changes to behaviour (Cruikshank, 1985; Killen, 1989).

Griffiths and Tam (1992) considered that the reaction to reflection in-action should be rapid while reflection on-action is a longer slower process. They saw reflection in-action as likely to be personal and private divided into; first acting, having a rapid reaction, monitoring this reaction, planning, then acting. While, reflection on-action is likely to be interpersonal and collegial divided into longer three stages. The reaction-on-action first starts by a review of the situation through; act, observe, analyse, evaluate, plan, and act. Followed by researching the situation through; act, observe systematically, analyse rigorously, evaluate, plan, and act. Finally, it ends by rehearsing and reformulating through; act, observe systematically, analyse rigorously, evaluate, re-theorise, plan, and act.

3.3.4. Problem Solving

Lee (2015) mentioned that teachers reflect when there is a problem or when the teacher wants to reconsider an educational situation or a conclusion previously reached. Hatton and Smith (1995) disagreed by raising a question; should we reflect only when we have a problem to solve? They identified a lot of reflective approaches, for example; use of journals and group discussions following practicum experiences, that are not directed to a solution of a specific problem. O'Dowell, Reeve and Smith (2011) viewed reflection as useful when there is a problem we are trying to solve. They defined

the term reflection-for-action as “reflecting by looking forward towards future actions; it is reflecting before further action (reflecting for change)”(P.22).

Another concern is who identifies the problem. Is it the teachers or their superiors? Clark (1992) argued that teachers do not accept top-down means of professional development with positivity where the teacher is “presumed to be passive, resistant, deficient and one of faceless, homogeneous herd” (p. 75). El Fiki (2012) argued that top-down approaches to learning “minimises teacher agency in the process of their own learning” (p.234).

Action Research (AR) is also used by teachers looking to build upon, and enhance already very good practice. It could be based on teachers’ reflection. Action Research (AR) can deal with challenges that teachers face or address issues they want to focus on. Stenhouse (1975) highlighted the importance of AR where the concepts of classroom-based, reflexive process stem from teacher-based action research. He believed that teachers should act as active researchers of their own practice through practical inquiry. Moon’s (2005) explanation of transformative learning aligns with reflective action as an application of solutions of problems that had been thought through, leading to change of practice. Action research also involves transformative learning, as teachers focus on certain issues to find alternatives and consequently transform/change their practice (Stenhouse, 1975; Burns, 2010).

3.3.5 Critical Reflection

According to Lucas (2012), there is no clear agreement between researchers of what is meant exactly by critical reflection. In literature, different terms for critical reflection were used. “The terms reflection, critical reflection, reflective practice, reflective thinking and reflexivity have similar meanings and application in educational literature, as well as, used interchangeably” (Lucas, 2012, p.1). There seems to be an agreement that it is a key component in the learning processes of professional practice when rich learning is possible through context specific experiences. There is also an agreement that critical reflection entails higher, more complicated level that challenges the learner and the educator (Lucas, 2012).

Reflection that leads to change of practice needs critical conceptualisation of the experience. Lucas (2005) identified critical reflection as a key component when professional learning is intended from the experience. She saw that the most important feature in critical reflection is its ability to conceptualise the experience and lead to transforming learning. Mezirow (1990) linked critical reflection to transformative learning, which leads to changes in personal understandings and potentially behaviour. For Moon (2005), the term transformative learning refers to the “ability to revise the meaning structures” (P.96). Her understanding of transformative learning aligned with how Badie (2016) saw

conceptualisation through the constructivist model of knowing as; “humans developing (forming and reforming) their constructed concepts, and processing their meaning construction” (p.293).

There is a wide variety of techniques and approaches used in practising critical reflection, ranging from informal discussions to highly structured format (Lucas, 2012). Table (1) summarises aspects available in different critical reflection frameworks in literature:

Table (1): Summary of Key Features of Different Frameworks of Critical Reflection

Researches Reflective aspect	Surbeck, Han and Mover (1991)	Miller (2011)	Larrivee (2008)	Lee (2005)	Hatton and Smith (1995)	O'Dowel l, Reeve and Smith (2011)	Korhtagen and Vasalos (2005)
Attending to emotions	✓	✓					
Elaborating Details	✓	✓	✓	✓	✓	✓	
Reasoning (<i>depth</i>)				✓	✓	✓	✓
Considering the Context (<i>breadth</i>)			✓	✓	✓	✓	✓
Considering pedagogical identity, and mission (<i>core reflection</i>)							✓
Considering Pedagogical Theories	✓	✓	✓				
Building conclusions and insights	✓	✓					
Identifying Future plans		✓				✓	

Each of the above frameworks approached critical reflection differently, but none of them was able to capture a complete picture of what critical reflection could entail. Elaborating on details was the only aspect that all frameworks approached except for Korhtagen and Vasalos (2005). Each framework had a different perspective when seeing the details of the experience. Surbeck, Han and Mover (1991), Larrivee (2008) and Miller (2011) understood the event by relating and comparing it to pedagogical theories. In Lee (2005), O'Dowell, Reeve and Smith (2011) and Hatton and Smith (1995) frameworks it was recalling the experience by describing it without looking for alternative explanation. Reacting to the experience using ‘feelings’ was approached only by Surbeck, Han and Mover (1991), and Miller (2011) as an emotional trigger to bring to consciousness any personal concerns.

According to Lucas (2012), critical reflection is identified by two important aspects; first not accepting the situation at face value, but to look ‘deeper’ to see the influences on the situation, and second the ability to examine the ‘broader’ the bigger picture and see the situation more holistically by considering the context. Surbeck, Han and Mover (1991) and Miller (2011) frameworks did not approach neither the depth of the experience by considering reasons, nor the breadth of the experience by considering the wider context. Larrivee (2008) considered the context by examining ethical, social and political issues but, it did not consider the depth of the experience.

Although Lee (2005), Hatton and Smith (1995), and O'Dowell, Reeve and Smith (2011) frameworks considered both the depth and the breadth of the experience, they all missed out on most aspects of what others considered critical reflection. Attending to emotions, considering pedagogical theories, building conclusions and insights, and identifying future plans, as aspects of critical reflection were not approached by their frameworks. Building conclusions and insights, and identifying future plans are two important aspects of reflection (El Fiki, 2012). Very few frameworks attended to those two aspects. Surbeck, Han and Mover (1991), and Miller (2011) were the only frameworks that had drawing conclusions and insights as a reflective level. O'Dowell, Reeve and Smith (2011), and Miller (2011) were the only frameworks that gave a chance for the teacher to identify future plans.

Korhtagen and Vasalos (2005) took a different perspective in exploring levels of reflection. Although their framework introduced novel ideas about the depth and breadth of reflection, it did not clearly approach; elicit feelings and experience, build conclusions and insights, or identify future plans. Korhtagen and Vasalos (2005) focused on the teacher, and they introduced the concept of core reflection that they believed leads to actual change of behaviour. They introduced the 'Onion model' that identified six levels of the content of reflection; environment (everything outside the teacher), behaviour (both less effective and more effective of the teacher), competences (of the teacher), and beliefs (of the teacher). The last two levels were deeper levels to reach the core reflection; professional identity (explores self-concept) and mission (concerned with what inspires, and what makes meaning).

3.4 Reflective Teaching Models

Following the reflective movement in the 80s, different reflective models for teacher education emerged. Each model highlighted different features of the reflective process. Table (2) presents summary table of comparing/contrasting the key features of different models of reflective practice:

Table (2): Summary of Key Features of Different Frameworks of Different Models of Reflective Practice

Researches Reflective aspect	Kolb (1984)	Wallace (1991)	Korhtagen and Vasalos (2005)	Pollard (2014)	El-Fiki (2012)
Reflection is spiral	✓	✓	✓	✓	✓
Teacher schemata		✓			✓
Received knowledge		✓			✓
Experience/action	✓	✓	✓	✓	✓
Reflection	✓	✓	✓	✓	✓
Collect, analyse, evaluate data				✓	✓
Awareness/Conceptualisation	✓		✓	✓	✓
Contextual factors					✓
Teacher's personal attitudes					✓
Plan alternative methods		✓	✓		

Taking the decision to experiment again					✓
Experiment again	✓	✓			✓
professional expertise		✓			✓

Although different models had a different view about the reflective process, they all agreed that it is spiral divided into different stages/phases. Kolb (1984) suggested a spiral model and called it ‘The Experiential Learning Cycle’ (ELC) consisting of four stages; concrete experience, reflective observation, abstract conceptualisation and active experimentation. Wallace (1991) model is a version of Kolb (1984) four phase ELC (El Feki, 2012), adding a pre-training stage acknowledging teachers’ schemata of knowledge, and a post-training stage of teachers reaching professional expertise. The training stage in the middle is a repetitive reflective spiral of applying what is learned to everyday practice, reflecting on their application, and make decisions of future practice based on their reflection. Korhtagen and Vasalos (2005) model of reflection was called ALACT identifying the stages a reflective spiral goes through; Action, Looking back on action, Awareness of essential aspects, Creating alternative methods of action and Trial. Phase 5 then becomes the first phase of the next cycle of reflection, creating a spiral of professional development. Pollard (2014) believed that a basic characteristic of reflective practice is ‘spiral’ in which teachers plan, make provision, act, collect data, monitor, evaluate and revise their practices constantly. El-Fiki (2012) builds on Wallace (1991) and introduced a three-phase spiral model taking into consideration contextual and sociocultural factors that exist within teachers’ learning and work environment. She performed her study of the model in Egypt.

Although El Fiki (2012) reflective model was the most comprehensive in considering a wide range of aspects of the reflective process, her model did not consider the depth of some of those aspects. Her first phase; pre-training agreed with Wallace (1991) considering teachers’ schemata and providing teachers with knowledge before practice. They both saw that professional learning starts with providing teachers theories about learning. Then examining those theories in consistent everyday practice. Her second phase; competence development phase, aligned with all other models that teachers go in a spiral of reflection, where they apply in their classrooms and reflect of this application. In this phase she viewed a spiral of collecting, analysing, and evaluating data based on action, which matches how Pollard (2014) viewed the reflective spiral components.

In spite that Kolb (1984), and Korhtagen and Vasalos (2005) agreed with El Fiki (2012) and Pollard (2014) in viewing conceptualising the experience and reaching the awareness needed as an aspect to consider in the reflective spiral, they did not consider the detailed process of how teachers collect, analyse, and evaluate data around the practice. El Fiki (2012) gave weight in her study of how teachers analyse conflicting issues occurring within their old and new knowledge through observations or experimentation that lead to the reframing of their understanding. When doing so contextual factors,

and teachers' personal attributes such as feelings of self-efficacy goals affect the degree teachers may adopt or adapt new knowledge.

El Fiki (2012) model was the only model that considered contextual factors and teachers' personal attitudes. She did not elaborate or examine what those contextual and personal attitudes are. There was an emphasis in her model on the process of testing new experiences against previous experiences as important for new knowledge to become conceptually and contextually appropriated. She focused on the idea that knowledge and competence develop through what she called 'dialectical relationships'; the tensions and struggles between teachers and the contextual variables of their teaching settings until arriving to a resolution. Teachers have to deal with related contextual limitations and aids like; instructional materials and students' characteristics, that affect their implementation of new concepts. Her study was a cross-context analysis in different types of schools in; public, national private and international schools in Egypt. She reached a conclusion that the outcomes of reflection are affected by a number of contextual factors like; the political status of the country, policies of the Ministry of Education, school culture and some logistical procedures at the school.

Planning alternative methods was perceived as a key aspect for maintaining a reflective spiral by Korhtagen and Vasalos (2005) and Wallace (1991). El Fiki (2012) saw the process of applying in context the first time may lead to a decision of trying new concepts one more time or discarding the new knowledge completely. For her the reflection process should be compatible with teachers' existing knowledge, needs and goals to continue. El Fiki (2012) agreed with Wallace (1991) and Kolb (1984) in highlighting 'experimenting again' as an aspect of the reflective model. Wallace (1991) and El Fiki (2012) agreed on a third stage/phase in their model of 'professional growth' as outcomes of teacher experience that highlight the professional competence change that happened.

3.5 Conditions affecting Reflective Practice effectiveness in leading to Professional Learning

Although reflective practice could be viewed as a practical way for professional learning, still there are challenges that might minimise its effectiveness or even negate benefits completely. Reflective practice was given a lot of attention from researchers exploring conditions around reflection that support the generation of knowledge and continuity of learning (Marzano et. al, 2012).

In this section of the literature review the challenges that reflective practice face to result in the teachers' development and growth will be explored. Johnson (2009) observed that "How an individual learns something, what is learned and how it is used depend on the sum of the individual's prior experiences, the sociocultural contexts in which the learning takes place, and what the individual wants, needs, and/or

is expected to do with this knowledge” (P. 2). The design of the reflective task can identify the extent critical reflection is accessed (Moon, 1999; Surbeck, Han and Mover, 1991; Miller, 2011; Lee, 2005; Hatton and Smith, 1995; O’Dowell, Reeve and Smith, 2011).

Next are the conditions affecting reflection to be explored:

- The cognitive abilities, Personal characteristics, belief and attitudes of the teacher.
- The nature of the reflective task and the task design.
- The school culture and how it supports or discourages reflection.
- The Egyptian context and how it affects reflective practice.

3.5.1 How do cognitive abilities, beliefs and attitudes of the teacher affect reflective practice?

3.5.1.1. Knowledge and Beliefs

Pajares (1992) defined beliefs as “an individual’s judgement of the truth or falsity of a proposition, a judgement that can only be inferred from a collective understanding of what human beings say, intend and do” (p.316). Pajares (1992) divided educational beliefs into different types; beliefs about confidence to affect students’ performance (teacher efficacy), about the nature of the knowledge (epistemological beliefs), about causes of teachers’ or students’ performance (attitudes, locus of control, motivation, wiring apprehension, math anxiety), about receptions of self and feelings of self-worth (self-concept, self-esteem), about confidence to perform specific tasks (self-efficacy). There are also educational beliefs about specific subjects or disciplines (reading instruction, the nature of reading, whole language).

Drawing on the social constructivist approach, Nagamine (2007) argued that there is no clear-cut distinction between teachers’ knowledge and beliefs. He sees teachers’ knowledge as constructed in social interactions through different experiences that becomes internal. James (2001) defined teachers’ knowledge as “a set of beliefs, understandings, and assumptions that evolve further through teachers’ learning and teaching experiences” (cf. Britzman, 2003; Tann, 1993). Teacher beliefs, defined by Kagan (1992) as “unconsciously held assumptions about students, classrooms, and the academic material to be taught” (p. 65), and are developed over a teacher’s career. Therefore, “teachers’ knowledge can be defined as a combined form of experiential and professional knowledge deeply rooted in teacher belief” (Nagamine, 2007).

Knowledge in teachers’ cognition research was studied from different perspectives. According to Johnson (1999), teachers’ knowledge includes, subject matter knowledge, general pedagogical

knowledge (i.e. general knowledge about teaching), pedagogical content knowledge (i.e. teachers' understanding of the relationships between content and pedagogy), and knowledge of context (i.e. context specific knowledge that teachers use to serve learners in particular context). Johnson (2009) argued that all types of teachers' knowledge can not be separated from teachers' prior experiences, values and individual goals.

Abdelhafez (2010) argued that teachers' knowledge should be conceived as experiential, practical, personal, situational and contextual and is also conceived of in relation to teacher reasoning. For him, it is practical as defined by Mundy et al. (2001) "based on the personal understandings that teachers have of the practical circumstances in which they work and classroom knowledge that is situated in classroom events" (p.880). It is experiential as it is mostly generated by teachers themselves based on experiences and their reflections on those experiences (Meijer et. al,1999) and "teachers' past experiences, present actions and future plans all constitute the bulk of teacher knowledge" (Xu and Liu, 2009, p.505). It is personal as teachers use their knowledge to enable them to work in personally meaningful ways and maintain their growth (Elbaz, 1981, Turner-Bisset,1999).

Alexander et. al (1991) defined knowledge as "all that a person knows or believes to be true, whether or not it is verified as true in some sort of objective or external way" (p. 317). Verloop et al. (2001) used the term 'knowledge' as an "overarching, inclusive concept, summarising a large variety of cognitions, from conscious and well-balanced opinions to unconscious and un-reflected intuitions" (p.446). Fenstermacher (1994) used the term 'knowledge' as a grouping term to include; insights, imaginings, musings, awareness, understanding, recollections, predictions, anticipations, and a host of other activities. Thompson (1992) referred to teacher conceptions, "viewed as more general mental structures, encompassing beliefs, meaning, concepts, propositions, rules, mental images, preferences, and like" (p.30). Further, highlighted that those conceptions or mental constructs are subject to change through experience.

3.5.1.2. Beliefs and Attitudes

Teachers' attitudes stem from their beliefs and are based on them. Understanding underlying belief systems help us to understand teachers' attitudes (Borg, 1998). There are different beliefs and attitudes identified to affect teachers' reflection. Korhtagen and Vasalos (2005) linked to positive psychology by focusing on character strengths to facilitate exploration of personal beliefs. They used Peterson and Seligman (2003) ideas that when people are referring to their strengths, this correlates with a feeling of 'this is the real me', that they show 'a feeling of excitement when displaying a strength', and 'a rapid learning curve'. William and Power (2009) focused on the importance of the 'whole person' in teaching

and learning by acknowledging emotions and values. Poblete (1999) reflective model acknowledged 'love of teaching' as the core of the model that boosts all other dimensions. Her other dimensions were; the knowledge base of the teacher, the ethics of caring and teachers being a role model, the teachers' constructivist approach to learning, and artistic problem solving.

Teachers' attitudes are "shaped by experience, society, and the educational culture in which the teacher works" Brock (1994, p. 51). Teo and Tan (2011) investigated the ways personal beliefs and values of teachers can affect their reflection examining teachers' beliefs, dilemmas, biases and prejudices in their reflective narrative. They concluded that teachers had different aspects associated with their role; their years of experience, their beliefs about reflection and teaching and learning; and their personalities. It was also evident that teachers avoided any critical issues when reflecting. The researchers advised that reflective activities need to be carefully designed to reach deeper and uncomfortable reflections attending to sensitive issues.

Dewey (1938) saw that reflective teachers "require attitudes of open-mindedness, responsibility and whole-heartedness" (p.80). Pollard (2014) clarified Dewey's definition of the three terms by giving examples and widening the perspective. For him using the attitude of open-mindedness, opens the doors for accepting others ideas and perspective that is different from one's own. It highlights the idea of the willingness to challenge our own assumptions, prejudices and ideologies, and to take responsibility to improve students' learning. Wholeheartedness comes with caring and focusing on professional and personal judgments about what is worthwhile.

Burton (2009) interpreted Dewey (1933, 1938) views about reflecting teachers that they have to be; responsible for all actions and reactions of their teaching, open-minded listening to all point of views and wholehearted having teaching at the core of their being and actions. She saw that reflection is affected by teachers' knowledge and cognition, that can be influenced by more basic factors like how teachers view themselves as people and teachers. El-Fiki (2012) built on Burton (2009) ideas highlighting that contextual factors and the purpose of the reflection, which can influence teachers' attitude towards the reflection. For example, if the reflection was forced on them by the institution or it was personally initiated.

According to Bandura (1997), personal efficacy is a central mean of human agency. Belief in one's efficacy is a key personal resource in personal development and change (Bandura, 1997). Self-efficacy works on all levels whether cognitive, motivational, affective, or any decisional process. It also determines the choices people make. In the face of difficulties, people with high self-efficacy are more risk takers. They can see opportunities by self-regulatory skills and perseverant effort. (Bandura, 2006)

3.5.1.3. Cognition and Emotions

The relationship between emotions and cognitions is strong. Immordino-Yang and Damasio (2007) highlighted the importance of emotions in learning, and in bringing previously acquired knowledge to inform real-world decision making in social contexts. They provided a biologically base explanation of the relationship between emotions and cognition. Aspects of cognition like; learning, attention, memory, decision making, motivation, high reason and rational thinking and social functioning, are not only affected by emotions, but “subsumed within the processes of emotion” (p.7). Logical reasoning cannot be “recruited appropriately and usefully in the real world without emotion” (p.7). “Emotions help to direct our reasoning into the sector of knowledge that is relevant to the current situation or problem” (Immordino-Yang and Damasio, 2007, p.8).

Due to “What teachers do is directed in no small measures by what they think. The question of relationships between thought and action becomes crucial” (National Institute of Education, 1975, p.1). According to Borg (2006), studying teachers’ cognition is studying what teachers think, know and believe. With an insight from the field of psychology, understanding teachers’ cognition is central to understanding teaching and providing a basis of effective teacher preparation and development. The effect of thinking on action is cyclic; the decisions and actions taken by a teacher inform the consequent behaviour of the teacher. “Classroom events shape subsequent conditions” (Borg, 2006, P.12). Artzt and Thomas (2012) found that knowledge, beliefs, and goals form a network of cognitive models that direct and control the instructional behaviour of teachers in the classroom.

Using biology and cognitive science can explain human learning and development and their relationship with cognition, emotion, and learning. Fischer et al. (2007) argued that when one can observe the processes happening in the brain and the body, one can see the biological effects of educational interventions and relate them to outcomes in learning and development. Immordino-Yang (2011) examined the neuropsychological relations between social emotion and self-awareness. She claimed that a person’s attention shifts inward to the self when one evaluates “emotion-related visceral sensations in relation to personal memories” (p. 314). She also saw that the conversation with others about their feelings leads to awareness of themselves. For her, “social emotions about other’s mind states may function as a vehicle for examining the morality of the psychological self—in essence, using memory and somatosensation to build a heightened, internally focused awareness” (p.313).

Immordino-Yang and Damasio (2007) highlighted the importance of emotions in learning, and in bringing previously acquired knowledge to inform real-world decision making in social contexts. They provide a biologically base explanation of the relationship between emotions and cognition, illustrated in Fig. 1. They used the term emotional thought to highlight the large overlap between cognition and

emotions. Their explanation to the diagram is;

In the diagram, the solid represents emotions; the dashed ellipse represents cognition. The extensive overlap between the two ellipses represents the domain of emotional thought. Emotional thought can be conscious or nonconscious and is the means by which bodily sensations come into our conscious awareness. High reason is a small section of the diagram and requires consciousness (p.8).

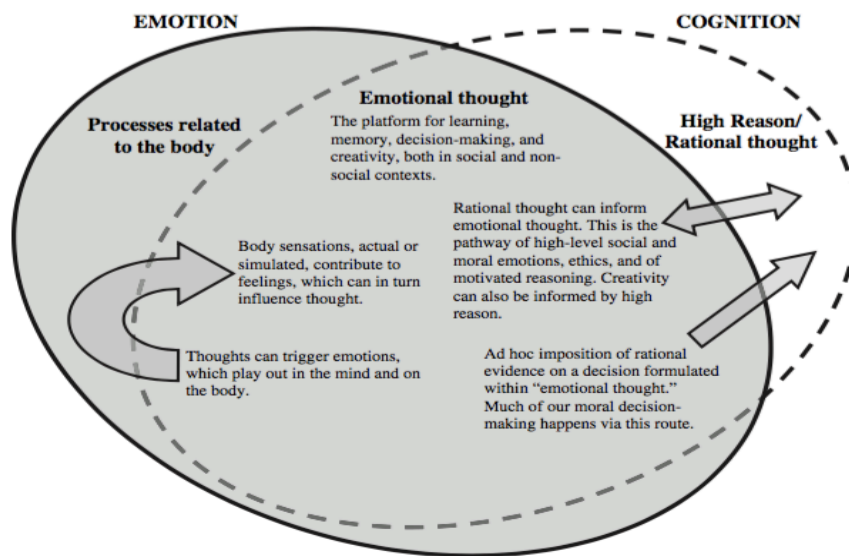


Figure (1): Immordino-Yang and Damasio (2007) graphical depiction of the neurological relationship between cognition and emotion.

For them aspects of cognition like; learning, attention, memory, decision making, motivation, high reason and rational thinking and social functioning, are not only affected by emotions, but included in the processes of emotion. They claimed that we cannot think logically with useful outcomes in the real world without emotion. Their explanation was that emotional trigger create changes in the body and mind that leads to focusing of attention, calling up of relevant memories, and learning the associations between events and their outcomes. Emotions call for the reasoning that is in the sector of the knowledge connected to the current situation. "Emotion, then, is a basic form of decision making, a repertoire of know-how and actions that allows people to respond appropriately in different situations" (p.8). Emotions, such as fear, anger, happiness or sadness affect the body, as they use brain systems to affect the body regulation and sensation (Damasio et al., 2000). They affect cognition, change of thought for example; seeking revenge in anger, or escape in fear.

The process of reflection needs high personal skills. Mirzaei et al. (2014) identify the skills of; "Observation, communication, judgment, decision making, and team working are five important reflective thinking skills" (p.635). They concluded that those skills can be improved by different methods like; recording, writing, drawing, photography, portfolio. Sellars (2012) argued that the

effectiveness of educational changes depends on teachers' skills, opportunities for reflective practice and the development of self-knowledge. She claimed that for teachers to improve the educational outcomes for their students, they must have both the willingness and cognitive capacities to recognise ethical dilemmas and examine their own perspectives on the issues they face critically and analytically.

Teachers make decisions and take actions based on their own perceptions of knowledge, beliefs, attitudes, capabilities and feelings. Borg (2003) saw that "teachers are active, thinking decision-makers who make instructional choices by drawing on complex, practically-oriented, personalised, and context-sensitive networks of knowledge, thoughts, and beliefs"(p.81). "The uniqueness of humans resides in their self-directing and self-transforming capacities" (Bandura, 2006, p.173). Social cognition theory perceives people as agentic by nature; they are producers as well as products of social systems. Bandura (2006) identified four core properties of human agency; intentionality, forethought (set themselves goals and anticipate likely outcomes of prospective actions to guide and motivate their efforts), self-reactiveness (self-regulation), and self-reflectiveness (metacognitive capabilities). People with more agentic resources, of ability to develop their competencies, self-regulatory skills, and enabling beliefs in their efficacy, are more able to make a wider scope of action, and are more successful in realising desired futures. (Bandura, 2006).

3.5.2. How does the nature of the task affect reflective practice?

The process of reflection is meant to use human thoughts and feelings as a base for discovery of new ideas and concepts. For reflection to reach this ultimate goal, it has to be 'critical' enough to reach the depth required and extract from repetitive reflection on experiences reasons behind the success or failure of some practices, consequently, making decisions for future actions. The level the reflection reached depends on the nature of the stimulus provided and the feedback received (Surbeck, Han and Mover, 1991).

O'Dowell, Reeve and Smith (2011) considered oral and written reflection. They argue that the form of reflection has to vary, as some teachers reflect better orally, others reflect better in writing, others can reflect better while viewing a video tape of their teaching or of a peer. Burton (2009) observes that writing is a better form of reflection. His reasons were that; a lot of teachers' knowledge and insights are lost if not documented, writing in itself involves reflection, and writing can document reflection in-and-on action.

Moussa-Intaty (2015) explored reflections, with and without guiding questions. Results of her study indicated that most students preferred to use guiding questions while reflecting. Also, the quality of the reflections increased when providing questions to students. Deewr (2009) highlighted that educators can frame their reflective practice within a set of overarching questions, developing more specific

questions for particular areas of enquiry. Researchers viewed scheming reflective questions differently. Table (3) summarises and compares/contrasts the key features of different researchers' view of scheming questions:

Table (3): Summary of Researchers' View of Scheming Questions

Questions features	Researches	Hilsdon (2010)	Ryan and Cooper (2006)	Korhtagen and Vasalos (2005)	Miller (2011)
Overarching questions, more specific questions					
Exploring personal desires				✓	
Encouraging description		✓	✓	✓	
Encouraging analysis		✓	✓		
Evaluative questions		✓			
Focusing on students			✓	✓	
Exploring options			✓		
Future actions			✓		
Professional identify			✓		✓
Personal abilities			✓		
Exploring direct context				✓	✓
Exploring political/social circumstances					✓
Personal identity				✓	
Exploring literature and theories					✓

Hilsdon (2010) and Ryan and Cooper (2006) set of questions focused on the event of teaching itself. Their questions explored how teachers can first describe the event; what happened. Then, more analytical questions; why what happened, happened. These two levels of questions guide teachers to deeply understand the event itself before going deeper. Hilsdon (2010) continued his sequence of questions by analytical/reflective questions like; What if I had chosen my words more carefully? The questions then turn to more evaluative/reflective questions like; So what? Would that have made any difference to the outcome? So what? Would that have made any difference to the outcome? Where can I go from here in my interactions with this person? Ryan and Cooper (2006) sequence of questions took another direction. In this aspect, the researchers explore; students' needs, options available, teacher's professional identity, and one personal abilities.

Korhtagen and Vasalos (2005) did not focus on the event as much as on the humans in the event; students and teachers. The researchers' set of questions had four dimensions; wanting, feeling, thinking and doing. Questions were designed to reach core reflection that is identified by six levels. The first questions are connected to the levels of identity and the mission. The second questions are connected to limitations factors in the environment, behaviour, competencies and beliefs. The third level of questions explore alternatives methods of action. Questions then compare the difference between the ideal situation and limitations highlighting core discrepancy that is most probably the source of other problems on the levels of behaviour, competencies or beliefs.

Miller (2011) set of questions focused on the context around the teacher. First, the questions explored one's professional identity; own experiences and knowledge. Then, the questions compared the outcome with the experiences and knowledges of others in the direct context; parents and staff. Next, the questions are developed to explore literature and theories to find alternatives, and end by exploring the wider context of social/political circumstances.

The models of scheming questions for reflection mentioned guided designing the lesson reflection questionnaire used as one of the reflective stimuli in the current study. Further discussions of the research design are presented in Chapter 4.

3.5.3. How does the direct context affect reflective practice?

The abovementioned researchers' studies suggest that reflective task design is a cognitive process that needs a specific procedure to go through to reach a deeper level. Other researchers highlighted a social dimension in the context where reflection happens leading to deeper reflection. Different researchers addressed the effect of context on reflection from different perspectives.

Johnson (2009) linked higher levels of thinking and critical reflection with social activities to help teachers break their barriers and progress to deeper levels of reflection. She observed human cognition form a sociocultural perspective, stating, "human cognition is formed through engagement in social activities" and its "semantic artefacts" are what help the relationship between cognitive and social to strive and create "human forms of higher-level thinking (Johnson, 2009, p.1). The researcher explained that when teachers are engaged in collaborative/group critical thoughtful conversations about their work with attention to evidence, they externalise their current knowledge and internalise concepts about teaching.

William and Power (2009) highlighted the social dimension of reflection and the importance of teachers engaging in collegial conversation with trusted colleagues. Connel (2014) agreed with proposing an understanding of how reflection is a social practice. Also, Connel (2014) argued that when teachers collaborate, their understanding is activated and clarified when they go into conversation telling of their experience. The conversation can act as a theory building activity when they search for and organise meaning. In this situation, teachers gain mutual understanding with trusted relationships of trust, which builds the sense of community. The sense of community helps teachers pursue their professional growth and development, with understanding based on experience giving insight and new experience.

Solomon (1987) concentrated on the support of colleagues and mentors to build understanding claiming that when teachers articulate their ideas to others, it helps in forming an open critical perspective. Ideas

extended to different concepts such as ‘culture of collaboration’, ‘community of enquiry’ and ‘network learning’. Powell (2000) also focused on the school culture of continuous conversation as one of the conditions essential for teachers’ reflective practice to lead to development. The researcher argued that a vision of building a culture of reflective practice is an essential component of successful teaching practice. In Solomon’s (1987) opinion, separating professionals from each other spread professional ignorance. Reflective teaching connect professionals when colleagues constantly come together to examine and analyse how students reacted to different teaching actions and accordingly modify instruction.

Hargreaves (1995) and Burton (2009) suggested teachers should not wait until administration give them time for collaboration, but they can allocate time for themselves. Burton (2009) believed that when teachers have their own collegial collaboration rather than that is forced on them, they create a relationship free of system pressure. This is important, as system pressure can limit reflection to being superficial and teachers do not go to more technical or practical levels. Johnson (2009) argued that Collaborative Teacher Development (CTD) cannot thrive unless it is supported by the institution. She identified two types of support; logistical and financial support, providing time and opportunities for collaboration, and moral support by valuing and understanding the importance of teacher collaboration by different leadership positions and ready to accept any consequences. Finlay (2008) also looked at practical problems in the manner that the reflection is handled. Four guiding principles were given to educators to get the best out of reflective practice in her study. Namely, present reflective practice(s) with care, provide adequate support, time, resources, opportunities and methods for reflection, develop skills of critical analysis and take proper account of the context of reflection.

A professional learning community (PLC) is defined by Harris and Jones (2010) as “a group of connected and engaged professionals who are responsible for driving change and improvement within, between and across schools that will directly benefit learners” (p.173). Collaboration through PLCs can build professional networking encouraging people to share a vision, purpose, and develop leadership abilities (Harris and Jones, 2010). According to Hudson et al. (2013), professional learning communities embed practices that develop the organisation. PLCs need support from the school leadership to be sustained. Clarke (2009) mentioned that supportive conditions are essential to successful PLCs. Hogan and Gopinathan (2008) stated that PLC practices must be “supported by follow-up activities including coaching and mentoring”; in addition, it needs to be “deprivatised, collaborative, and embedded in schools functioning as communities of learners and communities of inquiry” (p. 373).

Supporting collaboration through mentoring is another aspect the context is responsible for. Educators need some support to reach deeper levels of reflection. Schon (1987) introduced the concept of ‘the coach’, who is a more experienced person providing support and guidance for teachers to reflect and

construct new knowledge. Schon (1987) stated that the coach will, “emphasise immediate zones of practice” and will help draw out from the teacher the concept developed through “reflective conversations with the materials and situations” (P.39). Korhtagen and Vasalos (2005) identified the type of intervention of the supervisor (coach) in each stage of their model ALACT to help the teacher move through the cycle. The role of the supervisor in that case is to help the teacher discover how to address those dimensions systematically.

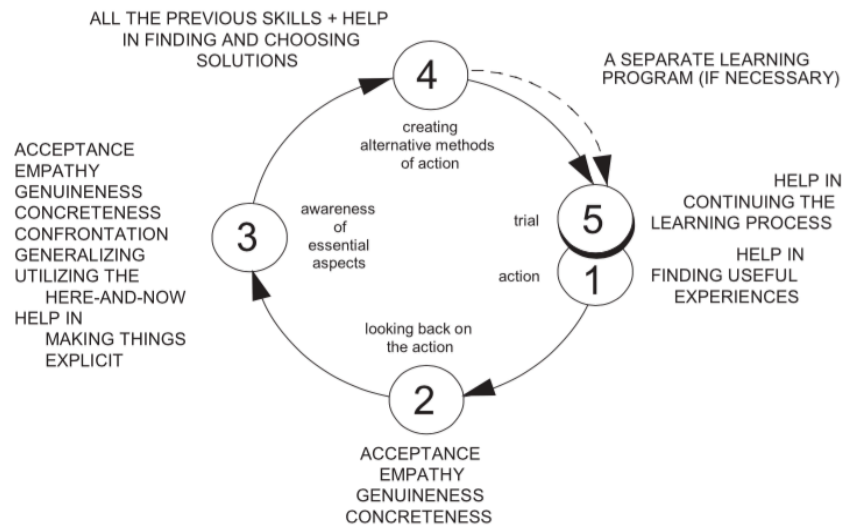


Figure (2). Supervisor interventions related to the ALACT model phases

Korhtagen and Vasalos (2005) suggested different strategies a supervisor can use to lead the teacher to discover their core qualities in phase 2 that leads to the actualisation of this quality in phase 3 (awareness of essential aspects) and phase 4 (creating alternative methods of action) for the inner level to influence the outer level illustrated in Fig. 2.

Other researchers examined the circumstances when and where the task takes place. Grant and Zeichner (1984) emphasised the practicality of reflection in the school’s everyday life. They highlighted that it should be an aspect of concern in a school. Practicality aspects were; Is it possible to take the time to reflect? Is it possible to act on the results of reflection? Is it necessary to reflect? They examined the attitudes defined by John Dewey (1933) as prerequisites for reflective action to be realistic and/or desirable goals. (Grant and Zeichner, 1984) gave a list of suggestions that can make reflection more feasible.

Zeichner (1990) considered sociopolitical contexts of teaching in addition to curricular and pedagogical concerns. The researcher focused on the politics surrounding, and promoted professional knowledge that is mindful of issues of learning, culture, power, and social justice. Hofstede (1991) observed that minimising power-distance to promote more equality in distribution of power in the school helps to

build a shared vision. High powerful distance leads to leaders separating themselves from teachers, which makes teachers less power members accepting and expecting the inequality in power (Mundy, al, 2017). In such culture critical reflection becomes difficult. Brookfield (2004) stated that; “Reflection becomes critical when it has two distinctive purposes. The first, is to understand how considerations of power undergird, frame and distort so many educational processes and interactions. The second, is to question assumptions and practices that seem to make our teaching lives easier” (p. 5).

3.5.4 How has reflective practice been used in the Egyptian context?

Horrigan (2006) perceived experience as shaping adults. Understanding the context where any PD is taking place is vital. El-Fiki (2012) indicated that professional development of in-service teachers is a process situated in a sociocultural, socio-political and socio-psychological context. She studied the implementation of the communicative approach for teaching English in both the private and public basic educational sector in Cairo, Egypt. She explored the effect of the school context as well as the country context on professional development and reflection. The study compared three contexts all in Cairo; the governmental schools’ context, the national schools context and the international schools context. The cross-context analysis showed that the teachers’ change, and the nature of the change is determined by the strategies for implementation of change. Top down change process appeared to have a powerful effect on shaping teachers’ work roles, choices, and orientations to change. Through her research journey before and after the Egyptian revolution, the researcher expressed her experience about how this context affected the concept of ‘change’ in the Egyptian society and consequently in the context of schools under study. The study concluded that, although teachers changed their perception of teaching, their implementation was context-bound as “the nature of change as experienced by the participants is shaped by a multitude of contextual factors” (El-Fiki, 2012, p.iii)

Ginsburg and Megahed (2008) explored the effectiveness of professional development efforts done in Egypt through the collaboration of both national and international reform initiatives to promote active learning in the Egyptian public schools. The study concluded that the political context assisted in enabling active-learning pedagogies to become increasingly taken for granted as a notion of educational quality. This conclusion was supported by the World Bank (1999) on the democratic framework of Egypt’s Education Sector Strategy. They pointed out that global democratisation and the growth of a powerful civil society can be drivers of change. Badran (2008) provided further support considering critical analysis of the meaning behind active learning as ‘democracy of learning’. Such reform efforts flourish only in a context with the atmosphere of democracy existing outside the school. The study argued that there might be a link between active-learning pedagogies and supporting political democratisation.

3.6 Conceptual Framework

The literature review showed that reflection is a profound concept to learning, especially for teachers in the work place. Reflection contextualises their experiences and transforms knowledge to meaningful actions and behaviours. The literature review also revealed different dimensions of reflection to reach critical reflection (Lucas, 2005). Critical Reflection is a key component when professional learning is intended from the experience (Lucas, 2005).

The above discussion of critical reflection frameworks available in literature (Surbeck, Han and Mover, 1991; Lee, 2005; Larrivee, 2008; Hatton and Smith, 1995; O'Dowell, Reeve and Smith, 2011; Korhtagen and Vasalos, 2005; Miller, 2011) showed that each approached critical reflection differently, but none of them was able to capture a complete picture of what critical reflection could entail. Besides, none of the critical reflection frameworks considered 'taking action' as part of reaching critical reflection. All reflective models (Kolb, 1984; Wallace, 1991; Korhtagen and Vasalos, 2005; Pollard, 2014; El Fiki, 2012) saw reflection as spiral; ending by taking action and then reflecting again.

Accordingly, I developed my own critical reflection framework that I see as comprehensive to guide the current study. The definition of critical reflection for me is the reflection that leads to transformation of behaviour (Moon, 2005, Mezirow, 1990) and develops growth competence (Korhtagen and Vasalos, 2005), i.e. taking reflective action is a result of critical reflection. To reach this end, critical reflection has to have a discrete eye exploring the experience from different aspects;

- what is happening
- why what is happening is happening
- how the teacher's feelings and actions are contributing to those reasons
- how the context is contributing to those reasons
- how it can change, and why
- In addition, ensures that reflection is continuous by taking action and building on discoveries from past reflections ensuring self-construction of learning that transforms the teacher's behavior.

The framework has five levels of reflection; reacting, recalling, realising, reconsidering, and reflecting. Each level deals with aspects I see significant about reflection in literature. This developed critical reflection framework is based mainly on Lee (2005) framework of critical reflection (Recall level, Realisation level, Reflectivity level), in addition to other critical reflection frameworks and ideas from literature about reflection mentioned in this chapter. This is illustrated in Table (4).

Table (4). Designed Critical Reflection Framework Significant Aspects with Underpinning Research

Level	Description of the level	Significant aspects about reflection extracted from literature	Underpinnings from literature	
			From other Critical Reflection Frameworks	From other literature and studies
Reacting	Attending to emotions and feelings	- Emotions and Cognitions	- Miller (2011)	- Poblete (1999) - Immordino-Yang and Damasio (2007)
		- Cognition and Consciousness	- Surbeck, Han and Mover (1991)	- Immordino-Yang and Damasio (2007) - Korhtagen and Vasalos (2005)
Recalling	Describing the situation in details	- Expressing ideas and Consciousness		- Burton (2009), Connel (2014) - Powell (2000), Solomon (1987) - Harvey et al. (2012)
		- Elaborating Details	- Surbeck, Han and Mover (1991) - Hatton and Smith (1995) - O'Dowell, Reeve and Smith (2011) - Lee (2005) - Korhtagen and Vasalos (2005)	- Hilsdon (2010) - Ryan and Cooper (2006)
Realising	Interpreting reasoning of personal judgments. Analysing and promoting dialogue with oneself and others	- Analysing and evaluating ideas	- Lee (2005) - Hatton and Smith (1995) - O'Dowell, Reeve and Smith (2011) - Korhtagen and Vasalos (2005) - Larrivee (2008)	- Pollard (2014), El Fiki (2012), - Hilsdon (2010), Ryan and Cooper (2006) - Sellars (2012), Griffiths and Tam (1992) - McKnight (2002)
		- Considering contextual factors and power issues	- Hatton and Smith (1995) - O'Dowell, Reeve and Smith (2011) - Larrivee (2008) - Lee (2005) - Miller (2011)	- Lucas (2012), Murray (2005) - Borg (2003) - William and Power (2009), Jahnsen (2009), Connel (2014) - Solomon (1987), Hargreaves (1995) - Burton (2009), Zeichner (1990) - El Fiki (2012), McKnight, 2002 - Korhtagen and Vasalos (2005)

Level	Description of the level	Significant aspects about reflection extracted from literature	Underpinnings from literature	
			From other Critical Reflection Frameworks	From other literature and studies
Reconstructing	Building insights, drawing conclusions and planning next steps	- Conceptualisation of the experience	<ul style="list-style-type: none"> - Surbeck, Han and Mover (1991) - Larrivee (2008) - Hatton and Smith (1995) - Miller (2011) 	<ul style="list-style-type: none"> - Burton (2009) - Badie (2016) - Harvey, et al. (2012) - Erickson, 2004 - Kolb (1984) - Korhtagen and Vasalos (2005) - El-Fiki (2012)
		- Planning Action	<ul style="list-style-type: none"> - O'Dowell, Reeve and Smith - Miller (2011) - Lee (2005) - Hatton and Smith (1995) - O'Dowell, Reeve and Smith (2011) 	<ul style="list-style-type: none"> - Webster-Wright (2009) - Hatton and Smith (1995) - Kolb (1984) - Wallace (1991) - Korhtagen and Vasalos (2005) - Pollard (2014) - El-Fiki (2012)
Reflecting	Linking experiences to support transformation and personal growth	- Taking Action/Reflection is Spiral	-	<ul style="list-style-type: none"> - Kolb (1984) - Wallace (1991) - El-Fiki (2012) - Korhtagen and Vasalos (2005) - Pollard (2014)
		- Reflective Thinking-in-action	-	<ul style="list-style-type: none"> - Schon (1983) - Farrell (2012) - Burton, 2009 - McKnight (2002)

3.6.1. Reacting

- Emotions and Cognitions

The first level explores personal emotions and feelings. According to Immordino-Yang and Damasio (2007), emotions direct aspects of cognition like; learning, attention, memory, decision making, motivation, high reason and rational thinking, and social functioning. Miller (2011) argued that to think critically about reflection we have to start by reacting to the experience by describing feelings related to an event and making judgment without detailing reasons. Poblete (1999) reflective model argued that a feeling of love of teaching is at the core of the model that boosts all other dimensions. Immordino-Yang and Damasio (2007) related emotions to cognition stating that “Emotions help to direct our reasoning into the sector of knowledge that is relevant to the current situation or problem” (p.8).

- Cognition and Consciousness

Immordino-Yang and Damasio (2007) linked between emotion, cognition and consciousness. The researchers argued that emotions move aspects of cognition that bring the experience to consciousness. Emotional triggers create changes in the body and mind that leads to focusing of attention, calling up of relevant memories, and learning the associations between events and their outcomes. Beginning with approaching feelings helps the teacher to open up and remembers details of the experience (Immordino-Yang and Damasio, 2007). The first level of Surbeck, Han and Move's (1991) critical reflection framework was reacting to the experience allowing teachers to comment on their feelings bringing to consciousness any personal concerns. Korhtagen and Vasalos' (2005) model of core reflection identified personal feelings as core qualities that reflection should reach and bring to consciousness for the teacher to be able to overcome obstacles.

3.6.2. Recalling

- Expressing ideas and Consciousness

According to Burton (2009), reflection requires cognitive processing of conceptualising teaching practice that goes through a sequence of phases; developing a concern, expressing it, responding to it, relating it to experience or input, finding responses and information, applying the responses and acting upon the insights gained. Connel (2014) mentioned that our understanding is activated and clarified when we go into conversation telling of the experience. The conversation can act as a theory building activity when we search for and organise meaning. Solomon (1987) claimed that when teachers articulate their ideas to other, it helps in forming an open critical perspective. Powell (2000) saw expressing ideas in continuous conversation as a condition essential for teachers' reflective practice to lead to development.

Forms of expressing reflection can vary into other non-linguistic forms. Harvey et. al (2012) introduced arts-based approaches to express reflection, like micro-blogging, dance, music, photography, art dreams and

contemplation. Researchers claimed that these forms can stimulate quality insight in expressing meaning where we can ‘say’ what cannot be said in other forms.

- Elaborating Details

The amount of details teachers provide when expressing ideas, give a good foundation for critical reflection (Hilsdon, 2010; Ryan and Cooper, 2006; Korhtagen and Vasalos, 2005). Lee (2005) first level of reflection was recalling the experience; describing it without any alternatives. Surbeck, Han and Mover (1991) second level of reflection was elaborating on the experience comparing it to a general principle or criteria. Hatton and Smith (1995) identified the first level as descriptive writing; describing the situation with no discussion beyond description. O’Dowell, Reeve and Smith (2011) first level was recall, where teachers remember what happened in the class without looking at alternative explanations. Hilsdon (2010), Ryan and Cooper (2006) and Korhtagen and Vasalos (2005) encouraged description of the experience through questions.

3.6.3. Realising

The third level starts to consider influences that made what happened happen. In this level, the teacher interprets reasons behind personal judgment and feelings expressed in the reacting level. This dialogue with oneself and/or others analyses the experience and starts realising a ‘deeper’ consideration of the event. Thinking of reasons also can approach some contextual issues that ‘broadens’ the reflection into new areas.

- Analysing and evaluating ideas

The ability of the critical reflection to analyse and evaluate ideas has a lot of significance in literature. Pollard (2014) and El Fiki (2012) recognised analysing and evaluating ideas as a stage in their reflective model. Hilsdon (2010) and Ryan and Cooper’s (2006) set of reflective questions encouraged analysis and evaluating ideas. Sellars (2012) identified the ability of teachers to examine their own perspectives on the issues they face critically and analytically as a foundation for good reflection that leads to change of practice. McKnight (2002) referred to reflection as “ an analysis of classroom events and circumstances. By virtue of its complexity, the task of teaching requires constant and continual classroom observation, evaluation, and subsequent action” (p. 1). For Griffiths and Tann (1992), reflection had to research the situation through; act-observe systematically-analyse rigorously-evaluate-plan-act.

Most critical reflection frameworks in literature focused on analysing and evaluating ideas as an important component of their framework. Lee’s (2005) second level of reflection is realisation, where teachers reflecting interpret the reasons behind the situation, and come up with generalisations from the experience. Hatton and Smith’s (1995) third level is dialogue reflection; encouraging teachers to ‘step-back’ and analyse the experience. O’Dowell, Reeve and Smith’s (2011) third level is analyse; searching for the ‘whys’ and looking for relations

between pieces of the classroom experience. Korhtagen and Vasalos (2005) gave weight to analysing reasons behind actions by identifying six levels of reflecting digging deeper into complicated factors. Reflection in deeper levels triggers the issues of why we do what we do. Larrivee (2008) argued that levels of reflection add 'depth' in the second level by considering the rational behind the incident.

- **Considering contextual factors and power issues**

For Lucas (2012), one of the critical reflection aspects is the ability to examine the 'broader' picture and see the situation more holistically by considering the context. Murray et al. (2005) cited experiences within a broad context of issues as part of the process of critical reflection. Borg (2003) observed that teachers make their decisions based on complex, practically-oriented, personalised, and context-sensitive networks of knowledge, thoughts, and beliefs. Finlay (2008) considered the context where the reflection takes place. He identified practical ideas to solve context problems facing reflection. William and Power (2009), Jahnson (2009), Connel (2014), Solomon (1987), Hargreaves (1995) and Burton (2009) highlighted the social dimension of reflection. They mentioned that reflection thrives in a context of continuous collaboration between colleagues.

Korhtagen and Vasalos' (2005) and Miller's (2011) reflective questions explored the direct context. Miller (2011) questions also explored political/social circumstances. Zeichner (1990) considered sociopolitical contexts of teaching in addition to curricular and pedagogical concerns. McKnight (2002) highlighted the deeper considerations of the context. El Fiki (2012) highlighted the effect of different levels of context on reflection; the school context, society and community, and the global context.

Some of the critical reflection frameworks considered contextual factors. Larrivee's (2008) third level of reflection examines ethical, social and political issues. For Hatton and Smith (1995) critical reflection was an awareness of the multiple (historical, socio-political contexts) influences on actions and events. O'Dowell, Reeve and Smith's (2011) second level of reflection was going 'broader' considering the context. Lee's (2005) third level framework; analysing the experience from different perspectives with the intention of changing. Miller (2011) believed that these layers of 'broader' considerations of context would lead to 'deeper' understanding the influences about what is happening and why it happens.

3.6.4. Reconstructing

The fourth level is drawing insights and building conclusions by conceptualising the experience, and planing for future actions. In this level, the reflecting teacher discovers what should be done that would improve the experience and puts future plans for her/him self. This is a key level in the framework as this is when the experience is conceptualised ready for application. Dewey (1933) noted, growth comes from a "reconstruction of experience" (p. 87) leading to reconstruction of approaches to teaching.

- **Conceptualisation of the experience**

For Burton (2009) reflection requires cognitive processing of conceptualising teaching practice that results in conceptual development and consequently professional renewal. Harvey et al. (2012) saw the role of reflective practice as to help teachers make sense or meaning and conceptualise the experience as they draw new learnings. Badie (2016) presented conceptualisation of ideas from the constructive model. The researcher believed that humans construct and develop concepts providing semantic interpretations and process meaning. Erickson (2004) saw concepts as abstract ideas, common attributes concluded from true facts about different objects. They are summary of knowledge, a mental construct.

Kolb's (1984) reflective model showed how experience is translated through reflection into learning new concepts. The third stage in his model was abstract conceptualisation of the experience before active experimentation. El-Fiki's (2012) reflective model identified a stage of conceptual appropriation and filtration before practice. Some critical reflection framework also mentioned conceptualising ideas. Surbeck, Han and Mover 's (1991) third level of critical reflective framework was; contemplating; this is when they start building their own insights. Larrivee's (2008) second level of critical reflective framework was; pedagogical reflection: considering the theory and rationale for current practice. Miller's (2011) third level of critical reflective framework was; reconstructing: drawing conclusions about one's practices and the practices of others exploring the relationships between practice, literature and theory.

- **Planning Action**

For teachers to reconstruct their practice they need to contextualise the experience after conceptualising it by planning to take action and test the experience in context. The term 'Reflective Action' was mentioned by Dewey (1938) as application of the solution of problems that had been thought through, which completes the cycle of professional action that follows reflection. Consequently, leading to modified practice (Hatton and Smith, 1999). Webster-Wright (2009) observed that, when learning is activated in the person's socio-cultural community, with critical reflection on this activation in context, transformative learning happens. O'Dowell, Reeve and Smith (2011) stated "reflecting by looking forward towards future actions; it is reflecting before further action (reflecting for change)" (P.22).

Planning for action was part of some critical reflection frameworks and reflective models. Lee's (2005) third level of framework was, reflectivity level: analysing the experience from different perspectives with the intention of changing. The third level of Miller's (2011) framework was planning further learning on the basis of your reflections. Active experimentation was the fourth stage in Kolb's (1984) reflective model. The reflective cycle in the second stage of Wallace's (1991) model was teachers apply what they learned to their everyday practice, reflect on their application and make decisions of future practice based on their reflection. Korhtagen and Vasalos's (2005) model fifth stage was creating alternative methods of action and trial. El-Fiki's

(2012) second stage of competence development of her model was teachers practice and test the result of their reflection.

3.6.5. Reflecting

The last level of the critical reflection framework is to ensure that reflection is continuous linking different reflections that lead to transformation and personal growth. Moon (2005), Korhtagen and Vasalos (2005), and Mezirow (1990) marked this stage as leading to change of behaviour and develop growth competence. For this to happen the reflection process is to be spiral; being repeated again, and reflective thinking on-action is to encourage reflective thinking in-action.

- Taking Action/Reflection is Spiral

Reflective teaching models saw the reflective process as spiral. Pollard (2014) believed that a basic characteristic of reflective practice is not just 'Cyclic' but 'spiral' in which teachers monitor, evaluate and revise their practices constantly. Kolb (1984) suggested a spiral model and called it 'The Experiential Learning Cycle' (ELC). Wallace's (1991) model for professional learning of teachers was taking the theory to practice approach by providing teachers with received knowledge then examining those theories in consistent everyday practice. Korhtagen and Vasalos (2005) introduced a spiral critical model of reflection goes through; Action, Looking back on action, Awareness of essential aspects, Creating alternative methods of action and Trial (ALACT). Phase 5 then becomes the first phase of the next cycle of reflection, creating a 'spiral' of professional development. El-Fiki (2012) introduced a three-phase spiral model describing her views of the professional renewal process through which practice is shaped.

- Reflective Thinking-in-action

The process of reflection is an extended process of being systematically and constantly aware of circumstances of teaching and the implications of issues arising during teaching (Burton, 2009). Schon (1983) supported this idea by seeing reflection-in-action occurring inside the classroom while they are teaching which leads to them changing their practice. For Garman (1986) reflection in-action refers to what happens when the teacher is faced with a problem and how he/she is going to solve the problem in the context of action. Farrell (2012) argued that reflective teachers are alert for what is happening in their class, consequently take a step of reflecting. McKnight (2002) used the term reflective thinking and identified it as a multifaceted process that "is an analysis of classroom events and circumstances. By virtue of its complexity, the task of teaching requires constant and continual classroom observation, evaluation, and subsequent action" (p. 1).

The developed Critical Reflection framework explained herein will guide the study by forming the base for the research design to explore the research questions.

3.7. Summary

The chapter reviewed, examined and analysed literature about reflection and its role in professional learning. Exploring conditions affecting reflections from different perspectives. The outcome of the literature review indicates that this field has been researched in different aspects due to the incongruity of the popularity of the effectiveness of reflection as a tool for professional learning in research and the actual use of reflection by teachers in practice. The chapter then, explores types of condition affecting reflection that can ease and smooth reflection or limit its effect and even stop it completely. The chapter concludes by establishing a conceptual framework for the study based on the literature. A critical reflection framework was designed incorporating aspects from the literature review that will guide the research design.

CHAPTER 4

Research Design

4.1 Introduction

This chapter will describe the research design adopted in the study. First, the research paradigm and study epistemology are discussed. Second, based on the conceptual framework mentioned in Chapter 3, an outline is presented of the research methodology and methods chosen for sampling and data collection. Next, data collection methods are explained, along with steps on how the data was analysed to reach the themes and sub-themes. Finally, the chapter concludes by clarifications of the ethical considerations and the trust worthy criteria of the research.

4.2 Aims and Research Questions

The study traces the link between reflective tasks and changes in practice by addressing questions such as; What exactly happens that makes teachers change their practices? What have they done that is different that is a result of this reflection? What were the conditions of this reflective task that resulted in this change? The following research questions are formulated to help in finding the link between reflective tasks and changes in practice.

- ❖ How do teachers perceive the conditions that help reflective practices lead to their professional development in international schools in Egypt?
 - What are the challenges facing teachers, in international schools in Egypt, to reflect and apply reflective outcomes in their practice?
 - What conditions, in international schools in Egypt, do teachers identify as helping them to reflect, construct learning and apply it in their practice?
- ❖ How does teachers' capacity to use reflection affect reflection as a tool for professional development?
 - What are teachers' different perspectives about reflection?
 - How do background knowledge and skills of the teacher affect the quality of their reflection?
- ❖ How does the nature of the reflective task lead to better application of practice?
 - How does the analytical level of the task help teachers deeply reconsider their practice?
 - How does the analytical level of the task lead to the teachers' awareness of what they should change?
 - How does the nature of the task lead teachers to take the decision to apply what they found out?

- ❖ How do teachers in international schools in Egypt perceive the relationship between school culture and reflection as means for professional development?
 - How does school culture affect reflection?
 - How do leadership practices and decision-making affect reflection?

4.3 Research Paradigm

According to Crotty (1998) decision making in research design is hierarchical. The epistemological approach about the nature of knowledge underlines the research process. This approach will direct the researcher to the theoretical perspective (positivism or interpretivism), dictating the choice of the research methodology and consequently the methods to be used.

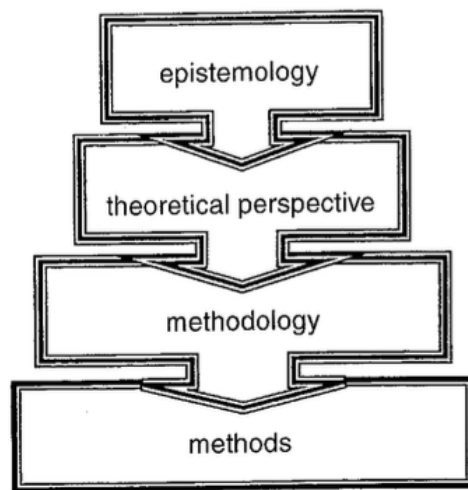


Figure (3): Crotty (1998) hierarchical model of research Design

The following will describe the stance of the study according to Crotty (1998) hierarchy:

- Epistemology

“Epistemology is concerned with providing a philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate” (Crotty 1998, p.8). This definition leads to us think about the way of looking at the world or making sense of it (Crotty 1998), or as Creswell (2014) describes it “the ‘philosophical worldview’ adopted that guides both the research design and specific methods used” (p.5).

Due to the multiple realities of different participants perceiving the reality of reflection in this study, a constructivist worldview was adopted. Constructivism is defined by Crotty (1998) as;

“It is the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practice, being constructed in and out of interaction between human being and their world, and developed and transmitted within an essentially social context” (p.42).

According to constructivism, we do not create knowledge, we construct knowledge. We start from the objects of the world (Crotty 1998). Participants’ understanding of what reflection is and how it affects their development depends on their past experiences and backgrounds. Webster-Wright (2009) argued that if we want to understand how professional learning happens, we have to understand it “from the perspective of professionals themselves, within the context of everyday professional practice with its attendant workplace agendas.” (p.12). In this respect, meaning is constructed by the study participants. Constructivism is based on the idea that ‘truth’ or meaning exists through our engagement with the world. “Meaning is not discovered, but constructed” (Crotty, 1998, p.8-9). Individuals develop subjective meanings that are varied and multiple based on their experiences as different people may construct meaning in different ways, even with the same phenomenon (Crotty, 1998). This way of looking at the world aligns with the interpretivism.

4.3.2. Interpretivism

Interpretivism refers to the methods used to highlight the meaningful nature of people’s character and their contribution in both social and cultural life (Chowdhury, 2014). Interpretivism is a form of truth-construction that is based on examining external reality and its relation to the context. Interpretivism originates meaning considering the context of an action or event and its connection to the surrounding set of actions, events, and interpretations (Gerring, 2003). It is the epistemological discussion of how social sciences claim knowledge (Goodsell, 2013). Interpretivists are concerned with people’s actions. They look for meanings and motives of people’s behaviour and their interactions with others in the society and culture (Chowdhury, 2014).

The study tackles the processes of interaction, with a focus on the specific context, in which participants live and work, in order to understand their historical background and cultural settings (Creswell 2003). The research questions mentioned above were addressed in the natural setting of the teachers, i.e. data was collected in the schools where the teachers work. This is because the study is exploring conditions where reflection occurs. Allowing the researcher to be able to seize the feelings, perceptions, views of the teachers.

4.4 Research Methodology

The epistemological approach mentioned above suggests some methodological implication to the study. The social constructivist epistemology sees that “knowledge, in some areas, is the product of our social practices and intuitions or the interactions and negotiations between relevant social groups” (Gasper, 1999, p. 855). The study adopts the constructivist epistemology, which focuses on “the socially constructed character of lived

realities” (Holstein and Gubrium, 2013, p. 56). The research questions explored the themes or patterns of the conditions perceived by participants affecting reflection used as a mean for teachers’ professional development, which lends itself to an exploratory design. Consequently, the study captured the multiple constructed realities, subjective understanding and interpretations of different participants.

Since constructivism is the worldview of the study, a qualitative research method was adopted. Qualitative methods allow for thick description of different backgrounds and perspectives of participants as well as depth of complexities and processes (Marshall and Rossman, 2011). Creswell (2014) defined qualitative research as;

“Qualitative research begins with assumptions and the use of an interpretive/theoretical framework that informs the study of research problems addressing the meaning individuals or groups ascribe to a social human problem. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry; the collection of data in natural settings is both inductive and deductive and establishes patterns or themes” (p. 44).

Qualitative data searching for knowledge naturally promotes Interpretivism. This approach is concerned with the uniqueness of a particular situation to support to the basic quest of contextual depth. The goal of qualitative research is to try to see things from the perspective of the human actors. Interpretivists put research into actual events (Goodsell 2013). Layder (1994) argued that the humanistic approach, common to interpretivism epistemology, gives priority to action over structure and therefore becomes the goal of the qualitative researchers to try and see things from the perspective of the people involved. So, the study used an inductive strategy to examine the situation in a natural setting, to get the ideas and feelings of these being interviewed. (Layder, 1994).

- Research Methods

The study explored the themes or patterns of the conditions perceived by participants as affecting reflection as means for teachers’ professional development. A constructivist worldview of the study with a qualitative research method was adopted. The inductive method suggests that there is no pre-conception or hypothesis that the analysis is based on. The interpretation and analysis are based on what is found in the qualitative data from informants’ language and concepts. The inductive strategy was used to detect conditions affecting reflection in this context. The conceptual framework presented at the end of Chapter 3 and the research questions mentioned at the beginning of this chapter guided the methods used in the study.

- Sampling

Convenience sampling strategy was used in choosing the school and the teachers. I have been working with the school as their independent educational consultant starting February 2016. They welcomed the research and saw its benefit. The school chosen for the study started in 2016 situated in the North-Eastern region of Cairo as a private for-profit school. The school is owned by a group of investors forming the board of directors. The

school starts from the pre-K year (age 3) up to grade 3, with plans to expand. The number of students in 2016 was around 150 students. The school became a candidate International Baccalaureate (IB) Primary Years Program (PYP) in 2016. My role was advisory, as I advised the leadership team which consists of the director, the principal and the academic coordinator, in setting educational systems, building human capacity of teachers and administrators, and recommend solutions for problems. The leadership team were responsible for decision taking. In some cases, their decisions were in accordance to my advice, other cases were not. In addition, I trained teachers and coached them through their application in the class.

- Participants

A group of seven teachers from the school volunteered to participate in the study. After they received the participants' information sheet (see Appendix 5). The criteria for participation was mainly convenience; they were all working at the same chosen school. They were all exposed to the three reflective stimuli. They shared in the collaborative reflection for the primary school, they were given three lesson reflective questionnaires, and were asked to write a reflective journal (see Appendix 3). Pseudonyms was used with teachers' names. For confidentiality reasons, the names mentioned in the study are not the real names of the teachers. Table (5) has background information about each participant in the study.

Table (5): Participants' Background Information

Name of teacher	Raga	Salima	Naga	Nesrine	Negma	Yosra	Dona
Gender	Female	Female	Female	Female	Female	Female	Female
Nationality	Egyptian	Egyptian	Egyptian	Egyptian	Egyptian	Egyptian	Egyptian
Parents	Egyptian	Egyptian	Egyptian	Egyptian	Egyptian	Egyptian	Egyptian
Age	36 years	32 years	27 years	39 years	31 years	32 years	35 years
School	Private Language School	Private Language School	Private Language School	Private Language School	Private Language School	Private Language School	Private Language School
University	Egyptian Governmental university	Egyptian Governmental university	Egyptian Governmental university	Egyptian Governmental university	Egyptian Governmental university	The American University in Cairo	Egyptian Governmental university
Degree	Bachelor	Bachelor	Bachelor	Bachelor	Bachelor	Bachelor	Bachelor
Major	Foreign trade	Foreign Languages Japanese	Simultaneous translation	Political science	Tour Guiding	Business Administration	Faculty of Science
Years of experience as a teacher	14 years	4 years	6 years	10 years	11 years	5 years	12 years
Formal Teacher certification	None	None	None	None	None	None	None

Most reflective models viewed reflection as a spiral dynamic repetitive process involving reflective thinking on-action and in-action, as well as reflective action (Pollard, 2014; Korhtagen and Vasalos, 2005; El Fiki, 2012). To be able to trace and understand the conditions that assist or limit the process of reflection leading to professional learning, the current study designed reflective stimuli for participants to engage in. Participants

were put through five reflective cycles in six weeks as follows:

- 1- First cycle; all primary school teachers engaged in a group collaborative reflection,
- 2- Second, third and fourth cycles; the study participants were given three lesson reflective questionnaires to answer for three lessons through six weeks.
- 3- Fifth cycle; at the end of the six weeks the study participants had to write a reflective journal.

4.5. Designing the reflective stimuli for the current study

There are different aspects to consider when choosing and designing the reflective tasks as mentioned in the literature review in Ch.3. The following will be highlighting the research bases the choice of each task design was based on.

4.5.1 First: Collaborative group reflection

Burton (2009) identifies reflection by a specific cognitive processing of a sequence of phases; developing a concern, expressing, responding, relating the concern to experience or input, finding responses and information, applying the responses and acting upon the insights gained. Burton (2009) claimed that going through these phases results in conceptual development and consequently professional renewal. Collaborative reflection as a stimulus for the current study was designed to help teachers go through Burton's (2009) cognitive process.

Teachers of the whole school get together with leaders to reflect on the current situation and develop a concern and express it. They then respond to it and relate it to experience or input by deciding together; What needs to change? They then write an action plan with objectives, timings, responsible person and success indicators, (refer to action plan Appendix 3). This action plan is shared by all the staff to be in action for the following three months. After three months, this collaborative reflection is done again to review the action plan and reflect on it and write a new action plan for a second cycle of three months. This gives a chance for the rest of the Burton's (2009) phases to be fulfilled of; finding responses and information, applying the responses and acting upon the insights gained.

Surbeck, Han and Mover (1991) highlighted the importance of using set criteria when reflecting on an experience. The collaborative reflection of the current study used the International Baccalaureate Primary Years Programme (IBPYP) school Standards and Practices as a base for identifying objectives in reflection and setting the action plan (See IBPYP standard C Appendix 2). Teachers sit in groups and each group reflects on one standard to identify next steps needed in this standard. These next steps are written as objectives and the group decides; What are the actions taken to fulfil this objective? When should it be

achieved? Who will be responsible for it? What are the budgetary implications? Table (6) gives the action plan heading template used to provide information for every objective. See Appendix 3 for the action plan concluded from the collaborative group reflection used in the study.

Table (6): Action Plan Template

Objective	Actions	Date to be achieved	Person/group responsible for achieving this objective	Budgetary implications	Evidence of achievement or of progress towards achievement of the objective

1.5.2. Second: Three lesson reflective questionnaires

The current study used a lesson reflective questionnaire for teachers to fill three times for any lessons they chose through six weeks as a stimulus for reflection (Appendix 4). The questionnaire was devised based on levels of the critical reflection framework that was designed by the researcher, as detailed in Chapter 3. Designing the questions was guided by the collection of research described in the literature review. Table (7) illustrates and presents questions in lesson reflective questionnaire.

Table (7): Questions in Lesson Reflective Questionnaire

The Conceptual Framework			Questions in the reflective questionnaire that represents the level	Underpinning research for the question design
Level	Description of the level	Significant aspects about reflection		
Reacting	Attending to feelings	<ul style="list-style-type: none"> - Emotions and cognitions - Cognition and consciousness 	1. How did you feel about the lesson?	Miller (2011) Immordino-Yang and Damasio (2007) Korhtagen and Vasalos (2005)
Recalling	Describing the situation in details	<ul style="list-style-type: none"> - Expressing ideas and consciousness - Elaborating details 	2. What was the objective of the lesson? 3. Describe what happened in the lesson as you see it?	Hilsdon (2010) Ryan and Cooper (2006) Hatton and Smith (1995)
Realising	Interpreting reasoning of personal judgments. Analysing and promoting dialogue with oneself and others	<ul style="list-style-type: none"> - Analysing and evaluating ideas - Considering contextual factors and power issues 	4. Did you reach your objective? How?/Why not? 5. What were you pleased with in this lesson? 6. Why? 7. What were you unhappy about in the lesson? 8. Why?	Hilsdon (2010) Ryan and Cooper (2006) Hatton and Smith (1995)

Recon-structing	Building insights, drawing conclusions and planning next steps	<ul style="list-style-type: none"> - Conceptualisation of the experience - Planning action 	9. What would you do differently next lesson? Mention reasons.	Hilsdon (2010) Ryan and Cooper (2006) Hatton and Smith (1995)
Reflecting	Linking experiences to support transformation and personal growth	<ul style="list-style-type: none"> - Taking action/Reflection is spiral - Reflective thinking-in-action 	10. What did you do differently this lesson as a result of your last lesson reflective questionnaire? Give specific examples.	Korhtagen and Vasalos (2005)

The sequence of the questions from question 2 to question 9 is based on Hildson's (2010) simple structure consisting of ordered questions that move the thinking process to guide critical reflection. Questions followed his idea of guiding critical reflection starting by descriptive questions of the event (question 2 and 3). Then going to analysing the event to reach critical reflection (question 4,5,6,7 and 8). Followed by deciding on future actions (question 9). Ryan and Cooper (2006), and Hatton and Smith (1995) agreed that the beginning questions should be descriptive 'recalling' the experience and viewing it in details, with analytical/reflective questions to follow.

The first question and last question (question 10) used Korhtagen and Vasalos' (2005) sequence of questions; exploring feelings, thinking, then doing. The first question asked about feelings following Immordino-Yang and Damasio's (2007) emphasis on emotions in learning in bringing previously acquired knowledge to inform real-world decision making in social contexts. Miller's (2011) model also started by reacting to the experience through describing feelings related to the event and making judgment without detailing reasons. The last question inquired about actions taken; doing, to ensure that the spiral of reflection is continuous and to test if reflective action is connected to the following reflective thinking. It is worth noting that the results of the study determined that the questions in this questionnaire were not reaching critical reflection. An adapted version of the questionnaire was designed (see Appendix 9)

1.5.3. Third: A reflective journal:

The third stimulus designed for participants to engage in reflection was writing a reflective journal after they handed in in their lesson relective qqquestionnaires. Participants writing the reflective journal after participating in the collaborative reflection and answering three lesson reflective questionnaires started a new cycle in the reflective spiral summarizing the experience. Bain et al. (1997) argued that using reflective journals can be a simple resource that is easy to adapt to contexts and is flexible in structure. The task was guided by requesting from the teachers the following:

"Write a reflective journal reflecting on your classroom practice. Write what you would like to; keep, adapt, stop or add to your teaching practice mentioning reasons for each."

The instructions were meant to be; simple, personal, open and to help set specific future goals. Valli (1993, p.13) believed that reflection that draws upon personal knowledge to restructure experiences is more important than reflection that uses knowledge about teaching to inform practice. The content of the journal was designed to take a narrative approach where teachers focus on their own experience and construct a personal understanding (Bain et al., 1997).

1.6. Collecting data

To capture the feelings, beliefs and attitudes of teachers after the six weeks of employing different reflective practice (mentioned in Phase 1), three instruments of data collection were used; focus group discussion, in-depth interviews, and document review.

4.6.1 Focus group discussion

According to Bagnoli and Clark (2010), focus groups can provide participants with a space to express their own ideas and opinions. The interaction is not between the researcher and the participants, but between the participants. Through conversation participants can debate with others and mention reasons and examples to support their points. Participants question each other's ideas, revealing different point of views and unforeseen issues. Hyde'n and Bu'low (2003) raise the issue that focus group discussions can be a collection of individual thoughts or the interaction between participants. These group discussions can develop views from individual participants not giving the depth needed from these discussions. Another issue was raised about focus groups concerning the role of the researcher in moderating and phrasing questions of the focus group discussion (Morgan, 1997). Madriz (2003) and Skop (2006) answered that by highlighting the role of focus group interaction as empowering participants and decreasing the researcher's control over the discussion, the conversation focuses on participants' voices speaking about their lives and shared experiences.

In the current study, seven teachers took part in one focus group. The focus group discussion was conducted by the researcher asking focused questions to encourage discussions and expressions of different opinions. The study took an interpretative stance with an exploratory design examining themes and patterns emerging in the data collected from the focus group discussion and the in-depth interviews. Therefore, semi-structured interview prompts based on the research questions were used (Appendix 5). These questions were asked first, then followed by a series of deeper questions to extract quotes that could be used in the analysis.

4.6.2 In-depth interviews

According to Manson (2002) interviews are the most common qualitative data collection method. The dialogue between the researcher and the participants is a meaningful way for generating data because it highlights the participants' epistemological positions and perceptions. Interviews rely on the participant's abilities to remember, conceptualise, verbalise and communicate data (Mason, 2002). Interviews also can be affected by professional expectations and power relationships in the context where they work (Charmaz, 2006). The study used in-depth interviews asking same focus group questions prompts. These questions enabled the researcher to inquire deeply in the participants' rich experience (Patton, 2002) and "to ensure that the relevant contexts are brought to into focus so that situated knowledge can be produced" (Mason, 2002, p.62). The interviews ensured that interviewees and interviewers were always actively engaged in constructing meaning (Silverman, 2006).

Three teachers from the group of seven teachers that conducted the focus group volunteered for the in-depth interviews. In-depth interviews were conducted by the researcher asking to go deeper into specific aspects. The in-depth interviews were conducted on Skype for time constraints at the school.

4.6.3. Document review

A review of the action plan concluded from the collaborative reflection (Appendix 3), the participants answered the lesson reflective questionnaires, and wrote the reflective journals. The focus group discussion and the in-depth interview questions were covering all the research questions. The data collection method of document review was added to provide more insights to the interpreted themes.

4.7. The Pilot study

In preparation for the main study, a pilot study was conducted in August 2016 to test data collection instruments, feasibility and time. A group of five teachers volunteered from one chosen school located in Cairo. All five teachers went through cycles of reflection using different reflective stimuli; shared in one collaborative group reflection for the primary school. Teachers were given three lesson reflective questionnaires, and were asked to write a reflective journal. Data collection instruments were, documents review of the questionnaires and the reflective journals, one focus group discussion for the five teachers, and two in-depth interviews done with two volunteering teachers from the five teachers who participated in the study.

The outcome of the pilot study shed light on areas to be considered in the main study as follows:

- The number of schools to be studied: At the beginning of the study, the intention was studying three schools. After the pilot study it was decided to limit the study to one school to be able to deepen the exploration and come out with more valid findings.

- Refining the research questions: The pilot study tightened research questions to be directed to what the study really wants to explore. Some questions were deleted as diverted from the focus of the study, other questions were reformulated into main and sub-questions, along with the addition of some more questions.
- Sampling and procedure of collecting data: The sampling and choice of participants were found to be suitable for the study. The focus group discussion was performed in the school where grouping teachers was easy, while the in-depth interviews were done one-to-one through skype where teachers were more focused and felt more at ease to share information.
- Testing instruments:

Document review: The reflective questionnaire and the reflective journal guided the questions asked in the focus group discussion. Teachers' answers in the reflective questionnaire guided the questions asked in the focus groups.

Focus groups discussion: The focus group highly informed the study. Issues raised in the focus group helped broadening and exploring all aspects around it to discover different conditions that affect reflection. One issue appeared through the focus group discussion that was avoided in the main study; discussions were emotional, especially when asking about school culture. Participants branched off the main issues; and the researcher did not interrupt to keep the open free discussion going. During the main study focus group discussions, the researcher channelled these discussions towards issues that needed to be addressed.

In-depth interviews: The in-depth interviews provided highly valuable input for the current study. Some issues were re-visited in the focus group with further investigations. The duration of the discussions was adequate, about 20-30 min. Questions were more directed to collect examples from teachers regarding how their practice changed after reflection.

- Finding suitable data analysis procedures to reach conclusions: The data analysis procedure for finding themes and complex layers of the theme from the pilot study data were not enough to come up with conclusions and valid answers to the research questions. Consequently, further steps and more layers of analysis were added in the main study.

4.8. Analysis of Data

According to Bogdan and Biklen (2003), qualitative analysis is “working with data, organising it, breaking it into manageable units, synthesising it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others” (p. 54). Thematic analysis is a broad and flexible

approach not aligned to a particular paradigm (Braun and Clarke, 2006). Data collected in the study were of two types; oral in focus groups and in-depth interview; and written in document review of the action plan from the collaborative reflection, the lesson reflective questionnaires and the reflective journals. The data analysis methods for the study and the related stages are presented next.

4.8.1. Interpreting themes and patterns from the oral data:

In order to interpret themes from the oral data collected, the oral data was transcribed into a written document to be able to code it. Initially the data was coded. Identifying the source was done by numbering it as; focus group (1), in-depth interview (2), and identifying teachers by their pseudonyms names.

Identifying common general themes was done by; reading all the data more than once for a general sense, and to determine the overall meaning. Patterns from teachers' quotes were detected to shape common themes. "the themes and the sub-themes are the product of a thorough reading and re-reading of the transcripts or field notes that make up the data" (Bryman, 2012 p. 579). An open exploration to whatever the data brings was adopted. "Thematic analysis involves the searching across a data set... to find repeated patterns of meaning" (Braun and Clarke, 2006, p.11).

Two different types of themes emerged and were given colour codes:

1. Themes identifying the reflective process itself were highlighted with purple.
2. Themes identifying the main conditions affecting reflection were highlighted with different colours:
 - About the task - Highlighted in Blue
 - About the teacher - Highlighted in Green
 - About the context – Highlighted in Yellow

If a quote would belong to more than one theme, the first and last letter/word of this quote/or a key word will be highlighted with the colour of the second theme. See examples of data analysis (Appendix 6).

4.8.2. Interpreting themes and patterns from the written data

The themes interpreted from the oral data identified the facets of the reflective spiral and gave the general themes and sub-themes of conditions affecting this spiral. The analysis of the written data was analysed in accordance to the following sub-sections (4.8.2.1 to 4.8.2.5).

4.8.2.1. Adding quotes to the sub-themes identified from the oral data

Quotes written by participants in the answers of the lesson reflective questionnaires and the reflective journals were analysed to find written quotes supporting the table of main and sub-themes identified from the oral data.

4.8.2.2. Identifying new themes from the written data:

Themes from the written data were interpreted by clustering the objectives in the action plan from the collaborative reflection, the answers of the lesson reflective questionnaire and the reflective journals into themes, preparing to count the frequency of their appearance, are presented by Table (8) as follows:

Table (8): Interpreted Clusters of Themes from the Three Stimuli

Themes	Action plan objectives from the Collaborative Reflection	Answers from three Lesson Reflective Questionnaire	Written Reflective Journal
Use of technology and other resources	<ul style="list-style-type: none"> - Students' access to the library and ICT room. - Use of ICT room at least twice a week. - Consistent use of IT materials (computers, smart boards, internet). 	All answers that mentioned any use of resources.	All answers that mentioned any use of resources.
Application of PYP essential elements	<ul style="list-style-type: none"> - Provide authentic demonstrations of attitudes in the daily lives of the students in order to raise an awareness of the IB learner profile attributes. - Create variety of activities and include in planners that develop the attributes of the learner profile - The five essential elements of the programme included in planning activities by all teachers. - Ensure that a variety of teaching approaches are expressed in the learning engagements that develop student attitudes and skills. - Provide resources (books, videos, guests) for students to build the awareness of human commonality, diversity and multiple perspectives according to units of inquiry. 	<ul style="list-style-type: none"> - Achieving the objective - Reaching conceptual understandings - Enhancement of skills or attitudes 	<ul style="list-style-type: none"> - Achieving the objective - Reaching conceptual understandings - Enhancement of skills or attitudes
Use of different teaching strategies	<ul style="list-style-type: none"> - Increase in inquiry-based learning, focus on IB workshops Category II trainings for Inquiry- based teaching. - research and implement centers and learning engagements that appeal to different learning styles. - Create centers and stations that are relevant and cover multiple subject areas. - Plan for diverse activities; allocate more time for exploration through open ended questions, and Problem solving, open ended questions. - Plan provocations and teacher questions to promote self-initiated action in unit planners. 	Use of different teaching strategies like; <ul style="list-style-type: none"> - inquiry - group work - eliciting questions from the students - using centers - any new strategy 	Use of different teaching strategies like; <ul style="list-style-type: none"> - inquiry - group work - eliciting questions from the students - using centers - any new strategy
Differentiation	<ul style="list-style-type: none"> - Ongoing teachers' development, differentiation strategies in the classroom. - Develop strategies that will empower teachers to address the needs of all students; include differentiated practices in the planner. 	<ul style="list-style-type: none"> - any means of differentiating instruction 	<ul style="list-style-type: none"> - any means of differentiating instruction

Use of assessment strategies	<ul style="list-style-type: none"> - Create different strategies of assessing the previous knowledge. - Include in units of inquiry students' self-assessments and independent projects across all subjects and grade levels. - Use formative assessment to guide grouping and direction to teach. - Include in units of inquiry students' self-assessments and independent projects across all subjects and grade levels. 	<ul style="list-style-type: none"> - any mention of assessment strategies. 	<ul style="list-style-type: none"> - any mention of assessment strategies.
Students' engagement		<ul style="list-style-type: none"> - Not being distracted from the lesson - Showing enthusiasm or joy 	<ul style="list-style-type: none"> - Not being distracted from the lesson - Showing enthusiasm or joy
Self-Developmental actions		<ul style="list-style-type: none"> - mention of plans or thoughts of self-development. 	<ul style="list-style-type: none"> - mention of plans or thoughts of self-development.
Social and Political Context			<ul style="list-style-type: none"> - mention of the Egyptian, and/or international context

The table shows that five themes were mentioned in the three stimuli; use of ICT and other resources, application of PYP essential elements, use of different teaching strategies, use of assessment strategy, and differentiation. Students' engagement and self-development actions were not one of the objectives in the action plan, but it was mentioned in both the lesson reflective questionnaires and the reflective journal. Self-developmental actions and the social and political context were mentioned only in the reflective journal.

4.8.2.3. Identifying the frequency of appearance of themes in the lesson reflective questionnaires and the reflective journals:

The answers in the lesson reflective questionnaires and the reflective journals were annotated to be analysed through the following:

4.8.2.4. Unpacking the answers matching themes to themes identified, distinguishing when it was mentioned as a reason for the success or failure of a teaching practice:

A table was designed with the themes vertically, names of informants horizontally, and the answers of each question annotated. The annotation differentiated between when the answer was a reason for the failure or success of a practice and when it was an issue. This differentiation will be needed later to analyse the depth reached. The following is an example from theme 1; Use of technology and other resources, from the lesson reflective questionnaires and the reflective journals. Table (9) gives an example of lesson reflective questionnaires answers matched to identified themes, and Table (10) gives an example of reflective journal answers matched to identified themes.

Table (9): Example of Lesson Reflective Questionnaires Answers Matched to Identified Themes

Themes		Yosra		Nesrine		Raga		Nadga		Dona		Salima		Negma	
		Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason
Use of technology and other resources	1														
	2														
	3														
	4														
	5														
	6				I used authentic resources .				There were not enough resources.						
	7														
	8								There should have been more resources in the inquiry center.						
	9	I would provide more materials and work in different place.		develop my own materials for the class. 2- take them to the computer lab		I might bring real outfits									
	10									Providing variety of materials.					

Table (10): Example of Reflective Journal Answers Matched to Identified Themes

Themes	Yosra		Nesrine		Raga		Naga		Dona		Salima		Negma	
	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason
Use of technology and other resources	There should be ICT sessions for stand- alone where they learn how to use the computer (sending email, using search engines, office, typing...) that are separate from ICT inquiry sessions. We need more resources in the library for stand- alone, we should not rely on the internet for almost all our worksheets.	it's very important for the students to know how to use the computer as inquiry a lot of research.									get more resources add more tangible resources related to my lessons.			

4.8.2.5. Counting the frequency of the appearance of themes:

Tables were prepared with a summary of a count of the appearance of themes in both the lesson reflective questionnaire and the reflective journal. The following is an example for the same theme, theme 1; Use of technology and other resources, from the lesson reflective questionnaires and the reflective journals. Table (11) thru Table (15) give examples of number of mention of categories in individual teachers' answers in the lesson reflective questionnaires; with the summary of all themes:

Table (11): Example of Number of Mention of Categories in Individual Teachers' Answers in the Lesson Reflective Questionnaires

		Yosra		Nesrine		Raga		Naga		Dona		Salima		Negma			
		Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason		
Use of technology and other resources	1																
	2																
	3																
	4																
	5																
	6				1				1							2	2
	7																
	8								1							1	1
	9	1		1		1										3	
	10									1						1	
		1		1	1	1			2	1						7	3

Table (12): Number of Mention of Categories in Individual Teachers' Answers in the Lesson Reflective Questionnaires

Themes	Yosra		Nesrine		Raga		Naga		Dona		Salima		Negma		Total	
	issue	reason	issue	reason	issue	reason	issue	reason	issue	reason	issue	reason	issue	reason	issue	reason
Use of technology and other resources	1		1	1	1			2	1						7	3
Application of PYP essential elements	2		1	1	5	2	2	1	4	3	2	2	7	4	36	13
Use of different teaching strategies	3	2	10		2	1	2	4	4	1	9	2	1		41	10
Differentiation			3				1				2				6	
Use of assessment strategies			1	1											2	1
Students' engagement	2	2	4	4	5	4	2	1			3	2	1	1	31	14
Self-Developmental actions								1							1	1
Total number of answers from each informant	8	4	20	7	13	7	7	9	9	4	16	6	9	5	124	42

Table (13): Number of Mention of Categories in Individual Teachers' Answers in the Reflective Journal

Categories of issues addressed	Yosra		Nesrine		Raga		Naga		Dona		Salima		Negma		Total	
	Issue	Reason	Issue	Reason	Issue	Reason	Issue	Reason		-	Issue	Reason	Issue	Reason	Issue	Reason
Use of technology and other resources	2	1									1				3	1
Application of PYP essential elements	2	1			2							2	3	3	7	6
.Use of different teaching strategies	1		3		3						2		4		13	
Managing activities	2	1	4	2							3	2			9	5
Use of assessment strategies															0	
Differentiation			1	1									1		2	1
Students' engagement			1	1	1	1					1	1	1	1	4	4
Self-Developmental actions			1				1	1					1		3	1
Social and Political Context								1								1
Total	7	3	10	4	6	1	1	1			7	5	10	4	41	19

Table (14): Number of Mention of Categories in the Lesson Reflective Questionnaires

Categories	Total mentions of issues	Times mentioned as a reason
Use of technology and other resources	7	3
Application of PYP essential elements	36	13
Use of different teaching strategies	41	10
Differentiation	6	
Use of assessment strategies	2	1
Students' engagement	31	14
Self-Developmental actions	1	1
Total number of answers from each informant	124	42

Table (15): Number of Mention of Categories of Individual Teachers' Answers in the Reflective Journal

Categories of issues addressed	Total number of mentions	Number of mentions as a reason
Use of technology and other resources	4	1
Application of PYP essential elements	13	6
.Use of different teaching strategies	27	5
Use of assessment strategies	0	
Differentiation	3	1
Students' engagement	8	4
Self-Developmental actions	4	1
Social and Political Context	1	1
Total number of answers from each informant	60	19

4.8.3. Results of data analysis:

As mentioned above, there were different levels of data analysis. First, the oral data was analysed resulting in main themes that divided the data into two parts; the reflective spiral, and conditions affecting the reflective spiral; each part with its sub-themes. Second, the written data was analysed to bring new layers to the analysis. Third, an interpretation of the data after all layers of analysis resulted in identifying the relationship between the reflective spiral and conditions affecting it, along with a suggested solution to establish a supportive spiral of conditions for reflection. The following sub-sections 4.8.3.1 and 4.8.3.2 give further details.

4.8.3.1. Interpreting final themes and sub themes of the reflective spiral and the conditions affecting it:

- Study findings 1: The Reflective Spiral:

Specific facets of the reflective spiral were interpreted from answers of participants in the focus group discussion and the in-depth interviews about their reactions to each question in the lesson reflective

questionnaire. This was in addition to analysing, comparing, and contrasting answers in the lesson reflective questionnaires, written reflective journal, and the action plan from the collaborative reflection. Table (16) presents the specific facets of the reflective spiral and their relation with the lesson reflective questionnaire questions based on the conceptual framework:

Table (16): Specific Facets of the Reflective Spiral and Relation with the Lesson Reflective Questionnaire Questions Based on the Conceptual Framework

The Conceptual Framework		Questions in the reflective questionnaire that represents the level	Study Findings 1: The Reflective Spiral			
Level	Significant aspects about reflection		reflection-on action facets		reflection-in action facets	
Reacting	- Emotions and Cognitions	1. How did you feel about the lesson?	From unconscious → conscious	Reflective Thinking-on-action	Puzzlement → put in focus	Reflective Thinking-in-action
	- Cognition and Consciousness					
Recalling	- Expressing ideas and Consciousness	2. What was the objective of the lesson? 3. Describe what happened in the lesson as you see it?	→ expression → put in focus			
	- Elaborating Details					
Realising	- Analysing and evaluating ideas	4. Did you reach your objective? How?/Why not? 5. What were you pleased with in this lesson? 6. Why? 7. What were you unhappy about in the lesson? 8. Why?	→ analysis	Critical reflection		
	- Considering contextual factors and power issues					
Reconstru cting	- Conceptualisation of the experience	9. What would you do differently next lesson? Mention reasons.	→ awareness		→ awareness	
	- Planning Action		→ make decisions			
Reflecting	- Taking Action/Reflection is Spiral	10. What did you do differently this lesson as a result of your last lesson reflective questionnaire? Give specific examples.	change of practice → reframing	Reflective Action	→ change of practice → reframing	Reflective Action
	- Reflective Thinking-in-action					

- Study findings 2: Conditions affecting the reflective Spiral:

Conditions affecting reflection each had sub-themes. There were different conditions working that influence the effectiveness of reflection and its ability to lead to professional development. The effectiveness of Reflection is affected by three main types of conditions; how much the task helped the teacher to deeply reflect, how much the teacher is ready to use the reflection effectively, how much the context is encouraging

teachers to reflect. These three main types of conditions form the first level of analysis identifying the main themes; about the task, about the teacher, and about the context. The second, third, and fourth levels of analysis were different for each main theme as illustrated in Table (17) and the explanation that follows:

Table (17): Conditions Affecting the Reflective Spiral Levels of Analysis Resulting in Themes and Sub-themes

Study findings 2: Conditions affecting the reflective spiral			
Level one Types of condition	Level Two	Level Three	Level Four
1. About the task	1.1 The collaborative group reflection	<ul style="list-style-type: none"> - Discussing collaboratively - Writing a school action plan according to criteria. - Conceptualising the group experience - Taking the conceptualisation of the experience to the class 	<ul style="list-style-type: none"> - Use of ICT and other resources - Application of PYP essential elements: - Use of different teaching strategies - Use of assessment strategy - Differentiation - Students' engagement - Self-developmental actions - Social and Political Context
	1.2 The Lesson reflective questionnaires	<ul style="list-style-type: none"> - Structuring the reflective process - Triggering feelings - Seeing the details - Reasoning - Conceptualising the personal class experience - Following through the spiral 	
	1.3 The Reflective Journal	<ul style="list-style-type: none"> - Conceptualising personal experience as a whole - Reasoning - Writing personal next steps 	
2. About the teacher	2.1 Cognitive capacities	<ul style="list-style-type: none"> - Thinking skills 	<ul style="list-style-type: none"> - Focusing - Inquiring - Analysing - Problem solving
		<ul style="list-style-type: none"> - Communication skills 	
	2.2 Affective capacities	<ul style="list-style-type: none"> - Love - Managing feelings 	
	2.3 Attitudes capacities	<ul style="list-style-type: none"> - Open mindedness - Self-efficacy - Willingness 	
	2.4 Knowledge Capacities	<ul style="list-style-type: none"> - Knowledge about own cognition - Knowledge about pedagogy used 	
3. About the context	3.1 Logistical factors of Introducing and Extending Reflective Tasks	<ul style="list-style-type: none"> - Timing and duration given for reflection - Purpose - Giving feedback - Supporting reflection with a coach - Decisions made based on teachers' reflection 	
	3.2 The school Culture	<ul style="list-style-type: none"> - Collegial - Having a shared vision - Safe - Understanding and trusting - Reflective - Resourceful - Students' readiness 	
	3.3 Egyptian cultural beliefs	<ul style="list-style-type: none"> - Teachers' bringing up cultural beliefs - Teachers' past experiences - Egypt's political context 	
	3.4 The International Baccalaureate	<ul style="list-style-type: none"> - The reflective culture the IB promotes - The tension the IB creates - The community the IB builds 	

Theme 1: About the task:

This theme was categorised in the second level of analysis into three types of tasks; the collaborative reflection, the lesson reflective questionnaires and the reflective journal. The third level of analysis was finding unique features about each type of task analysed from the data that helped informants move through the reflective spiral. For the collaborative reflection; discussing collaboratively, writing a school action plan according to criteria, conceptualising the group experience, and taking the conceptualisation of the experience to the class. For the lesson reflective questionnaire; structuring the reflective process, triggering feelings, seeing the details, reasoning, conceptualising the personal class experience, and following through the spiral. For the reflective journal; conceptualising personal experience as a whole, reasoning, and writing personal next steps.

The fourth level of analysis for theme1 was finding common sub-themes to be able to make sense of the written data resulting from the three types of tasks; the action plan from the collaborative reflection, the answers of the informants in the lesson reflective questionnaires and the reflective journals. Eight sub-themes were identified; use of ICT and other resources, application of PYP essential elements, use of different teaching strategies, use of assessment strategy, differentiation, students' engagement, self-developmental actions, and social and political context. These sub-themes helped in using the data to reach conclusions by comparing and interpreting relations.

Theme 2: About the teacher:

In this theme four sub-themes were identified; cognitive capacities, affective capacities, attitude capacities, and knowledge capacities in the second level of analysis. In its third level of analysis each sub-theme had a level three sub-themes of sub-capacities. Cognitive capacities had; thinking skills traits of; focusing, inquiring, analysing and solving problems. Affective capacities had; love, and managing feelings. Attitude capacities had; open mindedness, self-efficacy, and willingness. Knowledge capacities had; knowledge about own cognition, and knowledge about pedagogy used.

Theme 3: About the context:

This theme was categorized into three types of contexts in its second level of analyses. The three types are; logistical factors of introducing and extending reflective tasks, school culture, and national and international Context. In the third level of analysis each of the level two analysis contexts had different level three sub-themes of different context characteristics. The logistical factors of introducing and extending reflective tasks characteristics were; timing and duration given for reflection, purpose, giving feedback, supporting reflection with a coach, and decisions made based on teachers' reflection. The school culture characteristics were; collegial, having a shared vision, safety, understanding and trusting, reflective, resourceful, and students' readiness. Egyptian cultural beliefs characteristics were; teachers' bringing up cultural beliefs, teachers' past experiences, and Egypt's political context. The International Baccalaureate characteristics

were; the reflective culture the IB promotes, the tension the IB creates, and the community the IB builds.

4.8.3.2. Interpreting relationships and making sense of the data:

According to Guest et al. (2012) analysing data is not just considering most common themes, but implicit and explicit ideas within data. The interpretation of the data resulted in the following:

- **Study findings 3: Identifying the specific conditions and sub-conditions affecting the reflective spiral facets:**

The analysis of counting the appearance of themes facilitated comparing, contrasting and interpreting different relationships, which lead to finding deeper description for connections between the conditions and the reflective spiral as will be explained in the findings chapter. Table (18) summarises the specific conditions affecting specific facets of the reflective spiral:

Table (18): A summary of Specific Conditions Affecting Specific Facets of the Reflective Spiral

Conceptual Framework		Study findings 1: The reflective Spiral				Study findings 3: Conditions affecting specific facets of the reflective spiral			
Level	Significant aspects about reflection	reflection-on action facets		reflection-in action facets		Task Conceptual Conditions Special features	Teacher Capability Conditions Special features	Contextual Conditions Special features	
Reacting	- Emotions and Cognitions	From unconscious → conscious	Reflective Thinking-on-action	Puzzlement → put in focus	Reflective Thinking-in-action	- Discussing collaboratively	- Attitude capacities of; willingness, open-mindedness and self-efficacy	- Purpose	
	- Cognition and Consciousness					- Writing a school action plan according to criteria	- Affective capacities of; love of students and teaching	- Forced obligation	
Recalling	- Expressing ideas and Consciousness	→ expression → put in focus				- Structuring the reflective process	- Cognitive capacities of; Thinking skills traits; focusing and inquiring, and communication skills	- Timing and duration given for reflection	
	- Elaborating Details					- Triggering feelings	- Knowledge capacities of; knowledge about pedagogy used, and knowledge about reflection.	- Collegial	
						- Seeing the details		- Having a shared vision	
						- Conceptualising personal experience as a whole experience		- Safe	
Realising	- Analysing and evaluating ideas	→ analysis	Critical reflection	→ awareness	- Discussing collaboratively	- Cognitive capacities of; Thinking skills of inquiring, analysing and problem solving	- Understanding and trusting		
	- Considering contextual factors and power issues				- Writing a school action plan according to criteria	- Affective capacities of; managing feelings	- Teachers' bringing up cultural beliefs		
Reconstru cting	- Conceptualisation of the experience	- Attitude capacities of; open-mindedness, willingness and self-efficacy			- Knowledge capacities of; knowledge about pedagogy used, and knowledge about reflection.	- Teachers' past experiences			
		- Conceptualising the group experience				- Egypt's political context.			
		- Reasoning							
		- Conceptualising the personal class experience							
		- Conceptualising personal experience as a whole							
		- Reasoning							

	- Planning Action	→ make decisions				- Writing a school action plan according to criteria	- Cognitive capacities of; Thinking skills traits of; focusing, inquiring, analysing and problem solving	- Giving feedback
Reflecting	- Taking Action/Reflection is Spiral	change of practice → reframing	Reflective Action	→ change of practice → reframing	Reflective Action	- Taking the Conceptualising of the experience to the class	- Affective capacities of; managing feelings	- Supporting reflection with a coach
	- Reflective Thinking-in-action					- Following through the spiral	- Attitude capacities of; willingness, open-mindedness, risk taking and self-efficacy	- Decisions made based on teachers' reflection
						- Writing personal next steps	- Knowledge capacities of; knowledge about own cognition and knowledge about pedagogy used.	- Collegial
								- Has a shared vision
								- Safe
								- Understanding and trusting
								- Resourceful
								- Students are ready
								- The Egyptian Culture of teachers' bringing up cultural beliefs, and their past experiences
								- The International Baccalaureate Culture and the community the IB builds

- **Study findings 4: A suggested solution to establish a supportive spiral of conditions for reflection:**

With a closer look at the data and more exploration of implicit and explicit ideas within data, key sub-conditions were identified and used to develop a suggested solution that establishes the conditions where reflection can thrive. This spiral can move as follows;

Collegiality → teachers' emotions and cognitions → positive school culture → minimizes drawbacks of outer culture and maximizes its benefits → controls logistical factors introducing and extending the task → teacher's Agency → controls cognitive, affective, attitudes and knowledge capacities → deep conceptualisation → direct contextualisation → reframing → sharing through collegiality starts a new cycle

4.9. Ethical considerations

Since the research is based on qualitative data from informants, there is an assumption of trust between the researcher and the informants. Marshall and Rossman (2011) identified categories of positions that the researcher should consider being able to put ahead challenges in conducting the research and strategies used. Ethical considerations in research has three moral principles; respect for persons, beneficence and justice (Marshall and Rossman 2011). For the research to be trusted, standards of ethical considerations were put forward.

- Approval for this study was obtained from the University of Leicester's Research Ethics Committee following the University of Leicester's Ethical Guidelines and the British Educational Research Association guidelines (BERA, 2011).
- A discussion with the leaders of the school prior to the study was done to;
 - Explain the research process and consider any codes of ethics of the organisation.
 - How to collect data and aspects taken into consideration, and clarify the benefits for the organisation and the teachers from the study.
 - Agreeing with the leaders on how, when and where the collection of data is going to take place.This was followed by a permission and an information sheet sent to the leaders of the school to sign (see Appendix 7). The school leaders had a choice to agree or disagree to undertake the research.
- Participants were fully informed about the purpose of the study, they participated voluntarily, they understood the extent of their commitment, and they were ensured that their identities are protected and there is minimal risk associated for their participation. Pseudonyms were used to refer to participants, to avoid using real names in the study.

To choose teachers for the study, an email was sent to all teacher by the school leaders asking for volunteering teachers. Volunteering participants were fully informed verbally about the purpose of the study. They were sent an information sheet about the purpose of the research, their role, and the benefits they can get. They were given a chance to ask any questions about the process that was not clear to them. A consent form was sent to participants to sign at the entry of the research. (see Appendix 8).

The participants were assured of complete and full confidentiality. If any of the participants does not feel uncomfortable to share their experiences or to be part of the study, they should be allowed to withdraw. This was written in a consent form that they sign (Marshall and Rossman 2011).

- There are some ethical considerations with documents review that has to do with how much they are publicly available. For example; the school action plan, the answers of teachers to the lesson reflective questionnaire and the reflective journal. How using these documents in the study may harm the organisation or individuals. This has to be carefully weighed and considered (Marshall and Rossman, 2011). As mentioned earlier, a discussion with the leaders of the school prior to the study was done. This is to explain the research process and consider any codes of ethics of the organisation. This also can clarify any benefits for the organisation and the teachers from the study. These were all clarified in the letter of information sent to the leaders (see Appendix 7). Ethical practices dependent on each individual researcher's personal values and principles (Merriam, 2009).
- Direct and immediate participation in the environment builds relationship with participants of the study. Participants may share information that they are not aware of their consequences. My observations through my presence in the school may bring to me information that the school does not want to share.

4.10. The role of the researcher and Reflexivity

I work as a free-lance trainer and consultant for international schools in Egypt. I also teach at the American University in Cairo-Graduate School of Education-Diploma Programme, where most of the student teachers come from different private and international schools in Egypt. This gives me high accessibility to different international schools as well as teachers teaching in international schools. Moreover, I am a workshop leader (trainer), a consultant and a school visitor for authorizing schools for the International Baccalaureate Organisation (IB). I work with the IB in Africa, Europe and the Middle East and sometimes the United States.

I work with the school in the current study as their independent consultant and as a researcher, I am the instrument of research in the study. This status could affect my relationship with the school and participants. Therefore, there are reflexive aspects to be clarified in this concern. "Reflexivity acknowledges the role of

the researcher as a participant in the process of knowledge construction and not merely an outsider-observer of a phenomenon.” (Patnaik, 2013, p.4). Due to interpretive research is the researcher constructing knowledge, the researcher has to take in account how their views can affect the process and product of the research while interpreting realities. “... being reflexive in doing research is part of being honest and ethically mature in research practice” and as such requires researchers to “stop being ‘shamans’ of objectivity” (Ruby, 1980, p.154).

According to Alvesson and Skolderg (2009) there are four levels of reflexivity to be discussed. As I come from the same culture and was in their position; a national teacher teaching in an international school, I describe here my role and biases that I bring through the four levels:

1. Interaction with empirical material: Accounts in interviews, observations of situations and other empirical materials:

I tried as much as possible to keep the data authentic and reliable and not influence participant’s ideas and thoughts with my own. I tried to eliminate any power issues by managing my facial expressions through the discussion that can give messages to participants to say what I want to hear. I did not comment on what they said. I just asked for more clarifications if needed. My questions were mostly open ended and I was listening and not commenting on their conversations. I considered cultural sensitivity as much as possible by avoiding bringing up some topics until they did, as it will shut teachers down and they will not open up and share genuinely. These topics like; freedom of expression, causes of fear, religious or political issues.

2. Interpretations: Underlying meaning:

I am a strong advocate of reflection. I used different reflective strategies with myself and teachers throughout my experience, which built preconceived ideas about conditions affecting reflection. Throughout the research I was trying to keep focused on the research question and to open up to what the data is telling me revisiting the data and adding new levels of analysis over and over again. In addition, different levels of analysis were employed as mentioned in this chapter to find implicit and explicit themes.

3. Critical interpretation: Ideology, power, social reproduction

Being an international educator, gave me a chance to see how teachers from different cultures think and respond to actions. I knew that Egyptian teachers have different reaction to reflection and I expected that this can be due to special ideologies and power issues in the Egyptian society. Again, here I was guided by the data. I was not ignoring my views, but the findings and conclusions had to be rooted in the data, and not led by my own views and opinions.

4. Reflection on text production and language use: Own text, claims to authority, selectivity of the voices represented in the text:

Some Participants were better in expressing ideas and feelings, especially in the focus group discussion.

I was aware that these are not the only quotes I select to support my themes. I made sure as much as possible that I have a representation of the voice of all participants on every issue and not neglect some.

4.11. Validity of the Research

To validate the quality of the research there are issues of trustworthiness, credibility, and authenticity to be considered. The following summarizes some techniques and methods considered in the study to produce an authentic study. Cho and Trent (2006) saw techniques, strategies and methods used in a study can ensure an accurate reflection of how participants see reality (Marshall and Rossman 2011):

- The credibility of the research was taken into consideration. To be able to trust the data, a variety of resources were used in data collection, and different levels of analysis were employed. Gathering data from different sources can ensure credibility (Marshall and Rossman 2011).
- Lincoln and Guba (1985) saw that the amount of time the researcher is engaged with the site of the study, the higher the credibility. The study went on for six weeks employing first five cycles of reflection, then data was collected after the six weeks. Collection of data took around three more weeks. This gave a chance for the researcher to engage with all aspects of the school where the study took place and the participants.
- Reflexive approaches on different levels were employed, as mentioned before, to ensure trustworthiness of the study.
- Heavy description of; the background and context of the study (in chapters 1 and 2), the participants, and the themes interpreted (in this chapter) promoted transferability (Lincoln and Guba, 1985). This is because it gave confident judgement of careful application of the findings in other contexts.

4.12. Summary

This chapter was introducing the research design of the study. First it clarified the research paradigm the study is adopting and why it was chosen. Second it gave a clear description of the research methodology used of; sampling, participants, data collection methods, and how they were designed based on the study conceptual framework. Third, a briefing about the pilot study and the implication it had on the research design was given. Fourth, a step by step overview about how the data was analysed and how the findings were reached with samples of how the data looked like in each stage. Finally, it gave an account about how ethical issues of the study were considered. The next chapter will be explaining the findings of the study and interpretations of these findings.

CHAPTER 5

Findings

5.1. Introduction

The chapter reports on the findings from the data collected exploring conditions affecting reflection. Although reflective practice seems to have a great attention from practitioners following the researchers' efforts, it is not yet fully practised (Marzano et al., 2012). The aim of this study was to provide insight of the conditions around reflection in international schools in Egypt that support or hinder the process leading to professional learning.

For the study two types of data were collected; oral data and written data. The oral data was collected from a semi-structured focus group discussion and three in-depth interviews. The questions used in the oral data were linked to the research questions of the study. The main themes of the study were interpreted from the oral data. The written data was used for a deeper level of analysis that interpreted sub-themes and provided relationships between themes. Teachers participating in the study were referred to in the research design as the study participants, starting this chapter onward they will be referred to as the study 'informants' as their role in the study changed from participating to informing the study.

Research questions for the study were originally set to explore teachers' perception about conditions affecting reflection as a mean for professional development. The data collected drew some light on the reflective process itself, which was crucial to be able to identify conditions that enhance or hinder learning through reflection. This resulted in two kinds of findings; the first is about the reflective spiral and its facets, while the second is about the conditions affecting reflection. The chapter then ends with two key interpretations of findings; the relationship between the conditions and the facets, and a suggested solution to establish a supportive spiral of conditions for reflection.

5.2. The Reflective Spiral

The current study design used three types of reflective stimuli; one collaborative discussion, three lesson reflective questionnaires, and one reflective journal. Informants of the study went through five cycles of reflection-on-action. Data collected from the focus group and in-depth interviews was exploring teachers' perception of the reflective process. The exploration went deeper into trying to understand how does reflection happen and what are the specific facets that this process goes through that leads to learning. Through this spiral of reflection-on-action, data collected detected reflection-in-action going with the spiral while teachers are in the class taking action whether based on past reflection or not. Specific facets of the reflective spiral were interpreted from answers of participants in the focus group discussion and the in-depth interviews about their reactions to each question in the lesson reflective questionnaire. This was in addition to analysing, comparing, and contrasting their answers in the lesson reflective questionnaires, their written

reflective journal, and the action plan from the collaborative reflection. This is shown in the following Table (19) and the explanation of findings next.

Table (19): Specific Facets of the Reflective Spiral and their Relation with the Lesson Reflective Questionnaire Based on the Conceptual Framework

The Conceptual Framework		Questions in the reflective questionnaire that represents the level	Study Findings 1: The Reflective Spiral			
Level	Significant aspects about reflection		reflection-on action facets		reflection-in action facets	
Reacting	- Emotions and Cognitions	4. How did you feel about the lesson?	From unconscious → conscious	Reflective Thinking-on-action	Puzzlement → put in focus	Reflective Thinking-in-action
	- Cognition and Consciousness					
Recalling	- Expressing ideas and Consciousness	5. What was the objective of the lesson?	→ expression → put in focus			
	- Elaborating Details	6. Describe what happened in the lesson as you see it?				
Realising	- Analysing and evaluating ideas	9. Did you reach your objective? How?/Why not?	→ analysis		Critical reflection	
	- Considering contextual factors and power issues	10. What were you pleased with in this lesson? 11. Why? 12. What were you unhappy about in the lesson? 13. Why?				
Recon-structing	- Conceptualisation of the experience	11. What would you do differently next lesson? Mention reasons.	→ awareness			→ awareness
	- Planning Action		→ make decisions			
Reflecting	- Taking Action/Reflection is Spiral	12. What did you do differently this lesson as a result of your last lesson reflective questionnaire? Give specific examples.	change of practice → reframing	Reflective Action	→ change of practice → reframing	Reflective Action
	- Reflective Thinking-in-action					

The reflection-on-action process moves in a spiral of repetitive cycles, enthused by different types of reflective stimuli, leading to professional learning and teachers' growth. From the careful reading of the data presented, a spiral of reflection was detected. This spiral starts by reflection-on-action that goes through the following process, that can, but not necessary go through this order:

From unconscious → conscious → expression → put in focus → analysis → awareness → make decisions → change of practice → reframing

From unconscious → conscious

When teachers reflect on their actions, their reflection starts by getting the unconscious feelings to the conscious awareness. This consciousness makes teachers able to discover themselves; i.e. to make sense of their feelings and actions.

"I think that reflection tackles our feelings. I do not know why. When I reflect I start to feel new things I did not think that I am going to feel." Nesrine - Focus Group

When informants reflected on action using the reflective questionnaires they were surprised that it brought them conscious of what they were doing in the class, that they were not able to see throughout the experience.

"I discovered things that I have not thought about. I was surprised that I remembered certain details." Yomna – Focus Group

→ expression

When these discoveries are placed into written or spoken words (expressed), they are magnified and put in focus. Teachers remember every detail that would help them analyse their actions.

"even when I was stuck with the why questions. I started to go back and put myself again in the same situation in the class and try to remember the whole actions that happened ... The things that I did And then I can answer these questions." Nesrine - Focus Group

→ put in focus

In the in-depth interview, Salima explained clearly how the experience is put in focus while reflecting.

"You need to be focused. You need to concentrate while you are reflecting on what you want to get out of your session ... You need to look outside the box and think and reflect without anything else affecting you" Salima – in-depth interview.

→ analysis

In the focus group discussion, when informants were asked about how the 'why' questions made them feel; Did you reach your objective? How?/Why not?, What were you pleased with in this lesson? Why?, What were you unhappy about in the lesson? Why?, they clarified how they had to analyse the experience trying to find reasons.

"I have to be able to analyse the situation, to know the parts that were good, which parts were not up to standard. I think lots of skills are needed." Raga – in-depth interview

→ awareness

This analysis results in awareness and teachers are ready to make decisions based on them and actually change their practice. They also highlighted how this gave them insight they never thought about until they started analysing.

"once you actually think about the why and the reasons behind it, it gives you insight, an insight you never thought about until you hold your pen and start writing. Yosra – Focus Group

When reaching that kind of awareness, it lights the way of steps to take.

"I feel like it is an eye opener ... it is going to light the way to us to see what are the steps we are going to take, how are we going to change our selves, and how are we going to adapt to situations we are going to face." Nesrine – Focus group

→ make decisions

Between the awareness and the actual action to change practice, there is a facet of making the decision to change. Sometimes fear of making mistakes would hinder action and resolution is needed to make the decision to change. In the focus group discussion Nagda and Salima saw that making the decision needs courage-

"We need courage to try things" Ngda – Focus Group

"I need more courage from my side" Salima – Focus Group

To make the decision to change you need self-confidence.

" to be a good reflector I have to have self-confidence. I have to have the self confidence to say the action or the decision that was taken was not the best." Rasha – Focus Group

→ change of practice

Informants informed about some of the changes they employed according to their reflection. Salima informed about two changes she made based on her reflection.

"after reflecting on my sessions, one of the things that I noticed that I have to have always a plan B. Before I enter the session I have to have two plans. Salima – Focus group

“I figured out that next time I will have each student do it by himself so I would get who got it and who did not.” Salima – In-depth interview

→ reframing

Reframing involves taking action and is a result of it. It contextualises what was conceptualised in the awareness facet. It overlaps with reflection-in-action and it is difficult to differentiate between reframing happening as a result of reflection-on/or-in-action. Nesrine was taking action based on reflection, then she discovered in the class that there is another thing that needs to change.

“sometimes I think this is the right track and I am going to go through it. Then you discover that you need to change something again”. Nesrine – Focus group

If the trial was not successful, teachers stop and do something else.

“I try one time and then I say no, I will stop and do something else” Naga – focus group

While teachers are in the action of changing their practice according to their findings, another kind of reflection happens. They reflect-in-action testing if the change in practice led to a development in students' learning. All the time teachers are focusing on students' reactions to their actions and they change accordingly sometimes without even being aware that this process is happening.

The study data collection tools detected reflection-in-action. The questions asked in the focus group discussion and the in-depth interviews were focused on informants' impressions on conditions affecting their use of the three reflection-on-action stimuli used in the study. The documents review was originally collecting data for conditions affecting reflection-on-action. Through analysis of data, signs of reflection-in-action appeared underlying the spirals of reflection-on-action taking place.

“You will always ask yourself; How did it go? Good or bad, they understand, they did not understand. ... you will always say ... did my students understand? ... did I reach my objectives? Did every things go the way I wanted.” Salima – focus group

Mumby (1989) tried to understand how teachers learn by teaching; from their own experience. The reflection-in-action process interpreted from data have the following facets that can, but not necessarily, go in this order:

Puzzlement → put in focus → awareness → reframing → change of practice

Puzzlement

When teachers try out their practice, they have specific expectations of students' reactions to these practices. If teachers have different reactions from students than what they expected, they are puzzled.

“If they are not interested ... I have to notice this while I am in the class.” Salima – In-depth Interview

→ put in focus

Teachers become alert to what they are doing by putting their actions/practice in focus and reflect-in-action to find an alternative or solve a problem. Nesrine enthusiastically gave an illustrated example of how the process of putting the experience in focus in reflection-in-action happened with her.

“when we were introducing the assessment; project. I saw that the looks in their eyes were confused. I did not know why. I said we studied everything ... they explored, we did everything, we did all the process ... What is wrong? When I read again the assessment and I put myself in the students shoes I discovered that maybe my language was a bit high for them. So, I felt why they were confused, why they were inattentive.” Nesrine – Focus group

She showed how she is always alert to students’ reaction by saying *“I saw the look in their eyes”*, and how this puzzled her by saying *“I did not know why”*, and questioning her actions *“I said we studied everything ... they explored we did everything we did all the process.... What is wrong?”*. She put the whole thing in focus by reading again the assessment and reconsidering the task given by putting herself *“in students’ shoes”*. Then, she *“discovered that maybe my language was a bit high for them”*. This discovery led to her reframing of the experience not only this lesson, but her professional learning from this experience.

Teachers putting specific actions in focus in the class can happen unconsciously. Informants got conscious of it when they were reflecting-on-action.

“writing about your lessons you remember things you did that you did not even think about during the lessons.” Raga – in-depth interview.

→ awareness

Between the puzzlement happening to the teacher and the actual reframing of the experience there is an aspect of conceptualisation of what is happening in the class. This was expressed by Nesrine in asking herself questions and reaching conclusions.

“When I read again the assessment and I put myself in the students shoes I discovered that maybe my language was a bit high for them. So I felt why they were confused, why they were inattentive.”
Nesrine – Focus group

This awareness happens unconsciously not like the one happening with *reflection on-action*. Raga discovered how she thought in the lesson when she was reflecting after the lesson. She was not conscious about this in-action.

“when I started reflecting about the lesson I remembered little details about kids enjoying the lesson. So I started to tell myself it is not always about what you think.” Raga – focus group

→ reframing

Munby (1989) sees that “reframing alters the way in which the data are "seen,"... the reframing is central to reflection-in-action involves seeing quite differently the events of a puzzling practical problem” (p.34). Raga in her in-depth interview gave a good explanation of how reframing happens.

She started the lesson believing that students cannot do the task.

“I had a lesson that I gave students some fabrics and a measuring tape. And to be very honest I thought students will never be able to do anything and I did it for the sake of an inquiry activity let us see what they can do” Raga – in-depth interview

She was surprised to see how the students act.

“I found the kids using measuring tapes and they took the pieces of fabric and they started making their own designs and they asked me to help them make a big bow or a cape” Raga – in-depth interview

She then paused and mentioned how this lesson taught her a lesson.

“it taught me; I have to dare to try ... I have to give them the inquiry activity and just watch and see ... I have to try.” Raga – in-depth interview

→ change of practice

This incident in the class helps teachers to reframe their learning and understand something about themselves and their action in the class that was not clear before. Consequently, they make an instant decision,

“Sometimes during the class. You think that you are prepared and your plan is perfect and some students side track you. You need to run with them and try to take them and guide them again to the path that you want and try to connect the ideas and try to take them where your intention and their intention can meet.” Nesrine – Focus Group

or a delayed decision to change their practice.

“And it would help me in my second session or what I will do differently next ... I am supposed to notice how they feel so it would help me with what did I do wrong and how could I change it.” Salima
– In-depth Interview

5.3. Conditions affecting the Reflective Spiral:

There were different conditions and sub-conditions working that influenced the effectiveness of reflection and its ability to lead to professional development. This is illustrated in Table (20) and the explanation of findings that follow.

Table (20): Conditions Affecting the Reflective Spiral Levels of Analysis Resulting in Themes and Sub-themes

Level one Types of conditions	Level Two	Level Three	Level Four
4. About the task	1.1 The collaborative group reflection	<ul style="list-style-type: none"> - Discussing collaboratively - Writing a school action plan according to criteria. - Conceptualising the group experience - Taking the conceptualisation of the experience to the class 	<ul style="list-style-type: none"> - Use of UCT and other resources - Application of PYP essential elements: - Use of different teaching strategies - Use of assessment strategy - Differentiation - Students’ engagement - Self-developmental actions
	1.2 The Lesson reflective questionnaires	<ul style="list-style-type: none"> - Structuring the reflective process - Triggering feelings - Seeing the details - Reasoning - Conceptualising the personal class experience - Following through the spiral 	
	1.3 The Reflective Journal	<ul style="list-style-type: none"> - Conceptualising personal experience as a whole - Reasoning - Writing personal next steps 	
5. About the teacher	2.2 Cognitive capacities	- Thinking skills	<ul style="list-style-type: none"> - Focusing - Inquiring - Analysing - Problem solving
		- Communication skills	
	2.5 Affective capacities	<ul style="list-style-type: none"> - Love - Managing feelings 	
	2.6 Attitudes capacities	<ul style="list-style-type: none"> - Open mindedness - Self-efficacy and Risk taking - Willingness 	
6. About the context	3.1 Logistical factors of Introducing and Extending Reflective Tasks	<ul style="list-style-type: none"> - Knowledge about own cognition - Knowledge about pedagogy used 	
		<ul style="list-style-type: none"> - Timing and duration given for reflection - forced obligation - Purpose - Giving feedback - Supporting reflection with a coach - Decisions made based on teachers’ reflection 	

	3.2 The school Culture	<ul style="list-style-type: none"> - Collegial - Having a shared vision - Safe - Understanding and trusting - Reflective - Resourceful - Students' readiness 	
	3.5 Egyptian cultural beliefs	<ul style="list-style-type: none"> - Teachers' bringing up cultural beliefs - Teachers' past experiences - Egypt's political context 	
	3.6 The International Baccalaureate	<ul style="list-style-type: none"> - The reflective culture the IB promotes - The tension the IB creates - The community the IB builds 	

According to the above interpretations of data that resulted in the themes and sub themes in Table (20) the following support from data collected on how the reflection cycle is affected by different conditions.

5.3.1. About the task

The current study used three types of reflective tasks; one collaborative reflection, three lesson reflective questionnaires, and one reflective journal. The role of the tasks given to informants was to allow them to go through five cycles of reflect-on-action. Helping them to go deep into their thoughts and feelings, and to form a reflective spiral. The following reports on the unique features about each task analysed from the data that helped informants move through the reflective spiral.

5.3.1.1. The collaborative group reflection

The collaborative reflection was the first reflective task. In collaborative reflection, teachers of the whole school got together with leaders to reflect on the current situation using the IBPYP standards as a base (See IBPYP standards Appendix 2). These practices acted as criteria assessing the situation. Teachers extracted objectives or areas in need for development and identified the needed actions, time, responsible person, and success indicators (See action plan template Appendix 3). Upon analyses of data, the following special features of the Collaborative Reflection emerged from both oral and written data forming sub-themes:

- Discussing collaboratively
- Writing a school action plan according to criteria.
- Conceptualising the group experience
- Taking the conceptualisation of the experience to the class

The following introduces the findings for each sub-theme in the collaborative reflection:

- **Discussing collaboratively**

The conversations that took place in the collaborative reflection was a rich environment for collaborative expression. Informants highlighted that reflecting together stimulated their ability to express their ideas and feelings and share their development.

“collaborative reflection is like brain storming. You are sitting in a group and each person is like saying what they think and they are telling you even advice about your own sessions.” Salima – Focus group

Informants expressed their feelings and views and opened-up when they found others having the same experiences.

“people talking about their feelings makes you more opened to talk about your feelings. When someone is talking and it is fine, it is fine for you to talk as well.” Salima – In-depth Interview

- **Writing a school action plan according to criteria**

The fact that collaborative reflection is systematically conducted every three months at the school with a specific action plan to work together upon is supposed to be a good medium for reflective action. Consequently, providing for reflection in-action when teachers go back to their classes. Informants in the current study did not mention in the focus group or in the in-depth interviews any reflective action or reflection-in-action based on collaborative reflection or the action plan. When one of the informants was asked if she remembered what was in the action plan after the collaborative meeting. She answered;

“no not really. I do not think about it except when I sit in front of it.” Salima – in-depth interview

Teachers were asked to use the IBPYP Standards and Practices as criteria to compare their work to. Based on this criteria they had to identify objectives to work on. This process helped them analyse the situation and construct actions to be taken to reach the objective. When teachers reflected together on a previous action plan, they remembered more details from the class and moved the analysis of practices deeper.

“ I start reflecting and remembering while I am comparing to the last action plan” Salima – In-depth Interview

- Conceptualising the group experience

One of the clear advantages of the collaborative reflection is the high level of awareness that teachers experience in it. Teachers knew how it was at the beginning of the year and how it developed. Together they were clear about what was needed for the next step.

“Sitting with my colleagues and sharing ideas is like an eye opener for all of us” Salima – In-depth Interview

The wide brainstorming that occurred in a collaborative reflection about a certain issue allowed synthesis of ideas and raised awareness.

“ It is like mixing ideas up and coming up with new ideas.” Salima – In-depth Interview

- Taking the conceptualisation of the experience to the class

When informants participated in the collaborative reflection, they were not conscious that they were taking this learning to the class, this happened unconsciously. For a closer look at the data collected from document review, an analysis was conducted. The analysis compared issues addressed by informants in the collaborative reflection action plan. It then compared it with the two other reflective stimuli; lesson reflective questionnaire and the reflective journal given to teachers after the collaborative reflection. The analysis indicated signs of informants reflecting on the same issues mentioned in the action plan during day to day lessons. Table (21) gives the categories of issues addressed.

Table (21): Categories of Issues Addressed by Informants in the Three Reflective Stimuli

Categories of issues addressed	Teachers’ reflection in the three reflective stimuli		
	Mention of the category in the Collaborative Reflection Action plan	Number of mentions of the category in the Lesson Reflective Questionnaire	Number of mentions of the category in the Reflective Journal
Use of technology and other resources	✓	7	4
Application of PYP essential elements	✓	36	13
Use of different teaching strategies	✓	41	27
Differentiation	✓	6	0
Use of assessment strategies	✓	2	3
Students’ engagement		31	8
Self-Developmental actions		1	4
Social and Political Context		0	1

Total number of mentions		124	60
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Table (21) shows that the collaborative reflection in the action plan addressed five categories of issues. The five categories were addressed by informants reflecting in the lesson reflective questionnaires, and four of these categories were addressed by informants reflecting in the reflective journal. This means that teachers reflecting on classroom practices, reflected on nearly all the issues discussed in the collaborative reflection. Informants in in-depth interviews and focus group discussions clearly highlighted that informants did not have the action plan in mind when they taught. Informants reflected on the same issues in their reflection in the lesson reflective questionnaires and the reflective journal. This could be attributed to their unconscious focus on actions formed in the collaborative reflection.

5.3.1.2. The Lesson Reflective Questionnaire

The current study used a lesson reflection questionnaire for teachers to fill three times for any lessons selected from the six weeks as a stimulus for reflection (Appendix 4). The questionnaire was designed based on a critical reflection framework designed by the researcher as explained in Ch. 4. Questions were originally structured to help teachers go through five levels of reflection, ensuring that they reach critical reflection with every questionnaire they answer.

Data was collected from oral data of informants' reaction to every question in the focus group, and the in-depth interviews. Besides, written data from reviewing answers of the lesson reflective questionnaires, the reflective journals and the action plan of the collaborative reflection. Upon analyses of data, the following sub-themes emerged:

- Structuring the reflective process
- Triggering feelings
- Seeing the details
- Reasoning
- Conceptualising the personal class experience
- Following through the spiral

The following introduces findings for each sub-themes in the lesson reflective questionnaires:

- **Structuring the reflective process**

Questions were designed to help teachers organise their thoughts by first reacting to the experience, then recalling what happened. Then, realising what needs to change and why, followed by reconsidering their next

steps. Reaching awareness to take decisions required, and finally being able to take the action. Each question was to stimulate their thinking in a different direction. By the time they reach question 9, namely; what would you do differently next time? and mention reasons; Informants were able to define clearly their plans for the future, based on their findings from answering the questionnaire. Informants appreciated that the reflective questionnaire helped them through the process of reflection.

“the questions were really structured in a way from this point to this point. It took me through points through the session and it was organised and it helped me to organise my thoughts.” Salima – in-depth interview

- Triggering feelings

The first question starts with triggering feelings that raises attention and memory to react to the experience. It was evident from the data that this question helped informants remember more details about the experience.

“I am an emotional person, so going back to the experience, I remember everything; emotions, place, everything. So, it made me go back to everything and write everything deeply.” Naga – in-depth interview

Answers to the first question asking about their feelings varied; some informants were very expressive, while others were a little reserved in their answers. For example:

I felt that the lesson went very well and I felt very prepared and confident during the teaching .Also the students seemed very interested and motivated” Nesrine – Questionnaire one

“Amazing.” Dona - Questionnaire one

“I enjoyed the lesson a lot.” Negma - Questionnaire one

One informant in the in-depth interview suggested that more questions about feelings can be added to the lesson reflective questionnaire, as it helped her go deeper into what she wanted to talk about.

“I think more questions about feelings should be asked. This will help a lot.” Naga – in-depth interview

- Seeing the details

Questions 2 and 3; What was the objective of the lesson? and; Describe what happened in the lesson as you see it? where to help informants recall the experience describing it in details.

After using the reflective questionnaire more than once, teachers enjoyed these discoveries and they wanted to get more out of the experience and remember more details to help in their development. Their level of self-awareness increased every time they reconsidered their actions.

"I am squeezing my mind really hard to remember everything. And I do it with pleasure not annoyed." "Sometimes I start rethinking about the whole experience again. Lots of times I get out a different result." Raga – In-depth Interview

Answering specific questions, prompted teachers' expression of ideas in writing. It made them; think, make sense of their thoughts, and formulate answers to the questions. Most teachers had full extended answers to the questions.

"When I started describing what happened I had more details. I started to remember every detail in the lesson." Dona – Focus Group

Informants varied in the level of details of the answers to the question; Question 3; Describe what happened in the lesson as you see it? One of the informants; Naga, had no answer for the first questionnaire and a minimal answer for the second and third questionnaires. Her answers were very short and not detailed.

"No answer" Naga - Lesson Reflective Questionnaire 1

"Teachers and students did not enjoy it at all." Naga -Lesson Reflective Questionnaire 2

"Students were able to identify the objective we are trying to inquire into." Naga -Lesson Reflective Questionnaire 3

Naga was one of the informants in the in-depth interview. Upon analysis of her reactions in the in-depth interviews about this question, some interesting observations were detected. In the in-depth interview, she highlighted that this question confused her the first time.

"in some of the questionnaires I did not answer this question, honestly, because being confused." Naga – in-depth interview

The second and third times she reflected she was able to write more details.

"I felt that I was afraid at the beginning. ... and I thought, how am I going to answer these questions. At the beginning this was really hard for me. But as I started answering the questions and doing more than one questionnaire it started being easier. " Naga - in-depth interview

In the focus group discussion 'Naga' opened up and started speaking about her fears to reflect.

"Before coming here we were nervous. I was. I was really nervous. I did not know what is going to happen. How will the questions be. How will I answer them. How will people think of me. As humans this is how we feel. We always think of how others will think of us. Sitting together knowing that we all share good things and bad things makes you more comfortable." Naga – Focus group

For Naga, talking about the experience was the real reflection. Listening to others speaking about their inconveniences openly enabled her to share her own inconveniences.

"when I was answering the questions, I was trying to remember what I have done, but when I started talking (in the focus group discussion) things just started coming back to my memory ... Listening to others Sharing experiences I think what I said is totally different from what I wrote." Naga – Focus group

- Reasoning

Questions from 4 to 8; Did you reach your objective? How? /Why not? What were you pleased with in this lesson? Why? What were you unhappy about in the lesson? Why? were to help informants interpret reasons of personal judgments and analyse ideas and actions. The questions that asked 'Why?' helped teachers to go deeper into discovering the reasons why they were pleased or unhappy about the lesson. Specially with the aspects they were not happy about. Questions helped them find why it was not up to expectations, and motivated them to try findings solutions.

" The question that was asking for why were you not satisfied about your session ... helps you write down what you found wrong to pick it up ... and write why was it wrong and how would you like to change it." Salima – In-depth Interview

According to Lucas (2012), critical reflection is identified by two aspects. First, not accepting the situation at face value, but to look 'deeper' to see the influences on the situation. Second, the ability to examine the 'broader'

picture and see the situation more holistically by considering the context. Questions in the lesson reflective questionnaire were intended to take informants deeper into the reasons behind practices meeting or not meeting expectations. Moreover, question were intended to take informants to a broader consideration of contextual effects. Accordingly, helping informants realise the root causes of success or failure of the practice.

Upon examining the data to assess the conceptualisation of the experience; depth and breadth, informative showed different levels of conceptualisation. Table (22) gives number of times each category was referred to as a reason behind success or failure of the experience in each question of the lesson reflection questionnaire.

Table (22): Number of Reference to Categories as a Reason for Success or Failure of the Practice in each Question of the Lesson Reflection Questionnaire

Categories of issues addressed in the Reflective Stimuli	Questions										Total number of reasons	
	1	2	3	4	5	6	7	8	9	10	Number	Percentage
Use of technology and other resources						2		1			3	7%
Application of PYP essential elements						8		5			13	31%
Use of different teaching strategies							1	6	2	1	10	24%
Differentiation											0	12%
Use of assessment strategies								1			1	2%
Students' engagement						9	5				14	33%
Self-Developmental actions								1			1	2%
Social and Political Context											0	0%
Total number of answers under each category in every question						19	6	14	2	1	42	100%

When informants identified reasons behind success or failure of the practice they differed in the significance of the reason. Some answers to the 'why' questions were deep in identifying reasons, while other answers were superficial and did not identify the real reasons behind the success or failure of the practice. Table (22) highlights the highest category of reasons identified by informants in the questionnaires' answers behind successful and unsuccessful practices was 'Students' engagement' (i.e. not being distracted from the lesson, showing enthusiasm or joy). This reasoning was referred to 33% of the times. This rationale meant that informants judged the experience as successful or not based on students' engagement. Considering students' engagement as a reason behind the experience meeting expectations is not informative enough. Another underlying reason to consider would be, what got students engaged? And, what can the teacher repeat to get students engaged?

The second highest category identified by informants in the questionnaires answers behind successful and unsuccessful practices was ‘Application of PYP elements’ (i.e. getting the objective, reaching conceptual understandings, enhancement of skills or attitudes). The reason of success or failure of the practice to ‘Application of PYP essential elements’ was mentioned 31% times. Although referring to application of PYP essential elements is a more solid reasons, still this does not give enough information that would help the teacher develop. For reflection to help teachers develop, it should give information about; What is the real reason behind students’ achievements? What did the teacher do to reach these outcomes? Actions that teachers can repeat or stop doing in class. There is still an underlying reason that needs to be explored.

The third highest category identified by informants in the questionnaires’ answers behind successful and unsuccessful practices was ‘Use of different teaching strategies (i.e.: inquiry, group work, eliciting questions from the students, using centres...etc.). Use of different teaching strategies showed deeper answers as informants identified very specific actions behind the failure or success of the practice. Some examples of the answers were; “Because I used authentic resources which were appropriate for the grade level I teach”, “They worked in group and I let them explain and help each other”, “I think I was supposed to be more involved and add more explanation.” Answers that reached this level were only 24% of the times.

In addition, the above mentioned findings in Table (22) indicate that the lesson reflective questionnaire were not able to reach the breadth required. None of the informants’ answers of the questionnaires’ questions considered context. This means that the reflection was not broad considering context. The questions asked were opened questions leaving teachers to choose what they thought. Questions should have guided teachers to consider aspects in the context and explore what can they do about it.

- **Conceptualising the personal class experience**

Answering question 9; What would you do differently next lesson? Mention reasons, was to help informants build insights, draw conclusions and reconstruct their understanding of the teaching and learning journey. Salima mentioned how this question helped her conceptualise her experience.

“What would you do differently next time? made me see each and every activity; if I needed differentiation here, if I needed to add something here, did this take more time, did I need to add something. It made me go through all of the lesson again.” Salima - focus group

Only two answers mentioned reasons behind what they will change in their practice of repeating or avoiding specific actions. Informants may not have been able to identify reasons behind success or failure of the practice in the first place, as explained above. Consequently, they were not able to identify reasons why they chose a different action for the following lesson.

McIntosh and Webb (2006) mention that written reflections can become “mechanistic” and “reductionist, facilitating mainly superficial” (p.1) stopping at the level of description, which was also mentioned by informants.

“sometimes you just want to get it done and over with. It will not be deep. It will just be some words scribbled on a paper to get over with. Reflection has to be something in a very different environment or context for it to be actually reflection.” Yosra – focus group

- Following through the spiral

The last question; What did you do differently this lesson as a result of your last lesson reflective questionnaire? Give specific examples, was to help informants reflect by linking experiences to support transformation and personal growth.

A comparison between teachers’ answers in question 9 and 10 was done to examine if teachers used what they identified as next steps in their following lessons. Question 9 was; What would you do differently next lesson? Mention reasons, and question 10 was; What did you do differently this lesson as a result of your last lesson reflective questionnaire? Give specific examples. Action of the first lesson reflection was to appear in the second lesson and answers of the second lesson was to appear in the third lesson. Table (23) gives a comparison between teachers’ answers to questions 9 and 10.

Table (23): A Comparison Between Teachers Answers to Question 9 and Question 10 of the Following Lesson Reflection Questionnaires

	What would you do differently next lesson? Mention reasons.		What did you do differently this lesson as a result of your last lesson reflective questionnaire? Give specific examples.	Relation between what was planned and what was implemented
	Yosra		Yosra	
Lesson 1	- provide more materials - work in different place.	Lesson 2	No answer	
Lesson 2	- show a video first. - make sure to allocate more time.	Lesson 3	Not done	
	Nesrine		Nesrine	
Lesson 1	- develop my own materials - give students more reflection questions - ask students to do some creative projects.	Lesson 2	- I had the students teach each other the information	No relation

Lesson 2	- take them to the computer lab to do research by themselves	Lesson 3	- prepared some individual activities to make sure that every student got the idea. - I explained the instructions very clearly before doing any activity.	No relation
	Raga		Raga	
Lesson 1	- bring real outfits to raise the inquiry level.	Lesson 2	- I started the attention from the morning line.	No relation
Lesson 2	- Nothing.	Lesson 3	- Gave students more pictures to inquire in.	
	Naga		Naga	
Lesson 1	- to start using centres	Lesson 2	No answer	
Lesson 2	Cancel the unit	Lesson 3	No answer	
	Dona		Dona	
Lesson 1	- use pairs or small groups so they do not copy each other.	Lesson 2	- Providing appropriate time and space for students work.	No relation
Lesson 2	- postpone the inquiry till the end of the unit	Lesson 3	Not done	
	Salima		Salima	
Lesson 1	- start with different information about the country itself along with the arts flash cards. - learn about the country itself along with the arts of the country.	Lesson 2	- I wrote on the board what is expected from each group and I added a small kind of rubric for them in (cooperation in group, voice level , on task , mission accomplished)	No relation
Lesson 2	- give each student his stripes of different patterns(shapes, colors, numbers) individually. - explain more to the students who did not get the concept myself instead of making it group work.	Lesson 3	No answer	
	Negma		Negma	
Lesson 1	- not do anything differently in this lesson	Lesson 2	- Let the students express themselves through writing a script rather than let them just get more information.	No relation
Lesson 2	- I will let each student write his own part individually first, then they rotate to share and discuss their ideas together before they are placed in groups.	Lesson 3	Not done	

Upon analysis of the answers, there was no clear relationship between what was identified as next steps in question 9 and the actions taken by teachers in the following lesson mentioned in answers of question 10. This indicates that the reflective action based on the lesson reflective questionnaires was not present.

With a closer look at the actions taken by teachers based on reflection in question 10 in Table (23), one can see that these are real change of practice based on reflection, but not the reflection through the reflective questionnaires. This is another reflection going on all the time nurturing teachers with new ideas in practice to help them adapt their teaching to reach expected outcomes

The decisions of change of practice teachers took were based on students' feedback in the class. That lead to teachers' puzzlement, putting the practice in focus, then changing it. Salima in the in-depth interview stated this clearly.

"I am supposed to notice how they feel so it would help me with what did I do wring and how could I change it." Salima – in-depth interview

Teachers continuously focus on students' reaction when reflecting-on/in- specific lessons. Teachers' attention to students' feedback is a good source of information that they rely on to judge the effectiveness of their teaching. On the contrary, when teachers are reflecting-on-general action, whether in the reflective journal or in the collaborative discussion, they focus on other issues not on students' feedback as illustrated in Table (24).

Table (24): The Number of Informants Addressing Specific Categories of Issues in the Lesson Reflective Questionnaires and the Reflective journal Collectively

Categories of issues addressed	Issues addressed by Teachers' reflection in the three reflective stimuli				
	Mention in the Collaborative Reflection Action plan	Lesson Reflective Questionnaire		Reflective Journal	
		Number of times	Percentage	Number of times	Percentage
Use of technology and other resources	✓	1	1.5%	3	7%
Application of PYP essential elements	✓	14	20%	7	17%
Use of different teaching strategies	✓	17	25%	13	32%
Differentiation	✓	6	9%	2	5%
Use of assessment strategies	✓	1	1%	0	0%
Students' engagement		23	33%	4	10%
Self-Developmental actions		1	1.5%	3	7%
Managing activities		6	9%	9	22%
Total		69	100	41	100

When informants were reflecting on specific lessons in the lesson reflective questionnaires, they focused on students' engagement as the highest focus, mentioned 33% of the times. In contrast, when informants were reflecting about their whole experience in the reflective journal not on specific lessons, students' engagement

was mentioned only 10% of the times. In the collaborative reflective discussion students' reaction was not mentioned at all.

One informant in the in-depth interview suggested that a question to be added to the lesson reflective questionnaire asking about students' unexpected reaction and how the teacher dealt with them. She explained that sometimes in the class teachers get frustrated from unexpected feedback from students. She added that if she writes about this in her reflection "get it out", she will understand the students more. This suggestion will be taken into consideration in discussions in Ch.6.

"I think I would like to add one or two questions related to the students and how the students felt.... as well." Salima – in-depth interview

5.3.1.3. The Reflective Journal

In the current study, teachers wrote the reflective journal after they gave in their lesson reflective questionnaires. The reflective journal was their third type of stimuli for reflection and their fifth cycle of reflecting-on-action. Before the reflective journal they had one cycle with the collaborative reflection and three cycles with the lesson reflective questionnaires. Teachers were asked to write about their experience a reflective journal, summarising their classroom practice throughout the six weeks. They were asked to specify what they would like to; keep, adapt, stop or add, to their teaching practice mentioning reasons for each. The content of the journal was designed to take a narrative approach without specifying a structure where teachers focus on their own experience and to construct a personal understanding (Bain et al., 1997). Upon analysis of oral and written data the following sub-themes emerged:

- Conceptualising personal experience as a whole
- Reasoning
- Writing personal next steps

The following introduces the findings for each sub-theme in the Reflective Journal:

- Conceptualising the personal experience as a whole

The reflective journal helped teachers look more holistically at how they conceptualise their teaching practice and what plans they have for the future.

"The journal summed up all the feelings I had about the whole experience." Naga – In-depth Interview

The reflective journals showed that informants started writing with previous awareness they got about themselves from the lesson reflective questionnaires. When comparing categories of issues addressed; put in focus, in the lesson reflective questionnaires and the reflective journal, informants had different percentages of mention of each category of issues, but the same order of priority for categories of issues of the first four from the eight categories as illustrated in Table (25) and Table (26) and the explanation that follows.

Table (25): The Number and Percentages of Informants Addressing Specific Categories of Issues in the Lesson Reflective Questionnaires and the Reflective Journal

Categories of issues addressed	Issues addressed by Teachers' reflection				
	Category in the Collaborative Reflection Action plan	Lesson Reflective Questionnaire		Reflective Journal	
		Number	Percentage	Number	Percentage
Use of technology and other resources	✓	7	6%	4	6%
Application of PYP essential elements	✓	36	29%	13	22%
Use of different teaching strategies	✓	41	33%	27	45%
Differentiation	✓	6	5%	0	0
Use of assessment strategies	✓	2	1%	3	5%
Total percentage of the above categories		92	69%	47	78%
Students' engagement		31	25%	8	13%
Self-Developmental actions		1	1%	4	7%
Social and Political Context		0	0	1	2%
Total number of mention		124	100%	60	100%

Table (26): The Categories of Issues Addressed by Informants in the Lesson Reflective Questionnaires and the Reflective Journal Placed in Order of Priority

	Categories of issues addressed	Issues addressed by Teachers' reflection			
		Lesson Reflective Questionnaire		Reflective Journal	
		Number	Percentage	Number	Percentage
First	Use of different teaching strategies	41	33%	27	45%
Second	Application of PYP essential elements	36	29%	13	22%
Third	Students' engagement	31	25%	8	13%
Forth	Use of technology and other resources	7	6%	4	7%

‘Use of different teaching strategies’ (i.e.: inquiry, group work, eliciting questions from the students, using centres...etc.) came as the highest category of issues focused on in both the lesson reflective questionnaires and the reflective journal with higher intensity in the reflective journal. It was mentioned 46% of the times in the reflective journal, while 33% of the times in the lesson reflective questionnaires. The more teachers reflect the more they become aware of what they do in the class. In the in-depth interviews, Raga mentioned this clearly.

“every time I feel that I am much better in reflection than the previous time. ...when I reflected another time it was better. And the third time it was better and so on.” Raga – in-depth interview

Teachers being aware of the teaching strategies they use or in other words; aware of what they do in class is higher in the reflective journal because it came after they individually reflected in three rounds with the lesson reflective questionnaires. Borg (2006) sees that the effect of thinking on action is cyclic; the decisions and actions taken by a teacher inform the consequent behaviour of the teacher. “Classroom events shape subsequent conditions” (Borg, 2006, P.12).

‘Application of PYP elements’ (i.e.; students getting the objective, reaching conceptual understandings, enhancement of skills or attitudes) and ‘Students’ engagement’ (i.e.: not being distracted from the lesson, showing enthusiasm or joy) came second and third categories of issues mentioned in both the lesson reflective questionnaires and the reflective journals. They both have a higher intensity in the lesson reflective questionnaires than the reflective journal. ‘Application of PYP elements’ is mentioned 29% of the times in the lesson reflective questionnaires and 22% of the times in the reflective journals. ‘Students’ engagement’ is mentioned 25% of the times in the lesson reflective questionnaires and 13% of the times in the reflective journals.

When teachers reflect on specific lessons their focus is on learning outcomes; ‘Application of PYP elements’, and if the elements are achieved in this lesson or not, and also on ‘Students’ engagement’ as it takes a lot of effort and focus for teachers to keep student involved and for teachers this is a big concern. Shavelson and Stern (1981) saw that teacher decision making in the class is based on students’ reaction, they change the strategy used if the expected reaction of students is not evident. When reflecting holistically on their teaching, reaching specific outcomes; ‘Application of PYP elements’ and ‘Students’ engagement’ take less focus. Their focus is more on ‘Use of different teaching strategies’ as mentioned above.

‘Use of technology and other resources’ came the forth category of issues informants put in focus with nearly the same intense in both the lesson reflective questionnaires; 6% of the times, and the reflective journals; 7% of the times. This shows teachers beginning to give some attention to the direct context they are working in.

Writing reflective journals has an indirect effect on reflection-in-action. Reflective journals nurture the reflection spiral by teachers discovering what they had already changed by reflecting-in-action, or by setting future goals that they can put in focus in their reflect-in-action. One of the informants in the focus group discussion mentioned that when she was thinking about what she wanted to adapt while writing the reflective journal, she found things that she had already adapted that were obstacles to her teaching.

“When I thought about things that I would like to adapt in the journal I found that I already adapted a lot of things that were obstacles in my teaching process.” Dana – Focus group

- Reasoning:

Critical reflection is highlighted by informants realising what needs to change and why when they put in focus some critical issues and analyse them exploring both reasons (depth) and context (breadth) to reach critical reflection that leads to change of practice and consequently teachers’ growth.

Upon analysis of the content of the written journals for the participants to detect if there were signs of digging deeper into reasons for the issues mentioned, the level of criticality varied; some informants were mainly descriptive with no sign of criticality or reasoning to the experience, while others showed some depth; by mentioning reasons, and breadth; by understanding the teaching context and their students. They also showed some discoverings about themselves. According to Bain, et al., (1997) the level of reflective analysis in journals usually varies widely starting from simple descriptions to high self-dialogue exploring different perspectives. Table (27) illustrates the number of times each teacher mentioned reasons to keep, adapt or stop a practice (depth), and the number of times they mentioned context (breadth).

Table (27): The Number of Times Each Teacher Considering Critical Reflection in the Reflective Journal

	Naga	Salima	Yosra	Nesrine	Negma	Raga	Dona
Number of Issues mentioned	3	12	10	14	14	7	
Number of Reasons mentioned (depth)	2	5	3	4	4	1	
Number of times considering context (breadth)	1	0	0	0	0	0	

The reflective journal extended teachers’ ‘awareness’ and clarified their thinking of what they need to do exactly and how they will do it. As the reflective journal was the fifth reflective stimuli awareness of the order of priority of categories of issues seen as reasons behind success or failure of the practice varied from what was seen as reasons in the lesson reflective questionnaires as illustrated in Table (28).

Table (28): A Comparison Between Priority of Categories of Issues Seen as Reasons Behind Success or Failure of the Practice in the Reflective Journals and the Lesson Reflective Questionnaires

Mention	Lesson Reflective Questionnaire			Reflective Journal		
	Categories of issues addressed	Mentioned as a reason		Categories of issues addressed	Mentioned as a reason	
		Number	Percentage		Number	Percentage
First	Students' engagement	14	33%	Application of PYP essential elements	6	32%
Second	Application of PYP essential elements	13	31%	Use of different teaching strategies	5	27%
Third	Use of different teaching strategies	10	24%	Students' engagement	4	21%
Forth	Use of technology and other resources	3	7%	Use of technology and other resources	1	5%
Fifth	Use of assessment strategies	1	2%	Use of assessment strategies	0	0%
Sixth	Self-Developmental actions	1	2%	Self-Developmental actions	1	5%
Seventh	Differentiation	0	0%	Differentiation	1	5%
Eighth	Social and Political Context	0	0%	Social and Political Context	1	5%
	Total number of mentions	42	100%	Total number of mentions	19	100%

This variation was mainly in the order of priority of 'Students' engagement', the order of the rest of the categories of issues was the same. 'Students' engagement' took the highest level of priority with the higher mention as a reason for success or failure of the practice in the individual lesson reflection questionnaires. In the reflective journals it took the third priority exceeded by 'Application of PYP essential elements' and 'Use of different teaching strategies' as a higher focus or priority seen as a reason for success or failure of the practice. Students' engagement as a reason behind the experience meeting expectations is not informative enough. There is another reason laying under it. What made students engaged? What can the teacher learn that she/he can repeat to make students engaged. The reflective journal makes teachers aware of more profound reasons and not being distracted by 'Students' engagement'.

- Writing personal next steps:

As a result of the reflective thinking-on-action through writing the reflective journals, informants were to show awareness of what needs to change and restructure their ideas about their actions. This is to lead to reflective action starting by taking the decision to change, then actually change of practice. In the focus group discussion informants expressed how the reflective journal helped their awareness and taking the decision to change by setting future goals, and committing themselves to 'actions' they need to take.

“The task I really liked the most were what I would keep, what I would adapt, what I would remove, because it was like a conclusion of everything. What are you going to do next? It made me think hard about the next steps.” Raga – In-depth Interview

5.3.2. About the Teacher

Teachers vary in their ability and readiness to reflect. Upon analysis of the data, different levels of sub-themes emerged as specific capacities needed by informants to reflect effectively. The following will be reporting the study findings that informants identified as specific capacities of; cognitive, affective, attitudes, and knowledge needed to be able to go through the reflective spiral.

5.3.2.1. Cognitive capacities

The cognitive ability describes differences among individuals in terms of their mental capabilities. The term is sometimes alternated with intelligence having different definitions, “each definition highlighting a unique aspect of cognitive ability, congruent with the authors’ theoretical stance, conceptual analysis, and research interests” (Ones, et al., 2012).

According to Gottfredson (1997), cognitive ability is defined as a general mental capability involving reasoning, problem solving, planning, abstract thinking, complex ideas, comprehension, and learning from experience. His views about cognition are useful for applied psychology as he also sees that cognition “reflects a broader and deeper capability for comprehending our surroundings – catching on, making sense of things, or figuring out what to do” (p. 13). Gardner, (2004) and Sternberg et al. (2000) saw that the term has a wider meaning that can also consider non-cognitive talent or applied skills. This means that cognitive capabilities do not only have to do with mental skills, but also skills of how to apply this thinking. The following are capabilities reported by informants to be affecting how they go about reflection:

- Thinking skills

Focusing

Reflecting needs management of one’s ability to focus and look at the matter from all directions.

“You need to try to focus and try to concentrate, so it need high level of thinking ... and you need to look outside of the box and think and reflect.” Salima - In-depth Interview

Inquiring

To collect all information needed, a teacher needs to act as a researcher of their own practice to find objective data; of what is happening, and subjective data; of describing how the teacher feels and thinks. Nesrine mentioned what she does.

"I think using the six hats of thinking can help me a lot in reflecting on my work." Nesrine – Focus group

Analysing

The reflective process needs analytical skills. The ability to evaluate and make judgements to the experience. To be able to point out the reasons behind actions.

"Analysing skills. I have to be able to analyse the situation, to analyse the whole experience. To be able to know the parts that were good, which parts were not up to standard." Raga – In-depth Interview

Problem solving

Through the reflective process sometimes informants were stuck. They did not know what to do. They needed to have some problem-solving skills to go about the problem they are facing and solve it.

"I was stuck many times. ... I just go back and start remembering every detail I have done in the classroom and how it was done..... then I started to find reasons and then I wrote the reasons and according to the reasons I started to put a plan for myself. These are the reasons so how am I going to change these reasons. Later on, which ones I should keep. This is exactly how I think." Negma – Focus group

- Communication skills

Expressing feelings and thoughts, putting feelings and thoughts into words helps better reflection.

"People can have very good ideas but because they are not good communicators they can not deliver the message. Good reflectors are people who can stand and say that was good and why and that was not very good and why." Raga – In-depth Interview

5.3.2.2. Affective capacities

According to Merriam-Webster dictionary the definition of affective is, “relating to, arising from, or influencing feelings or emotions”. Different emotions were reported from informants in the oral data as affecting their reflection.

“The way you feel sure affects the way you answer the questions and how you feel during your reflection.” Salima - In-depth Interview

The following is reporting the emergent of different emotions as some sub-themes of factors affecting reflection:

- Love

Informants saw loving teaching as a reason why they do not want to see problems in their teaching when reflecting.

“throughout the reflection time I did not want to feel I am not doing my work properly. If I reflect, and I found lots of mistakes than I am not a good teacher. I love teaching. It is the only thing I want to do. Sometimes when I reflect and find lots of mistakes.” Naga – in-depth interview

It is not only loving teaching, but also loving students can be the motivation to develop as a teacher.

“I love the kids very much and I love being with them and I love results. The kids are coming to you with little information ... and at the end of the year they know a lot of things with your help. And how they are truly attached to you and the pure feelings they hold. So I decided that this is what I would like to do and I tried to improve myself more in that career.” Raga – in-depth interview

- Managing feelings

Informants believed the process of reflection needs management of feelings

“reflection needs ... managing your feelings.” Salima - In-depth Interview

Reflection needs management of negative feelings like fear. When Naga was afraid about answering the lesson reflective questionnaire, she was not able to answer, but once she was relaxed she was able to reflect better.

"I felt that I was afraid at the beginning. ... and I thought, how am I going to answer these questions. ... But as I started answering the questions and doing more than one questionnaire it started being easier. " Naga - in-depth interview

In the focus group discussion 'Naga' opened up and started speaking about her fears to reflect.

"Before coming here we were nervous. I was. I was really nervous. I did not know what is going to happen. How will the questions be. How will I answer them. How will people think of me. As humans this is how we feel. We always think of how others will think of us. Sitting together knowing that we all share good things and bad things makes you more comfortable." Naga – Focus group

Stress can hinder reflection. Naga reported stress as stopping her from reflecting-in-action.

"In the class sometimes we are stressed. We have lots of things to do. We want everything to go as planned. Being stressed sometimes make us feel the wrong feelings ... I should avoid these feelings which might give a negative outcome from me, which will reflect on the students of course." Naga – Focus group

Teachers have to be in the right mood to reflect. Not anytime is suitable for reflection.

"Teachers have to reflect when they are in the right mood it would be just a piece of paper that they are filling in, it will not be sincere and it will not be their real feeling and it would have the right reflection" Salima – in-depth interview

5.3.2.3. Attitude capacities

Crano and Prislin (2006) define attitudes as "the evaluative judgments that integrate and summarise . cognitive/affective reactions" (p. 347). According to Schwarz and Bohner (2001), attitudes are highly context-dependent. Teachers' attitudes are "shaped by experience, society, and the educational culture in which the teacher works" Brock (1994, p. 51). The absence or existence of the following attitudes emerged in the data collected as affecting the ability of the teacher to reflect:

- Open-mindedness

Teachers need to be open-minded and accept the change that will take them out of their comfort zone.

"Sometimes when you change something inside the class it is changes drastically ... it is totally changed Changing something you are always used to do ... We have to get used to it and we have to accept it. ... It is a challenge." Naga –in-depth interview

When teachers set frames for themselves, they cannot make creative decisions and try new ideas.

“I think what stops us from trying is being blinded by the idea of setting frames for ourselves” Naga – Focus group

- Self-efficacy and Risk taking

Teachers need confidence to be able to go through the reflective process.

“When we have a space to reflect and make mistakes, we feel confident while we are doing anything. Negma – Focus group

Self-efficacy makes teachers gain audacity to take risks. Teachers have to have the audacity to try and accept the fact that it would not always come out the way they want it.

“You need courage to try new things” Naga – Focus Group

“reflection needs ... more courage from my side” Salima – Focus group

“I think by time we started changing the way we think. Yes, and we started gaining our courage back to try things.” Naga – Focus group

- Willingness

Nesrine used the word “to have the intention” to express how reflection needs willingness to use reflection to develop.

“I have to have the intention to change”. Nesrine – Focus group

Salima was trying to find the right word to express how she has to feel about reflection. She used the word ‘sincere’ to show how she has to be personally committed to reflection.

“I need ... like being sincere with myself” Salima- in-depth interview

5.3.2.4. Knowledge Capacities

Teachers’ knowledge includes subject matter knowledge and general pedagogical knowledge. All types of teachers’ knowledge cannot be separated from teachers’ prior experiences, values and individual goals

(Johnson, 1999). The knowledge appeared in the data referred to as affecting teachers' reflection are:

- Knowledge about own cognition

The teacher's knowledge about reflection makes a big difference on how she is reflecting. The more one knows about reflection the better and deeper the reflection process will be. Raga mentioned this clearly.

"it was difficult for us as teachers to understand and apply reflection at the beginning, because we do not know what is reflection." Raga – Focus Group

Reflecting more than once increase knowledge about own cognition, which made reflecting at the beginning strange for teachers. Raga used the word "weird" to express how she saw reflection at the beginning.

"At the beginning, it was kind of weird" Raga – In-depth Interview

When they answered the reflective questionnaire more than once, they start getting acquainted with the reflective skills needed, and answering the questions became easier every time.

"experiencing the feeling for the first time and looking at yourself for the first time was different than the second time and third of course." Salima – In-depth Interview

- Knowledge about IB pedagogy

Being new to the IB system, informants were confused about the pedagogy used and this affected their reflection. Naga's contribution in the data is a good example. In the focus group discussion, she admitted that she did not know what to write.

"being new to the IB system. I did not know what I was doing right and what was I doing wrong. I did not know what to write, Naga – focus group

"being an IB teacher is totally different than being a regular teacher. ... So, I start seeing things differently now as I became more experienced in the IB system, but at the beginning I did not know what I am supposed to." Naga – in-depth interview

In Her answers in the Lesson Reflective Questionnaires it was mentioned clearly.

Naga's answer to "What were you unhappy about in the lesson?

answer; *nothing*.

Why?

“Being a new teacher in the IB system is really exhausting especially at the beginning.” *first questionnaire*

5.3.3. About the context

The context where reflection happens affect the effectiveness of reflection. There are different levels of context reported by informants to affect their reflection. First there is the very direct context around the task of logistical factors introducing and extending reflective tasks, then there is the context of school culture, the outer context is the country; Egyptian culture and political status, and finally the international context, as the school is an international school. The following will be reporting the study findings from data as specific features of different level of context affecting the reflective spiral.

5.3.3.1. Logistical factors introducing and extending reflective tasks

Teachers reflecting are affected by how and when the task was introduced, how teachers were prepared for it, what happened before it, what happened after it and the kind of support it is given to continue into a spiral and strive.

- Timing and duration given for reflection

One of the challenges for teachers to reflect is to find the time to do it. For reflection to happen, they need to dedicate time for it.

” What would make me start doing reflection is having the time for it.” Negma – Focus Group

“I need time to reflect ... I need to sit down an have time...” Salima – in-depth

“the first thing I thought when I took the reflection sheet was finally I have time to sit with myself and look back at what I did” Salima – Focus Group

In the in-depth interview Salima highlighted that leaving teachers to do the reflection at the time they feel right is important. For her, imposing the timing when they have to reflect does not result in the desired outcome of reflection.

“Each person has to find his own time and way to reflect. ...You need the right time, the right feelings and the right motivation.” Salima – In-depth Interview

She also saw that the duration given to reflect is important.

"I had to spend a long time thinking about each questionyou need time to reflect and think."
Salima – in-depth interview

- Forced obligation

Informants in the focus group discussion debated if reflection is to be obligatory or the teacher to be given the choice to reflect. Dona saw that it has to be part of the lesson, and then collaborative reflection can follow.

"It has to be part of the lesson plan just as paper work to make you do it ... then a meeting just for reflection." Dona – Focus group

Yosra agreed that the set-up of having a specific scheduled time for it, then having a discussion is good.

"Something that is within ... It has a specific time. I really like this set-up. Maybe we can write it on paper like a few minutes to refresh our memory ... but also discuss." Yosra – Focus group

Yosra does not like it being obligatory, but she sees that this is the way to ensure it is done.

"as they said, maybe I do not like the idea, but it will work. Make it obligatory." Yosra –Focus group

Nesrine saw that it can start at the beginning by being obligatory, but not to continue this way.

"I think it can start by being obligatory to do it until it becomes a habit after we are used to use it."
Nesrine – Focus group

When Salima was asked in the in-depth interview if reflection should be obligatory this was her answer.

"No each person has to find his own time and way to reflect. And if someone find it obligatory that they have to reflect now and they are not in the mood it would be just a piece of paper that they are filling in." Salima – in-depth interview

- Purpose

For teachers to be motivated to reflect, they have to be clear about why they are reflecting and believe that it is going to help them. The idea that this is for their own benefit should be vibrant. Salima mentioned in the focus group that explaining to teachers how reflection is for their own benefit is important.

“when you are doing the reflection you have to know why are you doing it. The reason behind the reflection has to be explained that it is for you to make yourself better.” Salima – Focus Group

and, she clarified it more in the in-depth interview by highlighting the importance of “a purpose” behind reflection.

“you need to do it for a purpose. ... purpose of the reflection. Is it really going to add is it really going to change something or I am just reflecting for nothing.” Salima in-depth interview

Nesrine also had the same opinion.

“we need a specific goal. To reflect on. To have a vision and something that we want to achieve so we can reflect on that. To achieve and know what did not go well, what went well.” Nesrine – Focus group

- Giving feedback

Although teachers valued the opportunity to learn how to reflect on their own, they still wanted feedback to know where they are from expectations. Salima saw that giving feedback is important.

“ Reflecting on my own is important, but also, people with more experience sitting with us and giving us their feedback is important for me. Both are important.” Salima – In-depth Interview

Raga saw that feedback gives her assurance that she is on the right track.

“ yes, someone maybe is more qualified can tell me yes, you you are on the right track or no you are a little bit out of the point.” Raga - in-depth interview

She also saw that it gives her courage to try.

“Feedback would give me the courage to really try” Raga – Focus Group

Salima saw that a system of feedback that is organised by leaders ensuring that feedback is regular, keeps teachers on the right track and gives them confidence in what they are doing.

“There has to be like a scheduled meeting that someone to sit with me and give me feedback on my work ... I need someone to give me feedback.” Salima – In-depth Interview

On the other hand, Dona saw feedback as a form of evaluation. She rejected the idea of evaluative feedback. She just needs to be listened to.

“It is not always about the why it is about the how. How we are going to improve it. How we are going to move forward, about the next steps.” Dona – Focus group

Naga saw evaluation is needed, but it depends on how people evaluate each other, and how instructions are given.

“evaluation is needed. But I think it depends on how people evaluate each other. And how they give instructions to each other” Naga - In-depth Interview.

- Supporting reflection with a coach

In the focus group discussion, informants agreed that they need to reflect first, and then to sit with someone ‘a coach’; a trusted person with more experience to help them extend their thinking and discover more about themselves.

Nagma expressed her need for a coach.

“ We need to reflect and then someone to tell us whether we are on the right track or whether there are other things.” Negma – Focus Group

Salima explained how she wants the procedure to happen.

“Someone to sit with me with my reflection and tell me this part when you were not happy we can change it and make it this way. I need advice and I need someone to talk to me about it. To reflect on the reflective task.” Salima - focus group

Negma and Nesrine then highlighted that whomever the teacher is going to reflect with should be a trusted person.

“When you discuss your reflection with a trusted person, it is going to be different. ... you trust his education, you trust his thinking, his behaviour and his experience, the reflection is going to be better. Not anyone can reflect with you.” Negma – Focus Group

“ I think when reflection will come from a trusted person, it is going to be different. When you trust someone, you trust his education, you trust his mentality, you trust his behaviour and his experience, the reflection is going to be better. Not anyone can reflect with you.” Nesrine – Focus group

- Decisions made based on teachers’ reflection

When the reflection has always a next step to be taken, there are decisions based on it, teachers take it more seriously and they are more motivated to reflect.

“and you want to see that something is going to happen or to change after your reflection. You have to go back to your old reflections to see if you improved or not.” Salima – Focus Group

Reflection is all about next steps. It is about how the information we got from this deep analysis of actions is going to affect how we do things.

“It is not always about the why it is about the how. How we are going to improve it. How we are going to move forward, about the next steps.” Dona – Focus group

“I think we should have directly a plan according to our reflection.” Negma – Focus group

5.3.3.2. School Culture:

In this study culture will be defined as ‘the way of life of a given collectivity (or organisation) particularly as reflected in shared values, norms, symbols and traditions’ (Mitchell and Willower, 1992, p.6). The values and norms in a culture that were perceived by the informants of the study that helped teachers reflect are:

- Collegial

When teachers start expressing their feelings in conversations, they remember details and can better reflect. Feeling that others share the same experiences, made teachers relax.

“Sitting together knowing that we all share good things and bad things makes you more comfortable.” Naga – Focus Group

“I just need to talk and listen to others and that is it.” Dona – Focus Group

- **Having a shared vision**

Teachers and leaders sharing a vision, helps teachers reflect effectively. When teachers share a vision, they held themselves accountable to achieve goals. They reflect trying to explore how much of these goals were achieved.

“Sharing a vision for me is that leaders leave us to do whatever we want, but at the end we should all gather and reflect and talk about what we did.” Raga – Focus Group

From this vision, they can set goals on different levels; for their classes and themselves. It easier to reflect when expectations are clear.

” we need a specific goal ... to reflect on ... to have a vision and something that we want to achieve so we can reflect on that.” Nesrine – Focus Group

“we need to all share the same objective We have to look at long term objectives or we all have a vision.” Dona – Focus Group

- **Safe**

Fear of punishment hinders teachers’ reflection. When one of the norms of the school culture is being safe, teachers are not afraid to reflect, point out or admit mistakes.

“Making us feel safe will help us reflect ... A safe environment will do wonders I think.” Naga – In-depth Interview

When the culture is safe, teachers are not afraid of leaders’ reaction if they start trying out new ideas. On the contrary, teachers are encouraged to take the step and apply their findings from reflection.

“I believe my creativity is now increasing because I have a space to reflect and make mistakes. We feel comfortable while we are doing anything. I am not afraid.” Negma – Focus Group

Having a safe environment motivates teachers to try to change the way they teach. Teachers need to feel that they have the options to change their thinking and turn things around to achieve their goal at the end.

“I think the safe environment makes you feel that you do not have any limits to let the students do whatever they want and they are safe and you have nothing to worry about.” Negma – Focus Group

- **Understanding and trusting**

When leaders show teachers that after reflection they trust their decisions and they support them, teachers are encouraged to do a better job.

“I change my teaching practice when leaders really trust me and they appreciate my efforts ... and they are supporting me” Raga – In-depth Interview

Teachers felt that leaders accepting them making mistakes and understanding that they can have different vision of how things are done in the class, is a factor in their decision to apply their reflection.

“accepting that what you suggested may not work and you will change it. ... and they should accept everything. They should listen and see what are you going to do next.” Dona – focus group

Leaders showing support to teachers in their discovery journey of themselves and their capabilities as teachers, makes them more confident to go through attempts and try new ideas.

“... support. When the place you are working encourage you to improve yourself more and they support you. I think that will help me apply.” Raga – Focus Group

- **Reflective**

In a reflective culture reflection can become easier. While, in an evaluative culture reflection becomes difficult. Reflection raises the self-confidence of everyone as teachers are not accused of not doing a good job, but they will be guided to how to do a better one.

“you do not reflect in an evaluative culture. You will not be able to reflect.” Raga - Focus Group

When leaders, teachers, students and admin are reflecting it can become one of the norms of the school. It is clear in everyone's action and attitude.

“I feel if reflection was in the culture and everybody is applying it ... it will be more ... like visible...we will learn it by nature.” Salima – In-depth Interview

- **Resourceful**

Availability of resources would encourage teachers to make the decisions to apply their findings. Reflection outcomes is sometimes creative ideas that were not done before. Creative ideas usually need resources that are not necessarily available at the school.

“We sometimes needed more resources to apply our plans as we planned it.” Raga – Focus Group

Teachers try new ideas when resources are available and teachers can have them if they ask for them.

“more resources will make it easy for me to apply what I discovered.” Salima – In-depth Interview

“I need resources to try it again.” Raga – In-depth Interview

- Students’ Readiness:

When teachers start thinking of applying new ideas, students become one of the consideration that affect this decision. Teachers are encouraged when students are ready.

“maybe the level of the kids. When the kids are really into the activity and enjoying it. This give you the feeling of why not, you can try more, and give them more” Raga – Focus Group

It depends on the idea the teachers want to apply, if she feels students are not ready for what she wants to do, she does not apply.

“So, the reaction of the kids to the activity you are planning for is very important for me. It gives you the it is like a green card to go ahead.” Raga – Focus Group

5.3.3.3. National and International Context

5.3.3.3.1. Egyptian Cultural Beliefs

The school under study is located in North East Cairo, Egypt. In a high socio-economic class area. The seven teachers who participated in the current study represent the middle class Egyptian female teachers. They are approximately the same age, nearly all of them lived all their lives in Egypt, from two Egyptian parents, got their education in private language schools in Egypt, and got their college degree from governmental Egyptian universities. They carry with them cultural Egyptian norms.

- Teachers’ bringing up cultural beliefs

They reported in the data their perspective about the Egyptian cultural beliefs that they carry.

“I think some of us are not reflective by nature or the environment did not help that. The way we were brought up. Yes, our life style... we are not brought up being reflective.” Naga – In-depth Interview

Reflection is not very much a valued behaviour. This made it difficult for informants to reflect at the beginning.

“ it was difficult for us as teachers to understand and apply reflection at the beginning, because we do not know what’s reflection. We came from a background where we do not have reflection.” Naga – Focus group

For informants, reflection meant that they are admitting their mistakes and this was not comfortable for them.

“Maybe it is from how we were raised that reflection means you have to admit your mistakes.” Dona – Focus Group

Another informant mentioned that when they reflect in her culture, the following step is to be blamed or punished for admitting her mistakes,

“sometimes when we reflect in our culture (Egypt) ... the following step is to be blamed or to be punished and to admit your mistakes”. Nesrine – Focus group

making a joke saying;

“it’s an evidence of fundamental incapacity”, so she continues, “you feel afraid when someone tells you; Can we reflect on what you did?”. Nesrine – Focus group

- Teachers’ past experiences

Informants had past experience in other schools affected their capacity to reflect.

“Before when we worked on other schools not the IB system. I felt that I have been put inside a cage. I had things to do and I could not do other things. ... and this made us feel like we lost our courage” Naga – Focus group

Raga shared her experience working with expatriates at international schools and how this helped her grow her skills. She clarified that when she saw how they are open-minded when they think, and how this gives them a chance to choose and adapt more skills; she started trying to do the same.

“somehow My skills started to grow better after working with expatriates at the international schools. ... they have a different way to deal with situations When you see how people are open minded you start thinking about it.... Thinking about things give you more skills and give you a

chance to choose what you are going to adapt and what you are going to delete. So I think working with expatriates really helped me a lot to grow my skills.” Raga – in-depth interview

- Egypt’s political context

Informants in the focus group discussion focused on how the Egyptian culture does not appreciate free ‘expression’ of ideas and feelings.

“I think it is not only about reflection ... but our culture is against anything related to creativity or being risk takers. We try to shape our children’s minds by all means ... in schools, we as parents. We are against creativity... we are against independence We area against risk taking. Negma – Focus group

They fear that they will be exposed if they expressed themselves freely.

“We are always afraid that This is how things work here in Egypt.” Naga - in-depth interview

5.3.3.3.2. The International Baccalaureate

The IB tries to foster an environment that is based on understanding and respect, and encouraging thinking and reflection through the standards and practices that schools have to follow. One of the aims of the IB programmes is to create a culture of continuous professional learning through collaborative reflection and self-assessment. (International Baccalaureate Organisation, 2014)

- The reflective culture the IB promotes

For some informants, it was the IB that introduced them to the concept of reflection. They did not know about it before, although they have years of experience as a teacher.

“ reflection is very good ... and I have to admit that ... I have 13 years of experience before working in the IB system, before we had no reflection. I only knew the word reflection when I started the IB.” Raga – in-depth interview

“ being an IB teacher is totally different than being a regular teacher. ... So I start seeing things differently now as I became more experienced in the IB system.” Naga - in-depth interview

- The tension the IB creates

All informants in the current study had years of experience as teachers in international schools in Egypt, but this was the first time for them all to teach in an IB school. They saw what the IB is asking from them as new

for them. Informants felt confused sometimes as they were asked to do different things being IB teachers than what they are used to.

“being new to the IB system. I did not know what I was doing right and what was I doing wrong. I did not know what to write.” Naga – Focus group

Naga also mentioned her feelings about the tension created by the IB in the in-depth interview.

“at the beginning I did not know what I am supposed to do. How am I supposed to see things.” Naga - in-depth interview

- The community the IB builds

Informants in the focus group discussion spoke about how the IB gives them an opportunity to grow, be creative, take risks, reflect. They appreciated being part of the ‘IB community’

“I believe that I wanted to be a student in an IB class. I believe my creativity is now increasing because I have a space to reflect and make mistakes.” Ngsma – Focus group

They appreciated the kind of learning that is happening to them as teachers and to their students.

“The IB system is very flexible and it helps the teachers to show their creativity.” Naga – reflective Journal

5.4. Interpretation of findings

5.4.1. The relationship between the reflective spiral and conditions

To facilitate analysis of the relationship between the conditions and the reflective spiral, facets were grouped under different modes of reflection moving throughout the reflective spiral as follows:

- Reflective thinking-on-action happening through; getting the experience from the unconsciousness to the consciousness, expressing it, and putting the experience in focus.
- Critical reflection through; analysing the experience and awareness of what needs to change and why.
- Reflective action through; making the decision to change, actual change of practice, and reframing
- Reflective thinking-in-action happening through; Puzzlement → put in focus → awareness → reframing

Table (29) summarises how the features of reflective tasks, the teachers' qualities and contextual characteristics that were found in the data, are affecting different facets of the reflective spiral:

Table (29) : Features of Reflective Tasks, Teachers' Qualities and Contextual Characteristics in Data Affecting Different Facets of the Reflective Spiral

	Conditions affecting the Reflective Spiral		The Reflective Spiral modes of reflection			
	Main conditions	Sub-types of conditions	Reflective thinking-on-action unconscious → conscious → expression → put in focus	Critical reflection → analysis → awareness	Reflective action → make decisions → change of practice → Reframing	Reflective thinking-in-action Puzzlement → put in focus → reframing → change of practice
How features of each reflective task affected the Reflective Spiral	1. About the task	1.1 The collaborative group reflection	<ul style="list-style-type: none"> - Discussing collaboratively - Writing a school action plan according to criteria 	<ul style="list-style-type: none"> - Discussing collaboratively - Writing a school action plan according to criteria - Conceptualising the group experience 	<ul style="list-style-type: none"> - Writing a school action plan according to criteria - Taking the conceptualisation of the experience to the class 	<ul style="list-style-type: none"> - Writing a school action plan according to criteria - Taking the conceptualisation of the experience to the class
		1.2 The Lesson reflective questionnaires	<ul style="list-style-type: none"> - Structuring the reflective process - Triggering feelings - Seeing the details 	<ul style="list-style-type: none"> - Reasoning - Conceptualising the personal class experience 	<ul style="list-style-type: none"> - Following through the spiral 	<ul style="list-style-type: none"> - Following through the spiral
		1.3 The Reflective Journal	<ul style="list-style-type: none"> - Conceptualising personal experience as a whole 	<ul style="list-style-type: none"> - Conceptualising personal experience as a whole - Reasoning 	<ul style="list-style-type: none"> - Writing personal next steps 	<ul style="list-style-type: none"> - Writing personal next steps

	Conditions affecting the Reflective Spiral		The Reflective Spiral modes of reflection			
	Main conditions	Sub-types of conditions	Reflective thinking-on-action unconscious → conscious → expression → put in focus	Critical reflection → analysis → awareness	Reflective action → make decisions → change of practice → Reframing	Reflective thinking-in-action Puzzlement → put in focus → reframing → change of practice
How qualities of the teacher affected the Reflective Spiral	2. About the teacher	2.3 Cognitive capacities	<ul style="list-style-type: none"> - Thinking skills traits; focusing and inquiring - Communication skills 	<ul style="list-style-type: none"> - Thinking skills of inquiring, analysing and problem solving. 	<ul style="list-style-type: none"> - Thinking skills traits of; focusing, inquiring, analysing and problem solving 	<ul style="list-style-type: none"> - Thinking skills; focusing, inquiring, problem solving - Communication skills
		2.8 Affective capacities	<ul style="list-style-type: none"> - love of students - love teaching 	<ul style="list-style-type: none"> - Managing feelings 		<ul style="list-style-type: none"> - Managing feelings
		2.9 Attitudes capacities	<ul style="list-style-type: none"> - Open-mindedness - Self-efficacy - Willingness 	<ul style="list-style-type: none"> - Open-mindedness - Willingness - Self-efficacy. 	<ul style="list-style-type: none"> - Open mindedness - Self-efficacy and Risk taking - Willingness 	<ul style="list-style-type: none"> - Open mindedness - Self-efficacy and Risk taking - Willingness
		2.10 Knowledge Capacities	<ul style="list-style-type: none"> - Knowledge about own cognition - Knowledge about pedagogy used 	<ul style="list-style-type: none"> - Knowledge about own cognition. 	<ul style="list-style-type: none"> - Knowledge about own cognition. 	

	Conditions affecting the Reflective Spiral		The Reflective Spiral modes of reflection			
	Main conditions	Sub-types of conditions	Reflective thinking-on-action unconscious → conscious → expression → put in focus	Critical reflection → analysis → awareness	Reflective action → make decisions → change of practice → Reframing	Reflective thinking-in-action Puzzlement → put in focus → reframing → change of practice
How characteristics of each level of context affected the Reflective Spiral	3. About the context	3.1 Logistical factors of Introducing and Extending Reflective Tasks	<ul style="list-style-type: none"> - Timing and duration given for reflection - Purpose - Forced obligation 	<ul style="list-style-type: none"> - Timing and duration given for reflection - Giving feedback - Supporting reflection with a coach 	<ul style="list-style-type: none"> - Giving feedback - Supporting reflection with a coach - Decisions made based on teachers' reflection 	<ul style="list-style-type: none"> - Giving feedback - Supporting reflection with a coach -
		3.2 The school Culture	<ul style="list-style-type: none"> - Collegial - Having a shared vision - Safe - Understanding and trusting 	<ul style="list-style-type: none"> - Collegial - Having a shared vision - Safe - Understanding and trusting - Reflective 	<ul style="list-style-type: none"> - Collegial - Having a shared vision - Safe - Understanding and trusting - Resourceful - Students' readiness 	<ul style="list-style-type: none"> - Collegial - Having a shared vision - Safe - Understanding and trusting
		3.3 National and International Context	The Egyptian Culture <ul style="list-style-type: none"> - Teachers' bringing up cultural beliefs - Teachers' past experiences - Egypt's political context 	The Egyptian Culture <ul style="list-style-type: none"> - Teachers' bringing up cultural beliefs 	The Egyptian Culture <ul style="list-style-type: none"> - Teachers' bringing up cultural beliefs - Teachers' past experiences 	The Egyptian Culture <ul style="list-style-type: none"> - Teachers' bringing up cultural beliefs
			The International Baccalaureate Culture <ul style="list-style-type: none"> - The reflective culture the IB promotes - The tension the IB creates 		The International Baccalaureate Culture <ul style="list-style-type: none"> - The community the IB builds 	The International Baccalaureate Culture <ul style="list-style-type: none"> - The reflective culture the IB promotes

5.4.2. A suggested solution to establish a supportive spiral of conditions for reflection

By exploring the conditions affecting reflection, a spiral of conditions was detected moving with the reflective spiral. Informants highlighted key actions supporting their reflection. These actions work in a spiral affecting the rest of the conditional aspects. Controlling key aspects results in a suggested solution that establishes the conditions where reflection can thrive. This spiral can move as follows;

Collegiality → teachers' emotions and cognitions → positive school culture → minimizes drawbacks of outer culture and maximizes its benefits → controls logistical factors introducing and extending the task → teacher's agency → controls cognitive, affective, attitudes and knowledge capacities → deep conceptualisation → direct contextualisation → reframing → sharing through collegiality starts a new cycle

This spiral can be detected from oral data as a story said by informants. The story goes this way:

Continuous conversation leads to sharing the same ideas, objectives, and vision.

"we need to all share the same objective We have to look at long term objectives or we all have a vision." Dona – Focus Group

Sharing ideas affects teachers' emotions and makes them comfortable and safe.

"Sitting together knowing that we all share good things and bad things makes you more comfortable." Naga – Focus Group

Safety creates a positive school culture that eliminates anxiety, and install agency.

"I think the safe environment makes you feel that you do not have any limits to let the students do whatever they want and they are safe and you have nothing to worry about." Negma – Focus Group

A positive school culture minimizes drawbacks of the outer culture by reshaping old cultural beliefs.

"Before when we worked on other schools not the IB system. I felt that I have been put inside a cage. ... and this made us feel like we lost our courage ...I think by time we started

changing the way we think. Yes, and we started gaining our courage back to try things. ... we did not trust ourselves, we did not trust the students.” Naga – Focus group

A positive school culture maximizes on benefits of the outer culture.

“ I have to admit that I have 13 years of experience before working in the IB system, before we had no reflection. I only knew the word reflection when I started the IB.” Raga – in-depth interview

A positive school culture is understanding of teachers’ needs and makes an effort to prepare needed logistical factors to introduce the reflective task by setting a scheduled time for reflection;

“There has to be like a scheduled meeting or something that someone would sit down with us”-Salima – in-depth interview

and extend it through non-threatening reflective conversation;

“if I have someone with more experience to discuss it with me. Someone to sit with me with my reflection and tell me this part when you were not happy we can change it and make it this way. I need advice and I need someone to talk to me about it. To reflect on the reflective task.” Salima - focus group

that build on teacher’s agency and gives her /him the motivation to work on personal capacities;

I believe my creativity is now increasing because I have a space to reflect and make mistakes. We feel comfortable while we are doing anything.” Negma – Focus group

and help her/him use the different tasks to conceptualise the experience;

“it (reflection) is an eye opener I mean it is going to light the way to us to see what are the steps we are going to take, how are we going to change our selves, and how are we going to adapt to situations we are going to face.” Nesrine – Focus group

and contextualise it by taking the action;

“I change my teaching practice when leaders really trust me and they appreciate my efforts ... and they are supporting me” Raga – In-depth Interview

which leads to reframing, that shape pedagogical renewal and new learning;

“ it taught me; I have to dare to try ... I have to give them the inquiry activity and just watch and see and at the end I have to decide whether it was good or bad or I can repeat it or not, but I have to try.” Raga – in-depth interview

then sharing learning through continuous collegiality;

“When we share ideas, we see stuff from others perspective and other ways of thinking.” Salima – Focus Group

and so on;

“collaborative reflection is helpful because we all sit together and we know exactly how it was at the beginning of the year and how they developed” Dona – Focus Group.

5.5. Summary

The chapter reported on the study findings. The findings were divided into three parts. The first part is the reflective spiral. The reflective spiral was found to have two types of reflection; reflection-on-action stimulated by reflective tasks, and reflection-in-action. Each of these two types of reflection had different facets they go through, but not necessarily in a specific order.

The second part of findings reported on the data about conditions affecting the reflective spiral. These conditions were found to be three main types; about the task, about the teacher, and about the context. Each of these main types of conditions had sub-types. Each sub-type with specific aspects affecting the reflective spiral.

The third part of findings was interpretations that concluded two significant conclusions from the data; the first was the relationship between the reflective spiral and conditions, and the second was a suggested solution to establish a supportive spiral of conditions for reflection. The coming chapter will discuss these findings with relevant literature.

CHAPTER 6

Discussion

6.1. Introduction

The chapter discusses the findings against relevant international literature. First, a figure is introduced that presents a way to look at the relation between the reflective process and the conditions affecting it. Then, discussion of findings divided into three parts; discussing the reflective spiral, conditions affecting it, and solution to reach effectiveness of reflective practice.

The study was mainly set to explore the conditions affecting reflection as a means for professional learning. The exploration dug deeper into the reflective process itself, which led to three major findings for the study; the reflective spiral with its specific facets and how they work, the conditions and sub-conditions and how they affect the reflective spiral facets, and finally, how some aspects of sub-conditions can be used to create a spiral of conditions supporting the reflective process.

The model in Figure (4) presents a way of looking at the relationship between the reflective process and the conditions affecting it. The reflective process is spiral (Pollard, 2014, Korhtagen and Vasalos, 2005). The study findings indicated that the reflective process is a dynamic repetitive process that can be enthused by reflective stimuli/task. These tasks promote reflective thinking on-action where teachers reflect on the experience/practice moving from unconscious, to conscious, to expression, to put in focus. When analysing the experience, teachers go into critical reflection that has different levels. Depending on the level of reflection reached, critical reflection results in awareness of the teacher as what needs to change and why. This is followed by reflective action which constitutes of; taking the decision to take an action and the actual change of practice. Through teachers' action in the class another type of reflection appears; reflective thinking-in-action. During reflective thinking-in-action teachers reconsider their actions while they are teaching based on students' reactions. These thoughts of reflection stay with the teacher to start another cycle of reflective thinking-on-action, or reflective thinking-in-action, and so on.

Conditions affecting the reflective process as indicated by the study findings were grouped under three types; task conceptual conditions, teacher capacity conditions and contextual conditions. Task conceptual conditions are about the reflective task design; the stimuli used for reflection-on-action, and its ability to guide the teacher to conceptualise the experience and learn from it. Teacher capacity conditions are about the teacher's personal feelings and abilities and how these affect the reflective process. Contextual conditions are about the different levels of context where the reflection occurs. These levels are; the logistical factors that introduce and extend the reflective task. The level of direct

school culture, wider context of the social and political country culture where the teachers come from. And finally, the international programme the school is adopting. In addition, analyses of study findings detected specific sub-conditions that could be used to move a spiral of conditions supporting the reflective spiral to thrive.

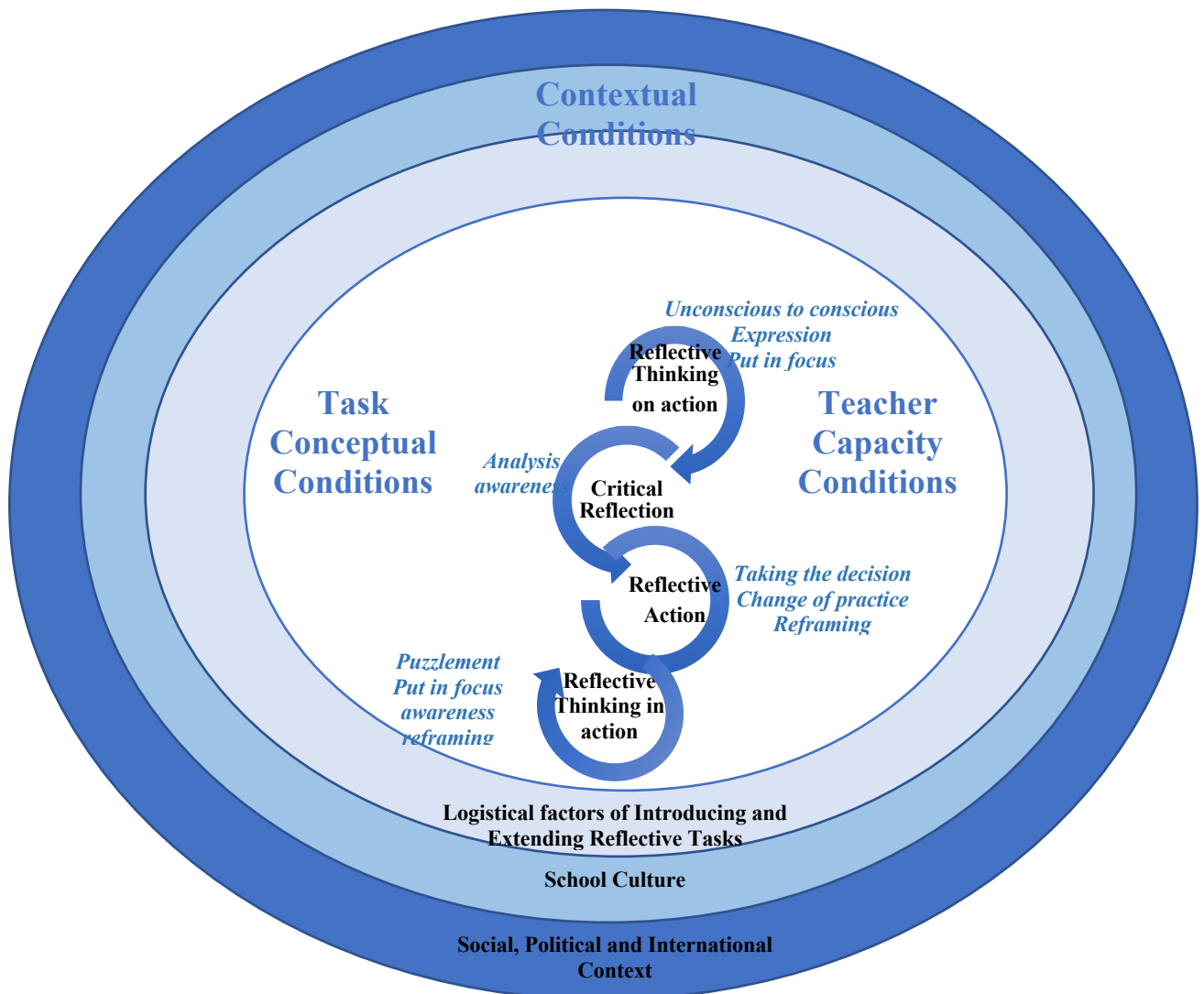


Figure (4): Conditions Playing Different Roles in the Progression of the Reflection Spiral

The discussion of findings is divided into three parts; Part 1 discussing the reflective spiral, Part 2 discussing the conditions affecting the reflective spiral, and Part 3 discussing a solution to reach effectiveness of reflective practice by forming a spiral of conditions supporting the reflective process.

6.2. Part 1: The Reflective Spiral:

According to El Fiki (2012), "Reflection can occur at any time during the process leading to decisions

that impact teachers' course of action" (p.250). Reflection "is something that all people do to a greater or lesser extent and more or less effectively than others" (Burton, 2009, p. 299). The model in figure (4) shows reflection as a continuous process. The model commences and is continuous forming a spiral. The study findings indicated that this spiral takes its path going into different types of reflection each with its own facets. The reflection-on-action process interpreted from data explained in the findings chapter has the facets that can, but do not necessarily, go in the following order:

From unconscious → conscious → expression → put in focus → analysis → awareness →
make decisions → change of practice → reframing

These facets are categorised under reflective modes of;

- Reflective thinking-on-action happening through; getting the experience from the unconsciousness to the consciousness, expressing it, and putting the experience in focus.
- Critical reflection through; analysing the experience and awareness of what needs to change and why.
- Reflective action through; making the decision to change, actual change of practice, and reframing

The reflection-on-action process moves in a spiral of repetitive cycles enthused by different types of reflective stimuli, to lead to professional learning and teachers' growth.

Underlying reflection-on-action, another type of reflection was detected; reflection-in-action. Reflection-in-action happens in the class while teachers are in action and adapting their practices based on students' reaction. Reflection-in-action has the following facets that can, but not necessarily, go in this order:

Puzzlement → put in focus → awareness → reframing → change of practice

These facets are categorised under reflective modes of;

- Reflective thinking-in-action happening through; puzzlement, put in focus, awareness, and reframing
- Reflective action through; actual change of practice.

The discussion of the reflective spiral will be categorised according to the reflective modes each with different facets identified in the description of the figure:

6.2.1. Reflective thinking-on-action

Reflective thinking-on-action is usually induced by a stimuli/task that is designed to take the teacher into a reflective thinking process. Having more than one stimuli, takes the teacher into a spiral of reflective thinking-on-action. The next subsections elaborate on the facets that occur within every cycle of reflective thinking-on-action, noting that these facets may not necessarily go through the same order.

6.2.1.1. From unconscious, to conscious

The study findings indicated that reflection starts by getting the unconscious feelings to conscious awareness. This information is used to discover oneself in order to make sense of one's feelings and actions. As Bandura (2006) clarified, "Consciousness is the very substance of mental life" (p.167). Consciousness gives humans the ability to live as meaningful influencers in life by being proactive and reflective not just reactive. Consciousness is a high-level brain activity that is deliberative and reflective. Not everything we do reaches this level of consciousness. Reaching this level has to be sought. We have to purposefully access it (Bandura, 2006).

Study findings indicated that before teachers start reflecting, they are usually unconscious of the details of what they are doing and why they are doing it. Borg (2006) remarked that teachers' thinking and behaviour are guided by a set of organised beliefs, and that these operate unconsciously. Richards and Lockhart (1994) agreed that, "teachers are often unaware of what they do when they teach" (p. 3). If teachers were unconscious about their actions, they will not be able to continue the reflective thinking-on-action effectively and reach critical reflection. Reflective stimuli are to be used to boost reflection-on-action by bringing the unconscious to get to the conscious. Juklová (2014) approved that although reflection is spontaneous to every one of us, "reflection on teaching must necessarily be conscious, thought-out and goal-directed" (p.892).

6.2.1.2. Expression

Components of consciousness operate mainly through the linguistic medium (Bandura, 2006). What the teachers raised to the consciousness is activated when it is expressed whether verbally or non-verbally. Wording out ideas is one form of language-based cognitive approaches. Study findings indicated that using two forms of expression for reflection; speaking and writing, help teachers remember clearly the experience. Expressing thoughts verbally; by speaking about them, or non-verbally; by putting them on paper or drawing diagrams, is a form of conscious learning by sorting out understanding of ideas (Moon, 2005). Consciousness of thoughts and their expression help to explore ideas and prepare them to be put in focus. "We rely on words and ideas as tools of investigation and if we do not have them, the investigation process is distorted" (Moon. 2005, p.12).

6.2.1.2. Put in focus

After the experience is expressed, it is ready to be put in focus. Putting the experience in focus helps to see it in details and choose what needs to change. Originally, teachers' actions in the class are spontaneous, intuitive and intangible (Schon, 1983). For teachers to know what is going on in the classroom they should act as a researcher of their own practice (Stenhouse, 1975). Putting the experience in focus by gathering detailed data about the experience.

Study findings focused on two aspects here; first was the choice of an aspect in the teaching practice to focus on, and second was how to prevent being affected by other factors in this choice. Pollard (2014) identified two types of data to be put in focus; objective data of what the teacher is actually doing, and subjective data of describing how the teacher feels and thinks at the time the actions are happening. Therefore, there is an affective aspect affecting the ability of the teacher not to be biased and to put the experience in focus seeing it clearly in details as supported by the study findings. Johnson (1999) supported this idea by arguing that for teachers to be able to collect information while reflecting, they have to have an unbiased eye for details. Teachers biases, emotions and attitudes can unconsciously or consciously avoid critical or sensitive issues (Teo and Tan, 2011).

6.2.2. Critical reflection

Two facets marked critical reflection in the study findings. These two facets are namely; analysis of the experience and awareness reached. Further elaborations are presented next.

6.2.2.1. Analysis

The study findings from analysing the lesson reflective questionnaires' answers concluded that finding reasons behind discoveries gives the teacher new insights. Reflective thinking-on-action should lead the teacher to see influences of the situation or reasons behind what is happening, and to consider other contextual effects that may be affecting the situation. McKnight (2002) argued that to be an effective teacher "it is imperative to understand the "whys" "hows," and "what if's" (p. 1). Brookfield (2004) also agreed that reflection becomes critical when its purpose is to question our beliefs and practices.

6.2.2.2. Awareness

The study findings indicated that, once the teacher finds reasons, she/he starts to relate it and construct a conclusion/understanding of the situation. This is where the teacher starts to conceptualise the

experience and relate it to past experiences forming meaningful conceptual understandings. Badie (2016) described conceptualisation as “a uniform specification of separate understandings of concepts. For him, a specific conceptualisation provides a global (a universal) manifestation of local concept understandings” (p.294) that qualifies as deep knowledge acquisition rather than superficial knowledge acquisition over concepts (Badie, 2016). Pollard (2014) saw that making meaning; conceptualisation, of the experience does not happen until the teacher relates, interpret and places it in a framework to create theories.

6.2.3. Reflective Action

Three facets marked reflective action in the study findings. These three facets are namely; taking the decision to take an action, actual change of practice, and reframing the experience. Further elaborations are presented next.

6.2.3.1. Taking the decision to take an action

This facet is key to the continuation of the reflective process. The study findings exhibited that between the awareness teachers reach and taking action to change, there is a pause of decision making before the action is taken. Taking the decision of a future action based on reflective thinking-on-action is a deliberate process. We know from research that teachers normally rely on well-established routines (Borg, 2006). For teachers to try something new means they have to get rid of their prejudice and admit that a change has to happen (Calderhead, 1996). They have to be courageous and make up their minds before they take the action and change their practice.

Findings of the study indicated that this facet is much affected by different conditions and factors that can encourage or hinder the ability of the teacher to take the decision to change. Mirzaei et al. (2014) identified decision making as an important reflective thinking skill. Borg (2003) claimed that “teachers are active, thinking decision-makers who make instructional choices by drawing on complex, practically-oriented, personalised, and context-sensitive networks of knowledge, thoughts, and beliefs.”

6.2.3.2. Actual change of practice

Reflection-on-action ends by taking a conscious deliberate planned action and changing practice. Researchers; Kolb (1984), Wallace (1991), Korhtagen and Vasalos (2005) and Pollard (2010), agreed that the reflective cycle is not complete until there is action based on it. According to Hoffman-Kipp, et al. (2003) “Praxis as the dialectical union of reflection and action is at the heart of human nature”

(p.249). Study findings indicated some changes and actions taken by informants according to their reflection through the reflection spiral.

6.2.3.4. Reframing

Findings showed that when teachers reflect-on-action and reach the awareness needed, they need to contextualise the experience (try it in class) to reframe their learning. Reframing involves taking action and is a result of it. It is contextualising the conceptualisation of the teaching experience. Reframing the experience leads to constant behavioural changes. Based on the outcome of this trial in context, the change teachers do become actual behavioural change that the teacher is not just able to do, but also is convinced that it works in his/her context.

Thinking in concepts is not enough to reframe learning. Implementing these concepts is what gives it its validity leading to internalising the idea. Johnson (2009) agreed that thinking in concepts is supported by application. Eraut (1995) argued that, through the process of reflection and action, teachers verify new concepts in context, they either reframe their learning or freeze it. If a negative outcome is resulted from action based on reflection, the teacher will abandon the new concepts and stick to the old ones (El Fiki, 2012).

Recurrent reframing mark teachers' growth, because the effect of thinking on action is cyclic; the decisions and actions taken by a teacher inform the consequent behaviour of the teacher. Calderhead (1988) saw that "Learning to teach involves complex cognitive, affective and behavioural changes" (p.8). This was also supported by Borg (2006), "Classroom events shape subsequent conditions" (P.12).

6.2.4. Reflective thinking- in-action

Reflection-in-action is inevitable. According to Burton (2009), reflection "is something that all people do to a greater or lesser extent and more or less effectively than others" (p. 299). Teachers learn from their experiences in interacting with the students, the content, their colleagues, and the environment in their schools. Hoffman-Kipp et al. (2003) noted that reflection is embedded in everyday activity that is situated in school cultures. For Mumby (1989) "reflection-in-action" refers to "the active and non-propositional processes by which new knowing-in- action is developed" (p.32).

Reflective thinking-on-action and reflective thinking-in-action overlap and complement one another. Based on Dewey, Burton (2009) stated that reflective teaching means "being constantly on the alert to circumstances of teaching and the implications of issues arising during teaching" (p. 298). Reflection-in-action can build on past experiences and form new knowledge while in action. Reflection-

on-action can be a base for reflection-in-action. Teachers can form new knowledge by reflection-on-action, then go to the class, put a certain practice in focus, and reflect-in-action to test this knowledge. Through the process of “comparing and testing new experiences to previous experiences” new knowledge becomes parts of “teachers’ theory in use” and form the base for future learning. (El Fiki, 2012, p.259). Concluding that the unique characteristic about reflective thinking-in-action is that all its facets occur in action, and are integrated with action, and are a result of action.

6.2.4.1. Puzzlement

Study findings showed that unexpected feedback from students causes surprise and puzzlement for teachers. This is because in class teachers are focused on students; not just that they are reaching the objective, but also how do they follow through with the session. Teachers reflecting-in-action is encouraged by students’ reaction to the activity done, and the continuous feedback they give to teachers. Shavelson and Stern (1981) supported this notion by viewing teachers’ decision in the class as based on students’ reaction, and an alternative strategy is used if the expected reaction of students is not evident. Mumby (1989) explained this notion as; “when students talk back with unexpected feedback to teachers it creates puzzles and surprises that teachers are attentive to“ (p.34). This puzzlement begins a process of reflective thinking-in-action.

6.2.4.2. Put in focus

After the teachers are puzzled, they give attention to a certain practice or action that they do in class and put it in focus. This means they collect information or details around it. The study findings indicated that this process is most of the time not a deliberative conscious process. Situations can cause behaviour by means of unconscious automatic processes stepping conscious control (Bargh, 1994, 1997, 2005). Puzzlement differentiates between how teachers put the experience in focus in reflective thinking-on-action and in-action. Mumby (1989) saw a big distinction: “the sort of thinking characterised by reflection-on-action involves bringing new thinking to bear upon unsurprising and given data; in contrast, the reframing central to reflection-in-action involves seeing quite differently the events of a puzzling practical problem” (p. 34).

6.2.4.3. Awareness

Reflective thinking-in-action conceptualises the experience in-action. Vygotsky (1963) emphasised the idea that experience needs to be considered in its full complexity. Study findings showed that between the puzzlement happening to the teacher and the actual reframing of the experience there is an aspect of conceptualisation of what is happening in the class. Findings showed also that the awareness through conceptualisation or theorising here is not conscious and guided like the one happening with reflective

thinking-on-action. This one is spontaneous and unconscious conceptualisation of the situation. Spontaneous concepts are formed during the practical experience unconsciously (Johnson, 2009). This means that puzzlement that happens in the class leads to unconscious conceptualisation of the experience leading to reframing.

6.2.4.4. Reframing

The study findings gave a detailed description of how the process of reframing in-action happens highlighting the relationship between teachers' thinking and action. According to Mumby (1989), when teachers are puzzled due to an unexpected feedback from students and they are attentive to what they are doing, they start seeing things differently and 'reframe' their knowledge. "This process is essentially nonlogical, and is one over which we have little control: it is not ordered, logical, or deliberate" (Mumby, 1989, p.34).

El Fiki (2012) explained how reflection-in-action works and leads to reframing of knowledge. For her teachers internalise information by 'thinking in concepts'. The internalisation is not the simple transformation of knowledge from outside to 'plane of consciousness': "it is the process in which the plane is formed" (Leont'ev, 1981p. 57). Internalisation of information is formed through concept development/renewal through practice, that is a higher cognitive development process (El Fiki, 2012). Concepts develop over time; through use, and while synthesising and analysing knowledge and experience. Repeating this process of involvement in activities and abstract reasoning leads to the formation of concepts in the mind that causes internalisation or higher cognitive development. Internalisation can be seen in the person's ability to "apply the acquired concepts in various situations, articulate the reasons for doing so, and use them as basis for further learning" (El Fiki, 2012, p.64).

The study findings showed that reframing is a key facet in the reflective spiral. Recurrent reframing incidences is how reflection contributes to professional learning and differentiate it from professional development. Professional learning and teachers' growth can be marked by how much reframing the teacher is experiencing, whether through reflection-on-action or in-action.

El Fiki (2012) expressed her concern that if teachers learn only through personal experience, reflection-in-action "of moment-by-moment flow of action" can result in shallow understanding based on impression. These understandings are based on "pre-existing frames" and do not encourage reframing based on conscious analysis in reflection on-action (p.254). Teachers need reflection-on-action to move the unconscious into a conscious structured process deliberately digging deeper into the experience and reaching critical reflection.

6.2.4.5. Actual change of practice

Study findings indicated that reflection-in-action can lead to instant change of practice. Schon (1984) saw that in reflection-in-action teachers reconsider their practice while teaching and act upon their thinking. Court (1988) highlighted the ambiguity in the action present in reflection-in-action, as it might be describing an instance of teaching. Baumeister and Bargh (2014) viewed the instant change of practice as an unconscious and automatic direct immediate causes of behaviour.

One cannot differentiate with confidence if actions in the class are a result of reflective thinking-in-action or on-action. Mumby (1989) saw that action is complex; “one can experience reflection-in-action while reflecting-on-action, just so long as new frames suddenly put the data in a new light, and so offer paths towards solving puzzles of professional practice” (p.35). When teachers change their practice while teaching they are involved again in analysis, decisions on acting, and feedback loops (El Fiki, 2012). For Finlay (2008),

“Professional practice is complex, unpredictable and messy. In order to cope, professionals have to be able to do more than follow set procedures. They draw on both practical experience and theory as they think on their feet and improvise. They act both intuitively and creatively. Both reflection-in and on -action allow them to revise, modify and refine their expertise” (p. 3).

It is this overlap that builds a spiral of reflection that can keep going, if conditions around it support its continuation and does not hinder its flow.

6.3. Part 2: Conditions affecting the reflective Process:

The spiral of the reflective process explained above is affected by a number of conditions that either support it and help the process to proceed, or hinder it and the process can stop at any point. Marzano (2012) saw that although reflective practice is recognised as an effective mean of professional learning, few practitioners reflect systematically and use this reflection to develop due to different obstacles throughout the reflective process.

The discussion will group conditions affecting the reflective process into three types; task conceptual conditions, teacher capacity conditions and contextual conditions, in exploring the effect of each type of these conditions on the reflective process. The following section will be discussing the findings of

the study looking at each type of condition and the intensity of their effect on each mode of reflection; reflective thinking-on action, critical reflection, reflective action, and reflective thinking-in-action.

6.3.1. Task Conceptual Conditions

In reflection-on-action, the ability of the task to take the teacher through a deep process of conceptualising what is happening in the class, why what is happening is happening and conclude what should change, requires a sensitive consideration of the reflective task design. Task conceptual conditions have to do with the reflective task and its ability to help the teacher conceptualise and make meaning of the past experience and consequently take action.

Surbeck et al. (1991) argued that the structure of reflective levels reached depends on the nature of the stimulus provided. The current study used three types of reflective tasks; a collaborative reflection, lesson reflective questionnaires, and a reflective journal. The following discusses the extent to which each reflective task design moved reflective thinking-on-action, encouraged critical reflection, initiated reflective action and reflection-in-action, based on the findings of the current study and literature.

6.3.1.1. The Collaborative Reflection

Findings of the study highlighted that the collaborative reflection builds a good medium for;

- Discussing collaboratively
- Writing a school action plan according to criteria
- Conceptualising the group experience
- Taking the conceptualisation of the experience to the class.

Each of these special features affect the facets of the reflective spiral differently leading to teachers' development.

Reflective Thinking on-action

Reflective thinking-on-action goes through the facets of; unconscious to conscious, expression, put in focus. The study findings indicated that these facets are affected by the special features of;

- Discussing collaboratively
- Writing a school action plan according to criteria

The study findings concluded that collaborative conversations and expression of ideas about classroom practice verbally with colleagues emphasises the relationship between 'expression' and 'consciousness'. Connel (2014) viewed understanding as activated and clarified through conversation

telling of the experience. For him the conversation can act as a theory building activity when we search for and organise meaning.

The study findings showed that the high expression of ideas in the collaborative reflection meeting; verbally in the discussion and non-verbally in writing an action plan, brings the teaching experience from unconscious to conscious. When teachers discuss an issue and write collaboratively about it, they share their different perspectives in seeing this issue bringing the teaching experience from unconscious to conscious. For Dewey (1916/1985), reflection is found in social interaction. “It enlarges and enlightens experience; it stimulates and enriches imagination; it creates responsibility for accuracy and vividness of statement and thought.” (p. 9).

Critical Reflection

Critical reflection goes through the facets of analysis, and awareness. The study findings indicate that these facets are affected by the special features of;

- Conceptualising the group experience
- Writing a school action plan according to criteria
- Discussing collaboratively

Solomon (1987) saw that critical reflection with teachers conceptualising the experience together and learning from it can happen through conversation alone. It was explained that when teachers articulate their ideas to others, it helps in forming an open critical perspective. They stimulate and build on each other's ideas. Hatton and Smith (1995) agreed with Solomon (1987) emphasising that the dialogue helps teacher to step-back from the experience and be analytical having a variety of explanations for reasons.

Using criteria or a check list of expectations as a base for the discussion and writing an action plan based on the conversation facilitates analysing the experience and conceptualising it. Surbeck et al. (1991) explained how elaborating on an experience using a set criteria helps in recalling the experiences and analysing it.

When teachers reflect together they can vary in their abilities to analyse and see issues from different perspectives. Powell (2000) saw reflective teaching as colleagues constantly coming together to examine and analyse how students reacted to different teaching actions to evaluate, conclude and modify instruction. Epler et al. (2013) highlighted that working collaboratively promotes greater cognitive and metacognitive processing.

Reflective Action

Reflective action goes through the facets of ; make decisions, change of practice, and reframing. The study findings indicated that these facets are affected by the special features of;

- Writing a school action plan according to criteria
- Taking the conceptualisation of the experience to the class

Collaborative reflection with a collaborative thought about an action plan can be a good medium for reflective action and consequently reflective thinking-in-action when teachers go back to their classes (Putnam and Borko, (2000), Jahnson (2009), Solomon (1987). Hargreaves (1994) differentiated between ‘contrived collegiality’ and ‘collaborative culture’. Contrived collegiality is a mandated collaboration with fixed time and space managed by the administration, while a collaborative culture is spontaneous collaboration that teachers choose forming professional groups working together. Hargreaves (1994) argued that ‘contrived collegiality’ does not lead to improvement because it does not care for teachers’ personal sensitivity and holds teachers accountable for the decisions of others. On the contrary a ‘collaborative culture’ supports teachers by assuring them in difficult times and frustrations, and share resources and expertise.

In the current study findings, it was mentioned clearly in the data collected that the action plan is not thought of except when sitting in the collaborative meetings, and it was not used in the class. Upon analysing the written data from the lesson reflective questionnaires and the reflective journals done after the collaborative reflection, issues informants reflected on in the written data were mostly the same as issues mentioned in the action plan. This showed that although informants were not consciously working on the objectives in the action plan as a result from the collaborative discussion, unconsciously it gave them a base for issues they are tackling in the class. Baumeister and John (2014) supported the idea that, people are not fully aware of many causes of their behaviour. Situations can cause behaviour by means of unconscious, automatic processes stepping conscious control (Bargh, 1994, 1997, 2005).

Reflective Thinking-in-action

The discussion about how much the collaborative reflection leads to reflective action raises the question of; How much is the collaborative reflection paving the way for reflective thinking-in-action? Reflective thinking in-action goes through the facets of; puzzlement, put in focus, reframing, and change of practice. The study findings indicated that these facets are affected by the special features of;

- Writing a school action plan according to criteria
- Taking the conceptualisation of the experience to the class

Through reflection-in-action in day-to-day lessons, teachers form unplanned unconscious concepts. Hoffman-Kipp et al. (2003) argued that teachers help themselves in class by unconscious concepts. The study findings showed that in the day-to-day lessons, teachers were reflecting on the same issues they reflected on in the collaborative reflection. Therefore, the collaborative reflection may have helped in forming these unconscious concepts built in the class. Baumeister and Bargh (2014) saw that; “Situational influences can be perceived consciously or unconsciously. They can initiate behaviour” (p. 38). These concepts are generalisations derived from recurrent events in their experience. Over time spontaneous concepts are formed. The collaborative discussion can shape some of the meanings that teachers internalise unconsciously and become part of what they reflect on whether in-action or on-action. Hoffman-Kipp et al. (2003) stated that, “Concepts are not created and used in a vacuum; they embody histories of meanings and use, and groups ascribe them differential status” (p.252).

6.3.1.2. The Lesson Reflective Questionnaires

The lesson reflective questionnaire used in the study was carefully designed by myself based on a critical reflection framework that I concluded from critical reflection frameworks in literature. Findings of the study identified the unique features of the lesson reflective questionnaire that helped move the reflective spiral to be;

- Structuring the reflective process
- Triggering feelings, seeing the details
- Reasoning, conceptualising the personal class experience
- Following through the spiral

The study findings also identified a drawback in two unique features of the lesson reflective questionnaire; its ability to deeply conceptualise the personal experience, and its ability to follow through with the reflective spiral. Adaptation in the question design were needed for the lesson reflective questionnaire to be able to reach the required critical reflection, and to act clearly as a motivation for reflective thinking-in-action. The following will be discussing the findings following through with the reflective modes in the reflective spiral.

Reflective Thinking on-action

Reflective thinking-on-action goes through the facets of; from unconscious to conscious, expression, and put in focus. The study findings indicated that these facets are affected by the special features of;

- Structuring the reflective process
- Triggering feelings
- Seeing the details

Study findings supported the idea that reflection guided by questions facilitates structuring the reflective process. Planned questions structure the teacher's thinking and guide him/her to what to think about and how to think it through. Moussa-Intaty (2015) argued that guiding questions while reflecting facilitates the process, and the quality of the reflections increase. Questions were used to direct thinking and help the teacher explore the situation well seeing the big picture and more specific details. Deewr (2009) highlighted that educators can frame their reflective practice within a set of overarching questions and more specific questions for particular areas of enquiry.

The role of the questions here is to help teachers start thinking reflectively by working on all facets of reflective thinking-in-action; getting the unconscious to conscious, expression, and putting the experience in focus. Therefore, they have to be personal questions; triggering feelings, asking teachers to write about details and guiding them to point out specific actions they want to reconsider. Knowles (1993) suggested that more personal and immediately relevant aspects of teaching become a good starting point for reflection. The amount of details teachers provide when expressing ideas, give a good foundation for critical reflection (Hilsdon (2010), Ryan and Cooper (2006), Miller (2011), Korhtagen and Vasalos (2005).

Critical Reflection

Critical reflection goes through the facets of ; analysis and awareness. The study findings indicated that these facets are affected by the special features of;

- Reasoning
- Conceptualising the personal class experience

Lucas (2012) mentioned that critical reflection is identified by two aspects; first not accepting the situation at face value, but to look 'deeper' to see the influences on the situation, and second the ability to examine the 'broader' the bigger picture and see the situation more holistically by considering the context. Critical reflection should be mediated. Although the lesson reflective questionnaire mediated critical reflection by having reasoning questions, it was not able to take the teacher to conceptualise personal experience to be able to use this conceptualisation for future actions.

The study findings showed that the lesson reflective questionnaire did not reach the depth nor the breadth required for critical reflection. The first 33% of justifications of why teachers thought a practice was a success or a failure was identified by informants as students' engagement (i.e.: not being distracted from the lesson, showing enthusiasm or joy). Students' engagement as a reason behind the experience meeting expectations is not informative enough. There is another reason laying under it.

What made students engaged? What can the teacher learn that she/he can repeat to make students engaged? According to Borg (2006), students' reactions should not be the only aspect teachers base their judgement of the experience on. They have to have wider aspects to consider.

The second 31% of justifications of why teachers thought a practice was a success or a failure was identified by informants as 'Application of PYP elements' (i.e.: getting the objective, reaching conceptual understandings, enhancement of skills or attitudes). Although this reference is more solid as it means that the teacher is aware of the expected outcomes of teaching, it still does not give enough information that would help the teacher develop. For reflection to help teachers develop, it should give information about; What is the real reason behind students' achievements? What did the teacher do to reach these outcomes?, that teachers can use to repeat or stop some actions they do in class. There is still an underlying reason that the questionnaire needed to explore.

The questions were also not able to reach the breadth required as none of the informants' answers of the questionnaire questions considered context. The questions asked in the questionnaire were opened leaving teachers to choose what they thought. Questions should have guided teachers to consider aspects in the context and explore what can they do about it.

This means that, the designing of the question and how teachers responded to it did not lead to the critical reflection as it meant to. Upon examining the wording of questions 5,6,7,8 that were to lead teachers to analyse and conceptualise the practice, the following was concluded:

- To reach the depth required, questions should be more specific in leading teachers to come out with specific actions to do or stop to reach expected outcomes. The two questions; What were you pleased with in this lesson? Why? and; What were you unhappy about in the lesson? Why? guided informants to mention reasons behind their thoughts and feelings, not reasons behind success or failure of the practice. If these questions were to reach critical reflection, they had to be directed more to clear analysis of the situation. Questions can be adapted as follows:
 - 5- What were you pleased/unhappy with in this lesson?
 - 6- a. Explain why do you see this as positive/negative in consideration to; achievement of teaching expectations and students' learning expectations in your context?
 - b. What did you do that lead to this result? / What actions do you think you did that lead to these results?

Question 5 will still be the teacher's personal judgement of the situation as it is easy to identify. Question 6.a will be relating this judgement to expected outcomes of teaching and learning in the teacher's context. Question 6.b will be an exploration in the reason behind this practice being successful

or not, which is supposed to clarify some specific actions to help the teacher repeat or avoid these actions to reach desired results.

- To reach the breadth required, questions should ask teachers to consider specific aspects of the context. Lucas (2012) viewed context as looking at the bigger picture and seeing the situation more holistically. Hatton and Smith (1995) viewed consideration of context as the awareness of the multiple (historical, socio-political contexts) influences on actions and events. Moussa-Intay (2015) suggested that in contexts that have strong religious (or political) ties, reflective questions should consider religious (and/or political) aspects. Miller (2011) identified social and political influences as social expectation, stereotypes or policy changes. As context have different levels, I believe questions are to ask first about the direct context; the school, then about the community, and finally about the socio-political context for the country/culture. The following questions can be added after the ones above:
 - 6- c. What are the most valued ethos about learning in your school, mention two? How are they related to your answers of the questions above?
 - d. What are the most valued ethos about learning in your country/culture, mention two? How are they related to your answers of the questions above?

Questions being put this way will reach the depth and breadth required as well as facilitating answering question 9 that asks about future steps. The teacher will then have a clear list of actions to repeat/avoid to reach desired outcomes. Consequently, it can help in the teacher's making clear decisions to take reflective actions that lead to personal growth and development. (see Appendix 9, The final lesson reflective questionnaire after amendments)

Reflective Action

Reflective action goes through the facets of ; make decisions, change of practice, and reframing. The study findings indicated that these facets are affected by the special feature of;

- Following through the spiral

Findings of the study concluded that, although the questionnaire had questions leading to reflective action in every questionnaire, informants did not take reflective actions based on the lesson reflective questionnaires. This can be due to the questions not taking reflection to the depth required as discussed above. According to Frost (2010), "if practitioners are not challenged at the level of values, the practice may be adopted in tokenistic way without any real change taking place" (p. 8).

Further, the absence of accountability measures and monitoring from the direct school culture can discourage teachers to take the action. Teachers need encouragement and monitoring from leaders to

continue the spiral by taking reflective action. Mundy (2017) emphasised that, although accountability of teachers is developed by sharing a vision, leaders need to encourage accountability of teachers by thinking about; Who teachers are reporting to? Who is offering the support and challenge needed? How does this internal/external accountability work?

Reflective Thinking-in-action

Reflective thinking-in-action goes through the facets of; puzzlement, put in focus, reframing, and change of practice. The study findings indicated that these facets are affected by the special feature of;

- Following through the spiral

The repetitive cycles of reflective thinking-on-action initiated by the lesson reflective questionnaire was supposed to help teachers follow through with the spiral and act as a stimulus for reflective thinking-in-action. Findings of the study detected changes of practice were not based on reflection-on-action. These changes in practice were real changes based on reflective thinking-in-action nurturing teachers with new ideas in practice, and helping them adapt their teaching to reach expected outcomes. Schon (1983) viewed professional knowledge develop within action. For Mumby (1989), reflection-in-action is non-propositional processes by which new knowing-in-action is developed. Reflective thinking-on-action and reflective thinking-in-action overlap and complement each other.

In the study findings, one of the informants suggested adding a question about students' reaction to the questionnaire. Students' feedback for informants was a big source of information that teachers rely on to judge their work, and consequently reflect-in-action. The presence of such a question in the lesson reflective questionnaire can draw teachers' attention to students' reaction and encourage reflective thinking-in-action. A question can be added at the beginning after question 1 that ask about the teachers' feelings. Question 2 would be; (see Appendix 9, The final Lesson Reflective Questionnaire after amendments)

- 2- a. How did students feel about the lesson?
- b. What makes you think so?

6.3.1.3. The Reflective Journal

The reflective journal took a narrative approach where informants write about their practical experience and construct their personal understanding (Bain et al., 1997). The findings of the study highlighted the unique features of the Reflective Journal to be;

- Conceptualising personal experience as a whole
- Reasoning

- Writing personal next steps.

Reflective Thinking on-action

Reflective thinking-on-action goes through the facets of, from unconscious to conscious, expression, and put in focus. The study findings indicated that these facets are affected by the special feature of;

- Conceptualising personal experience as a whole experience

According to Farrell (2007), teachers writing about their teaching practice can clarify their own thinking, explore their own beliefs and practices, become more aware of their teaching styles, and be better able to monitor their own practices. Shandomo (2010) saw that reflective journal writing helps teachers build their own concepts about the critical nature of the classroom environment. The study findings showed that looking at the teaching experience in general throughout and writing about it bring to teachers' consciousness aspects "summed up" the whole experience, as mentioned by one of the informants.

Critical Reflection

Critical reflection goes through the facets of; analysis and awareness. The study findings indicated that these facets are affected by the special features of;

- Conceptualising personal experience as a whole
- Reasoning

The study findings indicated that the reflective journal helped teachers look more holistically at how they conceptualise their teaching practice and what plans they have for the future. Bain et al. (1997) argued that journal writing develops critical thinking, implements theory and examines beliefs and concepts. Moon (2005) agreed with the idea that reflective writing is critical as written work is tangible and can show depth. In the study findings informants' answers show varied levels of criticality referring to deeper reasons. The level of analysis and sophistication in journal writing varies widely ranging from simple descriptions, to high self-dialogue exploring different aspects (Hatton and Smith, 1995).

Reflective Action

Reflective action goes through the facets of; make decisions, change of practice, and reframing. The study findings indicated that these facets are affected by the special feature of;

- Writing personal next steps

Journal writing is a good means to facilitate theory and practice (Holly, 1984; Ballantyne and Packer, 1995). Study findings showed that as a result of writing next steps in the reflective journals, reflective action starts by intending to change or taking the decision to change. Gil-Garcia and Cintron (2002) supported the idea that reflective journals are a good medium for self-assessment and goal setting.

Actual change of practice and reframing of the experience was not evident in the study findings. Actual change of practice depended more on teachers' affective and attitude capacities, and their ability to deal with tensions created by contextual conditions in the direct school context or the country context, as will be discussed in the coming sections of this chapter.

Reflective Thinking-in-action

Reflective thinking-on-action goes through the facets of; from unconscious to conscious, expression, and put in focus. The study findings indicated that these facets are affected by the special feature of;

- Writing personal next steps

Findings of the study indicated that, writing reflective journals has an indirect effect on reflection-in-action. Reflective journals nurture the reflection spiral by teachers discovering what they had already changed using reflection-in-action, or by setting future goals that they can put in focus in their reflection-in-action. Thornbury (1991) argued that reflective journals develop personal theories about practice. Wodlinger (1990) added that reflective journals examine and evaluate held beliefs and concepts.

6.3.2. Teacher Capability Conditions

Findings of the study indicated that, although all suitable conditions for reflection may be available, teachers will reflect not just when they can reflect, but when they want to reflect. Frost (2010) argued that "although we may be able to command, persuade or entice human beings to engage in a task that we hope will lead to learning, we cannot actually make them learn" (p.205). Johnson (2009) supported this idea by seeing that "How an individual learns something, what is learned and how it is used depend on the sum of the individual's prior experiences, the sociocultural contexts in which the learning takes place, and what the individual wants, needs, and/or is expected to do with this knowledge." Teacher capacity conditions have to do with the teacher's competencies and dispositions; and how these affect the reflective spiral.

Findings of the study identified four main types of capacities affecting the reflective spiral each with more specific qualities. Namely these are;

- Cognitive capacities with qualities of; thinking skills traits; focusing, inquiring, analysing and problem solving, and communication skills
- Affective capacities of; love, and managing feelings
- Attitude capacities of; open mindedness, self-efficacy and risk taking, and willingness
- Knowledge capacities of; knowledge about pedagogy and knowledge about reflection.

Through the reflective spiral, teachers need different capacities for every facet of reflection. The next section will explore how teachers' different capacities with all their underlying qualities, come to integrate and relate to make meaning of an experience and act upon it.

Reflective Thinking on-action

Teachers need specific capacities to go through the facets of reflective thinking-on-action; getting the unconscious to conscious, expressing thoughts and feelings whether verbally or non-verbally, and putting the experience in focus. Findings of the study identified reflective thinking on-action need the following capacities:

- Attitude capacities of; willingness, open-mindedness and self-efficacy
- Affective capacities of; love of students and teaching
- Cognitive capacities of; thinking skills traits; focusing and inquiring, and communication skills
- Knowledge capacities of; knowledge about pedagogy used, and knowledge about reflection.

Study findings showed that reflective thinking-on-action needs teachers to be ready to get the unconscious to the conscious. For teachers to get the unconscious to conscious they need to tap into their emotions. Originally, teachers use mental routines in the classroom and they are generally unwilling to abandon them once routines are set (Clark and Yinger, 1977). Accessing teachers' feelings helps getting the unconscious, to conscious. Immordino-Yang (2011) argued that emotions touch on self-awareness and consciousness. Burton (2009) added that teachers need to have the attitude of whole-heartedness; having teaching at the core of their being and actions to be able to reflect.

Consciousness is a brain activity with higher-level control functions that involves purposefully accessing for selecting, constructing, regulating, and evaluating courses of action (Bandura, 2006). Teachers need to be willing to have the intention to move from the unconscious to the conscious. The fear of facing one's mistakes can hinder consciousness. Findings of the study showed that teachers need to have enough willingness to be able to manage their fear. Poblete (1999) supported the idea that teachers have to have the 'willingness' to consider a new evidence, willingness to admit the possibility of error.

Teachers' sense of love and commitment encourages teachers to take the unconscious to conscious as evident in the study findings. Poblete (1999) introduced a model for reflective teaching with love of teaching in the centre, and believed that teachers' love of teaching is apparent where teaching is considered as a "calling - an endeavor to which teachers ought to be passionately committed". Zeichner and Liston (1996) argued that good teachers find ways to listen and integrate their passions, beliefs, and judgements in their teaching.

Study findings showed that using the attitude of open-mindedness, opens the doors for accepting others' ideas and perspective that are different from one's own. Dewey (1938) clarified that "Reflective teachers require attitudes of open-mindedness, responsibility and whole-heartedness" (p.80). Open-mindedness needs teachers to manage their fears. Farrell (2012) added to this by explaining that part of wholeheartedness is to manage fears and doubts to be able to analyse critically and make meaningful change. Teachers need to be open-minded and manage their fear to be able to open up and accept if there were any mistakes when they start to put the experience in focus.

Teachers need to have an unbiased eye for details when they put ideas in focus as evident in the study findings. Teachers' biases, emotions and attitudes can unconsciously or consciously avoid critical or sensitive issues (Teo and Tan, 2011). Pollard (2014) argued that the attitude of open-mindedness is essential when putting the ideas in focus, as it is not easy for the teacher to be willing to challenge her/his assumptions, prejudices and ideologies. Further, Pollard (2014) observed that there are two types of data to be collected; objective data of what people are actually doing, and subjective data of describing how people feel and think. Johnson (1999) highlighted the idea that details teachers collect are based on their 'knowledge' of; general pedagogical knowledge, pedagogical content knowledge, knowledge of context that cannot be separated from teachers' prior experiences, values and individual goals.

When teachers start reflecting, they need self-efficacy that they can reflect. According to Baddareen et al. (2014), self-efficacy is usually called for in the initiation of any task. Findings of the study suggested that teachers' beliefs about themselves that they constructed through their professional lives come into play when they are trying to get the unconscious, to the conscious. Self-efficacy is an educational belief that gives confidence to perform specific tasks (Pajares, 1992).

"Reflective teaching requires competences in methods of evidence-informed classroom inquiry" (Pollard, 2014, p.80). Findings of the study showed that for teachers to put the experience in focus and see it in details, they need their thinking skills of focusing, inquiring and gather evidence. Originally, teachers' actions in the class are spontaneous, intuitive and intangible (Schon, 1983). For teachers to know what is going on in the classroom they should act as a researcher of their own practice (Stenhouse,

1975) gathering knowledge-in-action (Schon, 1983).

Communicating feelings and thoughts is a skill. The ability to put feelings and thoughts into words helps better reflection. Findings highlighted that for teachers to express their ideas they need to know what to communicate and how to communicate it. Mirzaei et al. (2014) identified communication skills as an important reflective skill. Bandura (2006) added that components of consciousness operate mainly through the linguistic medium. What the teachers raised to the consciousness is activated when it is worded out through expression, whether verbally or non-verbally.

Findings showed that, teachers need some background practical or formal knowledge to reflect. Abdelhafez (2010) mentioned that the more knowledge a teacher has about; subject matter, general knowledge about teaching, or pedagogical content knowledge gives her/him a better status in expressing thoughts and feelings and moving the reflective thinking to put in focus with rich reflective content.

How much teachers know about their own cognition affect the way they go about reflective thinking-on-action when they put the experience in focus. It was evident in the study findings that teachers' knowledge about their own cognitive processes facilitates their reflective thinking. According to Abdelhafez (2010), reflective thinking-on-action is exploring and building the teacher's declarative knowledge about cognition. Schraw and Moshman (1995) referred declarative knowledge of cognition to what individuals know about their own cognitive processes. They know what they are looking for, what to put in focus.

Critical Reflection

Findings of the study showed that teachers need specific capacities to go through the facets of critical reflection of; analysing the experience and reaching awareness of what needs to change. These capacities are teachers';

- Cognitive capacities of; thinking skills of inquiring, analysing and problem solving
- Affective capacities of; managing feelings
- Attitude capacities of; open-mindedness, willingness and self-efficacy
- Knowledge capacities of; knowledge about own cognition and knowledge about pedagogy used.

Findings of the study suggested that for teachers to reach the depth and breadth required for critical reflection, they need both cognitive and affective skills. Teachers need inquiring skills, analytical skills and the ability to evaluate and make judgements to the experience. Sellars (2012) highlighted that in order for teachers to go into regular authentic reflection, they have to "have the willingness and the cognitive capacities to recognise ethical dilemmas and examine their own perspectives on the issues

they face critically and analytically”. They need insights to solve problems and overcome obstacles. Pollard (2014) saw that “reflective teaching is based on teacher judgement, informed by evidence and insights from other research” (p.82). Further, Pollard (2014) argued that the data collected is not meaningful until the teacher relates, interprets and places it in a framework to create theories (Pollard, 2014). Brock (2013) added that, when teachers reflect-on-action they use their organising, managing, observing and assessing skills.

Findings also showed that considering breadth and depth of the experience need the teacher’s knowledge about his/her own cognition. Sezer (2008) saw that reflective thinking needs awareness of what is known and what is needed. Poblete (1999) clarified that teachers reaching awareness of their strengths, weaknesses, actions, the reasons behind their actions, their thinking, beliefs and hidden assumptions needs the ability to view situations from multiple perspectives, ability to search for alternative explanations of classroom events, and ability to use evidence in evaluating a decision. For teachers to reach awareness of what needs to be done, they need metacognitive awareness. Ball (2009) explained that teachers need metacognitive awareness of their own strengths and weaknesses. This awareness could help them identify barriers to learning and help them change strategies to attain goals.

Teachers also need managing feelings. Findings showed that managing feelings is important to be able to reach deeper levels of analysis. Tuncer and Ozeren (2012) saw that individuals who question facts and events should be “patient in dealing with problems while using their intellectual substructure”. Harris et al. (2001) supported this idea by identifying lack of patience in facing obstacles as a personal trait that affects reflection. “Patience is a critical quality of persistence and involves self-control and emotional restraint” (Harris et al., 2001, p.18). Immordino-Yang and Damasio (2007) linked between cognition and emotions by stating that cognitive like attention are affected by emotions. In their views, logical reasoning cannot be recruited without emotions that lead to focusing of attention, and calling up of relevant memories.

Findings supported the idea that self-efficacy is needed for teachers to boldly explore the depth and breadth of the experience. According to Bandura (2006), “the types of outcomes people anticipate depend largely on their judgments of how well they will be able to perform in given situations” (p. 392). Pollard (2014) supported this by claiming that if self-efficacy is not that strong towards the experience, an attitude of open-mindedness is needed for the teacher to challenge assumptions, prejudices and ideologies.

Reflective Action

For teachers to take reflective actions, they have to be agentic and change their practice based on their

discoveries through critical reflection. According to Frost (2010), “transformative education recognises the importance of human agency” (p.206). Teachers’ agency is defined as; teachers’ belief and ability to be “contributors to their life circumstances, not just products of them” (Bandura, 2006, p.164), Bandura (2006) identified four core properties of human agency; intentionality, forethought, self-reactiveness (self regulation), and self-reflectiveness (metacognitive capabilities). Study findings concluded that for teachers to make the decision to take action, take actual action and reframe their experience they need agentic capacities. These are;

- Cognitive capacities of; Thinking skills traits of; focusing, inquiring, analysing and problem solving
- Affective capacities of; managing feelings
- Attitude capacities of; willingness, open-mindedness, risk taking and self-efficacy
- Knowledge capacities of; knowledge about own cognition and knowledge about pedagogy used.

The need of intentionality was evident in the study findings. Study findings stated that teachers’ sense of responsibility and commitment towards their students’ learning would make them ready to make the decision to change to reach better learning outcomes. Bailey (2001) stated that, “We know from the Teacher Education literature that teachers cannot be made to develop” (p. 13). For Bandura (2006), “People form intentions that include action plans and strategies for realising them” (p.164). Zeichner (1990) explained that when teachers reflect, they consider what is worthwhile. Ross (1989) viewed it from a different perspective, indicating that decisions teachers make about what they want to change depend upon the development of several attitudes and abilities, in addition to their willingness to assume responsibility for their decisions and actions.

For Bandura (2006), forethought is not just action plans, it is also the potential actions to guide and motivate efforts to implement plans. It is visualising the future to motivate behaviour. Study findings indicated that teachers need open-mindedness and responsibility to make the decision to change and then actually change their practices. Pollard (2014) argued that making the decision to change needs teachers to be open-minded and responsible. Dewey (1933) saw open-mindedness as “an active desire to listen to more than one, to give heed to facts from whatever source they come, to give full attention to alternative possibilities, to recognise the possibility of error even in beliefs which are dearest to us” (p.29). For Duckworth et al. (2007), open-mindedness highlights the notion of grit that is defined as “perseverance and passion for long-term goals” (p. 1087).

Study findings showed that teachers transform their mental abilities into skills and habits is a self-directive processes. According to Bandura (2006), agency that drives change includes self-reactiveness (self-regulation). Self-regulation has three processes: self-observation, self-judgment, and self-reaction (Shunk,1996). Panadero (2017) viewed self-regulation as an umbrella for a lot of variables including cognitive, metacognitive, behavioural, motivational, and emotional/affective. Shuy, et al. (2010) saw

self-regulation from another perspective. He argued that it has a cognitive component of recalling information and thinking critically, a metacognitive component of understanding and monitoring cognitive process, and a motivational component of the beliefs and attitudes needed to develop the cognitive and metacognitive processes.

That teachers need to have self-efficacy to be able to change their practice without being afraid of mistakes was evident in the study findings. For Bandura (1997), belief in one's efficacy is a key personal resource in personal development and change. People with more agentic resources, of ability to develop their competencies, self-regulatory skills, and enabling beliefs in their efficacy, are more able to make a wider scope of action, and are more successful in realising desired futures (Bandura, 2006). Opposing efficacy beliefs is fear. The study findings identified 'fear' as a feeling that hinders informants' action based on reflection. Banaji and Heiphetz (2009) supported the idea that fear is one of the most devastating emotions that can highly affect actions.

It was evident in the study findings that, for teachers to be able to reframe the experience after taking action they need to have, what Bandura (2006) identifies as 'self-reflectiveness (metacognitive capabilities)'. Frost (2010) alternated the term meta-cognition; thinking about thinking, with meta-learning to refer to how humans learn from evaluating their actions. Watkin (2005) added that, meta-learning crosses the scope of learning being just about thinking, to learning about "goals, strategies, feelings, effects and contexts of learning" (p.39). This kind of learning requires a strong sense of agency and the ability to regulate one's own emotional responses (Frost, 2010).

Study findings indicated that self-reflectiveness needs teachers to be willing to reframe their experience and develop. According to Sellars (2012), "The most powerful, durable and effective agents of educational change are not the policy makers, the curriculum developers or even the education authorities themselves; they are the teachers" (p.461). She argued that the quality of education relies to a big extent on teachers' willingness and cognitive abilities to reflect on their practice and development of self-knowledge. She emphasised the idea that teachers have to be able to "recognise ethical dilemmas and examine their own perspectives on the issues they face critically and analytically. This requires regular, authentic reflection" (p.461).

Reflective Thinking-in-action

Although teachers plan their lessons, every time when they enter the class they are faced with a new situation. Teachers having to think on their feet and act according to what they see was evident in the study findings. Harvey et al. (2012) summarised the role of human capacities in reflective learning and

action explaining that; when teachers are exposed to a complex situation in their work, they build their cognitive and affective abilities, or whole person learning”. This is because they take actions to overcome challenges, and they develop a sense of agency integrating their formal knowledge with their practical experience.

Borg (2006) saw that teachers can intentionally, or not, ignore students’ reactions in the class and do not act according to them. The study findings indicated that for teachers to catch these moments of puzzlement, putting the experience in focus, awareness, reframing, and change of practice, they have to have the capacities of;

- Cognitive capacities; Thinking skills traits; focusing, inquiring and problem solving, and communication skills
- Affective capacities of; managing feelings
- Attitudes capacities of; willingness, self-efficacy.

Teachers have mental routines that they use in the class and usually they are unwilling to move away from these routines even if they are faced with problems (Borg, 2006). Study findings showed that teachers respond to an unexpected feedback from the students in the class when it is relevant to them personally, to their willingness, and their commitment. Baumeister and Bargh (2014) saw that the situation triggers behavioural responses if it is relevant to the goals, values, fears, and desires of the teacher.

Study findings indicated that for teachers to be able to learn from their own experience they need to communicate by verbalising their ideas about teaching putting their thoughts into words. Mumby (1989) argued that teachers who have the capacity to talk about their teaching, are more receptive to their experience. He explained that teachers who can verbalise fluently their experience making it simple, are more likely to recognise puzzles happening in the class. Borko et al. (1987) disagreed stating that teachers activating their thought is not enough for reflection-in-action, or may even not be necessary.

Teachers’ capacity conditions; their psychology, their moods, their cognitive and agentic abilities are very much influenced by the different level of contextual conditions where they are. The context can help teacher capacity grow and strengthen, consequently affecting the way they reflect.

6.3.3. Contextual Conditions

The third type of conditions that affect the reflective process are the contextual conditions. Findings of the study suggest that context create tension between the teacher trying to reflect and contextual factors around him/her. Fook et al. (2006) resented the assumption that reflection can be successful through

social and cultural difference. Boud and Walker (1998) opposed this notion by stating that, if teachers reflecting are really willing to adopt reflection and are prepared to take into consideration all contextualised views, they can challenge themselves, their processes, and their outcomes. Webster-Wright (2009) viewed it differently, calling for a context that supports teachers' reflection.

El Fiki (2012) identified context to have different levels; global context, and society and community. She concluded that teachers are affected by different levels of contextual and sociocultural factors that exist within teachers' learning and work environment. The following will be discussing three levels of context identified in the study findings; the logistical factors of introducing and extending the reflective tasks, the direct school culture where the task is taking place, the outer context of the social and political culture where the school is and where teachers come from, and the international programme the school is adopting, using the study findings and literature.

6.3.3.1. Logistical Factors of Introducing and Extending Reflective Tasks

The study findings identified specific logistical factors around introducing and extending reflective tasks given to teachers to reflect-on-action. These are;

- Timing and the duration given for reflection
- Informing teachers about its purpose
- Forced obligation
- Reflection supported with a reflective discussion
- Giving teachers feedback
- Decisions taken based on reflection

These directly affect the reflective process of reflective thinking-on-action, critical reflection, reflective action, and reflective thinking-in-action. Logistical factors also have an indirect effect on the reflective spiral through affecting the teacher capacity conditions and the task conceptual conditions.

Reflective-Thinking-on-action

Findings of the study identified logistical factors that support teachers going through the facets of Reflective Thinking-on-action; getting the unconscious to conscious, expressing thoughts and feelings, and putting the experience in focus, to be;

- Purpose
- Forced obligation
- Timing and duration given for reflection

Before teachers engage in reflection they have to be prepared for it by being informed about the purpose behind their reflection. Findings showed that teachers have to enter reflection with a purpose to reflect that they can relate to. LaBoskey (1993) identified purpose as one of the aspects of the act of reflection, that could be “an internal motivation to reflect, a need to regain control of a situation or a desire to better comprehend an issue”. Without this purpose or personal motivation, the first step of the reflective process of getting unconscious to conscious would be difficult.

Another aspect that sometimes can hinder teachers from engaging into real reflective-thinking-on-action is forced obligation. Findings of the study indicated that although forced obligation ensure accountability, not all teachers like forced obligation, some prefer to choose the time and the way they would like to reflect. Clark (1992) argued that teachers do not accept top-down means of professional development with positivity where the teacher “presumed to be passive, resistant, deficient and one of faceless, homogeneous herd” (p. 75). El Fiki (2012) agreed by stating that top-down approaches to learning “minimises teacher agency in the process of their own learning” (p.234).

The need of time for teachers to engage in reflective thinking-on-action was evident in the study findings. Having the time for teachers to express their thoughts affect reflective thinking-on-action. This expression can be verbally or non-verbally, with colleagues or alone. In all cases availability of time for reflection is needed. Grant and Zeichner (1984) highlighted the importance of logistical factors that can affect reflection; such as; time. LaBoskey (1993) mentioned timing and location as structural aids for reflection.

Critical Reflection

Study findings showed that for teachers to reach the depth and breadth required for critical reflection, they need;

- Timing and duration given for reflection
- Reflection supported with a reflective discussion
- Giving teachers feedback

It was evident in the study findings that, the duration given affect the teachers’ capacity to put the experience in focus and analyse it. Korthagón and Vasalos (2010) supported this by stating that when teachers do not have time to reflect due to work pressure, even when faced with problems, they find quick solutions.

After teachers are done with reflection, extending the reflective task through reflective discussion with a more experienced colleague to enhance critical reflection was evident in the study findings. This

support is identified by Schon (1987) as the availability of ‘a coach’, who is a more experienced person providing support and guidance for teachers to reflect and construct new knowledge, “emphasise immediate zones of practice” and will help draw out from the teacher the concept developed through “reflective conversations with the materials and situations” (P.39).

The reflective discussion with a trusted expert also affects teachers’ capacities by reaching core reflection. According to Korhtagen and Vasalos (2005), core reflection is focused on discovering what are the limiting factors of reaching this ideal situation in the teachers’ self. They identified different levels that influences how the teacher functions. The two inner levels of professional identity; self-concept, and the level of mission are more complicated factors and need a ‘coach’ to go deeper to be able to lead to profound changes that leads to real development. Garmston et al. (1993) indicated that discussing reflective thinking can be through ‘collegial coaching’, done in groups. Harris and Jones (2010) supported the notion of professional learning communities, where a group of teachers analyse what they do in the class and investigate potential practices that improve students’ learning.

Close to reflective discussion, but different in nature is giving feedback to teachers on their teaching. The study findings showed different opinions of informants about feedback, some saw that it is needed to refine their reflections. Some view that its evaluative aspect makes it threatening and can block their willingness to maintain the reflective spiral, and others saw that both are important to keep reflecting; feedback and reflective discussions. This debate is also in literature. Randall and Thornton (2001) and Johnson (2009) saw that observation/feedback model nurtures teachers’ learning. Surbeck et al. (1991) agreed by emphasising the relation between reflective tasks and feedback. For them the level the reflection reaches depends on the nature of the stimulus provided and the feedback received. Bain et al. (1997) viewed feedback as helping teachers focus on important issues and their reflection is deeper. El Fiki (2012) viewed it from a different perspective. She identified that feedback that is dialogic, is context-based and goal directed, could support teachers to get to deeper critical levels of reflection on the practices. For El Fiki (2012), the continuous mutual exchange of feedback and collaborative collegiality increases the teachers’ capacity for reflection.

Finlay (2010) opposed feedback that could result in negative emotions for the teacher. It was argued that positive emotions about self urges persistence of reflective activities. Therefore, mentors should give external validation and positive feedback about reflections. El Fiki (2012) highlighted that collaborative frameworks that support instruction by giving accurate specific feedback that is non-directive and non-judgmental create a “non-evaluative, safe, non-threatening learning environments for teachers where they can experiment with new instructional techniques while at the same time rethinking the quality and impact of their instructional decisions and practices” (p.54).

Study findings suggested that teachers' emotions, values and goals are to be carefully handled through the reflective learning process. El Fiki (2012) supported this idea by arguing that, "unless the teachers see relevance to their goals and needs, and unless their evaluation of their situations results in seeing positive outcome expectations or a happy fit between the learning opportunities and their life, teachers are unlikely to engage actively in professional learning" (p. 252). Korhtagen and Vasalos (2005) agreed by linking their vision of the role of the coach to positive psychology of focusing on strengths in the attempt of activating the core qualities of the teacher using core reflection. They used Seligman and Csikszentmihalyi's (2000) ideas and indicated that, strategies used with a teacher should lead to not just fixing what is broken, but nurturing what is best. Peterson and Seligman (2003) explained that when people are referring to their strengths, they believe that this is who they really are, and they show a rapid learning curve.

On the other hand, Kolzow (2014) disagreed with the idea of focusing on strengths and argued that the coaching style of focusing on strengths works only when the people receiving it realise how it is going to build their abilities and help them develop. Kolzow (2014) mentioned that the coaching style does not work when people are resisting to learning or changing their ways, and when leaders using it are not familiar with its tactics specially "when it comes to giving ongoing performance feedback that motivates rather than creates fear or apathy" (p. 263).

Reflective Action

Study findings identified that for teachers to make the decision to take action, take and reframe their experience they need;

- Giving teachers feedback
- Reflection supported with a reflective discussion
- Decisions made based on teachers' reflection

Extending the reflective task by having a reflective discussion or/and feedback after it is needed also in teachers taking action upon reflection. Findings showed that teachers at this stage need to be assured of their outcome either through reflective discussion or feedback from an experienced educator. Gustafson (2002) saw a correlation between the amount and quality of feedback provided and the amount and quality of reflection taking place. Finlay (2010) argued that reframing needs deep consideration of the action that happened in class. This can be through asking teachers deeper questions to help them reframe the experience.

Study findings showed that teachers change their practice and maintain this change if they see the impact of this change on their life and work. It was evident in the study findings that teachers are

encouraged to take action based on their reflection, if they know that their reflection will be valued. El Fiki (2012) viewed teachers as “not mere implementers (doers) but rather thinkers, the effectiveness of their involvement depends on their personal feelings and responsibilities toward the practice at hand as well as institutional factors” (p.246). She emphasised the importance of listening to teachers’ voice and taking their ideas into consideration to empower them and increase their sense of belonging to the school that leads to their agency. Frost (2014) also stated that “When teachers feel a strong sense of empowerment and voice, their agency is enhanced” (P.7) and they are more likely to take action.

Reflective Thinking-in-action

Findings of the study identified logistical factors that encourage teachers to go through reflective thinking in-action of puzzlement, putting the experience in focus, awareness, reframing, and change of practice are;

- Giving teachers feedback
- Reflection supported with a reflective discussion

Study findings supported the idea that teachers are encouraged to go through the process of reflective thinking in-action when they are supported by continuous feedback or reflecting with a coach. Feedback given to teachers whether direct or through reflective discussion identify expectations for teachers and clarify what they should expect in class. When students’ reaction a practice does not match teachers’ expectations, they are puzzled and a cycle of reflection-in-action begins. Gustafson (2002) argued that “Feedback affects future motivation to reflect and when sufficiently elaborated, may result in additional reflection on the original topic”. El Fiki (2012) viewed it from a different perspective. She highlighted that teachers’ learning by only reflecting in-action on their own teaching is limited by the very personal evaluation and interpretation of concepts. For her their reflection lacks the criteria against which it is assessed, which feedback or a reflective discussion can provide.

6.3.3.2. School Culture

According to Fullan (2007) school culture can be defined as the guiding beliefs and values evident in the way a school operates. Principals and leaders of the school are the ones who mainly shape, enhance and maintain the traditions, beliefs, policies, and norms that form a school culture (Short and Greer, 1997). The study findings identified specific characteristics in a school culture making it a context that promotes and maintains reflection. These characteristics are;

- Collegial
- Safe
- Understanding and trusting

- Reflective
- Resourceful
- Having a shared vision
- Students are ready to learn

Study findings showed that collegiality stands out as a key characteristic that can drive school culture to promote and maintain reflection. According to Kelchtermans (2006), collegiality refers to “the quality of the relationships among staff members in a school. Often the term carries with it a positive value, referring to “good” (supportive, stimulating, rewarding, equal/democratic) relationships among equals” (p.221). Collegiality can set the tone for shaping a shared vision. Hofstede (1991) explained that when the whole culture is in continuous collaborative conversation about what matters in the school, leaders have the opportunity to hear teachers’ ideas that come from the field; the class. Leaders then can take more realistic decisions based on teachers’ opinion, which lessens the power distance between leaders and teachers. Such cultures are safe and understanding, because leaders are ready to listen and accept suggestions. It was evident in the study findings that reflection nourishes in such a culture with all its characteristics embracing facets of the reflective spiral.

Reflective Thinking-on-action

Findings of the study identified characteristics of a school culture that support teachers going through the facets of reflective thinking-on-action; getting the unconscious to conscious, expressing thoughts and feelings putting the experience in focus, to be;

- Collegial
- Having a shared vision
- Safe
- Understanding and trusting

Findings of the study identified establishing a collegial school culture with continuous conversation with colleagues is essential for teachers to constantly have the opportunity to express their ideas that brings the unconscious to the conscious. Trubowitz (2005) observed that cooperation and collegiality are characteristics of a school culture promoting group exploration of ideas. Powell (2000) agreed that a school culture of continuous conversation is one of the conditions essential for teachers’ reflective practice to lead to development.

It was evident in the study findings that teachers will not be able to bring the unconscious to the conscious or express their ideas, except in a safe environment. Fear of punishment hinders teachers’ reflection. When one of the norms of the school culture is that it is safe, teachers are not afraid to reflect

and point out or admit mistakes. Immordino-Yang and Damasio (2007) highlighted the importance of emotions in bringing previously acquired knowledge to inform real-world decision making in social contexts. Rayford (2010) reinforced the idea that establishing a supportive environment and developing a shared vision are important to employ reflective practices.

A school culture that promotes learning substitutes attitudes of superiority and critical judgment with an atmosphere of trust and empathetic understanding (Trubowitz, 2005). Informants in the study highlighted that when they feel safe to speak their mind and they know that someone will listen and help with ideas, they have the courage to admit wrong actions and reflect on them. Trubowitz (2005) saw that there is a need to move through and beyond times of distrust and suspicion, to be able to show openness of communication in which ideas and feelings are freely expressed and acknowledged.

Critical Reflection

Study findings show that for teachers to reach the depth and breadth required for critical reflection, teachers need the school culture to be;

- Collegial
- Having a shared vision
- Safe
- Understanding and trusting
- Reflective

Findings of the study showed that collegiality of the school culture helps teachers break their barriers and progress to deeper levels of reflection reaching the depth and breadth required for critical reflection. Johnson (2009) explained that when teachers are engaged in critical thoughtful conversations about their work with attention to evidence, they externalise their current knowledge and internalise concepts about teaching. Solomon (1987) put an emphasis on the support of colleagues and mentors claiming that it builds understanding that leads to critical reflection. Further, Solomon (1987) explained that when teachers articulate their ideas to others it helps in forming an open critical perspective.

Critical reflection thrives with openness, with less power-distance. Informants of the study made evident that when they are not afraid from mistakes they go out of their comfort zone. They explore new ideas unfearful. Brookfield (2004) stated that; “Reflection becomes critical when it has two distinctive purposes. The first purpose is to understand how considerations of power undergird, frame and distort so many educational processes and interactions. The second purpose is to question assumptions and practices that seem to make our teaching lives easier” (p. 5).

Findings of the study showed that the school leaders can promote a reflective culture by continually modelling reflective practice; reflecting on their own and with teachers. Powell (2000) debated that a vision of building a culture of reflective practice where all members reflect together is an essential component of successful professional learning. In his opinion, separating professionals spreads professional ignorance. Connelly (2014) proposed an understanding of how reflection being a social practice. It was argued that, continuous conversation forms mutual understanding and trusted relationships, which builds the sense of community. The sense of community helps teachers pursue their professional growth and development.

When the context encourages reflective conversations, the awareness teachers reach is not just about their professional status, but also their personal self. When teachers negotiate with others they discover who they are as people (Nagamine, 2007). This was evident in the study findings. One informant highlighted that reflecting with colleagues “helped her as a person”. El Fiki (2012) supported the idea that teacher collaboration “benefits teachers personally and professionally and is a key component in teacher growth” (p.57).

Reflective Action

Study findings identified that for teachers to make the decision to take action, take actual action and reframe their experience they need a school culture that is;

- Collegial
- Has a shared vision
- Safe
- Understanding and trusting
- Resourceful
- Students are ready

Study findings indicated that having a reflective discussion around the school vision encourages reflective action. Reflective action through taking the decision to take the action, and then actually taking action leading to reframing needs a culture with a shared vision. Collegiality leads to the whole school culture sharing a vision. El Fiki (2012) supported the idea that promoting collaborative conversations among teachers and between teachers and administration develop common goals and vision. It leads to a stronger sense of community and encourages reflective action. Hoffman-Kipp et al. (2003) explained that, “Teachers interact with colleagues in goal-directed activities that require communication and the exchange of ideas where reflection itself is not contained wholly in the mind of the individual but is "distributed" through sign systems and artefacts are embedded in the social activity of the school community” (p.250).

Study findings indicated that for teachers' autonomy through reflective action to thrive, it has to be trusted by the culture. According to Trubowitz (2005), if we want to view teaching as a thoughtful analysis of students' needs, then we have to stop adopting the one-size-fits all model. We have to see schools as "centres of ongoing exploration, learning, thinking, and adapting to the needs of students" (p.176). The culture has to support these ready to explore new approaches in education by being open-minded, and understanding of teachers' decisions. Johnson (2009) argued that Collaborative Teacher Development (CTD) cannot thrive unless it is supported by the institution. Johnson (2009) identified moral support by valuing and understanding the importance of teacher collaboration by different leadership positions and ready to accept any consequences.

Study findings supported the idea that after taking the decision to change the practice, teacher need resources to apply the change. The availability of resources needed for the new practice will be a main factor for the teachers to be able to change the practice. Finlay (2008) identified providing resources can be a practical issue hindering reflections.

Informants highlighted that teachers' change of practice is affected by students' readiness. If teachers feel that their students are ready to go through the change of practice with them, they will be encouraged to try it out. Borg (2006) supported the notion that teachers' judgments and decisions are affected by the ability of their students and how they behave in class.

Reflective Thinking-in-action

Findings of the study identified a school culture that encourages teachers to go through reflective thinking in-action of; puzzlement, putting the experience in focus, awareness, reframing, and change of practice, to be;

- Collegial
- Having a shared vision
- Safe
- Understanding and trusting

Study findings showed that teachers are courageous to explore new frames in a culture that is safe, understanding, and trusting. Mumby (1989) saw that although reflection-in-action is a process out of our control, school administrators should ask themselves if the school environment supports teachers to "explore new frames, or to ignore them" (p.36). El Fiki (2012) agreed that reflection-in-action contextualises teaching practices and makes it meaningful to the teacher. She explained that the context

should give a chance for teachers to go into real meaningful activities of teaching and learning that merge theory with practice and form new concepts. Through this process teachers are involved in reflection-in-action through “feedback loops” (Argyris and Schon, as cited in Burton, 2009, p. 299) of “analysis” and “decisions on acting” (Dewey, as cited in Burton, 2009, p. 298). In these trials the practice is contextualised; it is refined or becomes appropriate to the context it is working in.

6.3.3.3. National and International Context

The social and political national context, where the school is, have multiple sequential effects on the reflective process. It forms the national culture of school stakeholders; teachers, leaders, students, parents, and owners of the school, affecting the school culture by setting its basic beliefs. The social and political context where teachers come from affects teachers’ capacities; cognitive, metacognitive, emotional and agentic, and consequently the reflective process.

The political status shaping the governmental educational requirements the school has to abide by affect the school culture putting limits or demanding certain actions, hence affecting the reflective process. Teachers’ capacities and school culture affected by the social and political context affect the logistical factors of introducing and extending the reflective sasks, which affect the reflective process.

The school at the study time was in its first year in implementing the International Baccalaureate Organisation Primary Year Programme (IBPYP) forming an outer international context affecting the reflective process. IBPYP requirements affect the reflective process directly and indirectly through affecting the school culture.

According to El Fiki, (2012), teachers’ change is context bound as “the nature of change as experienced by the participants is shaped by a multitude of contextual factors” (p.3). She saw that professional development is a “process situated in a sociocultural, socio-political and socio-psychological context” (p.54). Study findings showed that the different levels of context create tension that can be seen throughout the reflective spiral as follows:

The national Egyptian culture characteristics that appeared in the findings affecting the reflective spiral were;

- Teachers’ bringing up cultural beliefs
- Teachers’ past experiences
- Egypt’s political context

While, the International Baccalaureate culture characteristics that appeared in the findings creating

tension and affecting the reflective spiral were;

- The reflective culture the IB promotes
- The tension the IB creates
- The community the IB builds

Reflective Thinking-on-action

Hofstede (2005) considers national culture as ‘The collective programming of the human mind’. It is the behaviour and beliefs characteristic of a particular social, ethnic or age group. Participants in the current study represent the upper middle class Egyptian female teachers. They carry with them in their belief system and identity the social aspects of the upper middle-class Egyptian culture. Their ability to express their ideas freely, as a facet of reflective thinking on-action is shaped by the cultural norms and social expectations seen in;

- Teachers’ bringing up cultural beliefs
- Teachers’ past experiences
- Egypt’s political context.

On the other hand, the IB tries to foster an environment that is based on understanding and respect, encouraging thinking and reflection through the standards and practices that schools have to follow (International Baccalaureate Organisation, 2014). Study findings showed that the following characteristics in the IB culture affect the ability of teachers to go through reflective thinking on-action of; getting the unconscious to conscious, expressing thoughts and feelings putting the experience in focus:

- The reflective culture the IB promotes
- The tension the IB creates

The findings of the study identified how the Egyptian culture does not appreciate free expression of ideas and feelings. Informants highlighted that, in Egypt women are not used to this kind of speaking up and telling how they really feel. They fear people’s reaction; “we are always afraid ... and this is how things work here in Egypt”, as mentioned by one of the informants. Teachers need to think that; “it is ok to say what’s on your mind” and someone “will listen to you, and try to help”. Teachers’ attitudes stem from their beliefs and are based on them (Borg, 1998). Teachers’ attitudes are “shaped by experience, society, and the educational culture in which the teacher works” Brock (1994, p. 51). A school culture in Egypt is faced by these Egyptian teachers’ cultural beliefs and attitudes, which highlights the importance of building a safe environment for teachers to be able to express their ideas and feelings.

Components of consciousness operate mainly through the linguistic medium (Bandura, 2006). What the teachers raised to the consciousness is activated when it is expressed, whether verbally or non-verbally. If teachers cannot express their ideas freely, they will not be able to raise the experience to consciousness. “Teachers will be blinded to the facts they can discover about themselves and their context, that is the first step for professional renewal and growth. Consciousness is the very substance of mental life.” (Bandura, 2006).

Teachers capacity is affected by the past experiences they had both as teachers and students in this social context. According to Horrigan (2006), experience for adults is a significant feature because adults are shaped by their experience. Horrigan (2006) added that, experience is not all the time an aid for learning. Teachers going through reflection could have what Dewey has termed “miseducative” (Knowles, 1996, p. 246) experiences. Teachers have also been exposed to teaching as students for numerous years which is “tremendously difficult to shake” (Kennedy, 1990, p.17).

Although the IB sets a culture that facilitates reflection as it is part of the IBPYP requirements, it creates tension with the social context of a country. Santee, et al. (2010) stated that when IB enters a school, it challenges the school context where it is. They stated that, “Principals talked of the major mental shift, and the difficulty of reconfiguring professional routines and cultures” (p.50). The IB calls for teachers’ autonomy and teachers’ agency (International Baccalaureate Organisation, 2013). Therefore, the school culture should respect and embrace this agency supporting teachers’ trials of creative ideas, that might not work. In addition, they have to support teachers’ reconsideration and adaption of instruction.

Critical Reflection

Study findings showed that the national and international cultures affect teachers reaching the depth and breadth required for critical reflection by the characteristic of;

- The national social and political status affecting teachers’ bringing up cultural beliefs

According to Finaly’s (2008) critical reflection is not critical unless it attends to social and political analysis that allow for transformative action and change. She argued that critical reflection should enable teachers to understand the hidden power of socially dominant assumptions that they absorb, and how these assumptions could be socially restrictive. This awareness makes teachers free to make choices on their own terms, resulting into more empowering ideas and practices. Fook et al. (2006) supported this idea by stating that, “Part of the power of critical reflection in opening up new perspectives and choices about practice may only be realised if the connections between individual thinking and identity, and dominant social beliefs are articulated and realised” (p.53).

Findings of the current study showed that reaching critical reflection by considering the social and

political context was not attended to. Informants mentioned that this is not the way they were brought up highlighting the effect of the national culture in shaping their beliefs. They stated that they needed the support of the school context by the availability of; collegiality and a ‘coach’; an expert to help them reach the breadth required for critical reflection.

Reflective Action

Teachers’ agency; their belief and ability to be “contributors to their life circumstances, not just products of them” (Bandura, 2006, p.164) help them to develop by taking the decision to change, then actually change their practices. The national social and political context, and the international culture affect teachers’ agency. Study findings identified that teachers’ decision making to take action, taking actual action and reframing their experience are affected by;

- The Egyptian Culture of teachers’ bringing up cultural beliefs, and their past experiences
- The International Baccalaureate culture and the community the IB builds

Freedom is not just the absence of constraints, but also the ability to influence the environment to reach desired outcomes (Bandura 2006). Study findings supported how teachers need an environment that gives them the freedom to select, adapt, change practices they choose, and respect this choice. This environment is formed mainly by the social and political context where the school is and where teachers come from. El Fiki (2012) saw that top down change process appeared to have a powerful effect on shaping teachers’ work roles, choices, and orientations to change in Egypt. She expressed her experience of the change of political status that happened before and after the Egyptian revolution and how this context positively affected the concept of being opened to ‘change’ in the Egyptian society and consequently in the context of all schools under her study; public, private and international. The study finding validated this notion.

Teachers’ agency is also influenced by what Bandura (2006) identified as ‘collective efficacy’. This is a belief perceived by members in a group about their capacities. Collectively members of the group act upon their common belief promoting group attainments. The IB tries to form a community of special philosophy in teaching and learning that is, from their perspective, unique and provides students with needed skills for tomorrow (International Baccalaureate Organisation, 2013). IB standards and practices encourage schools to join the IB community (International Baccalaureate Organisation, 2014), forming ‘collective efficacy’, as IB community, can achieve unique teaching and learning. Informants in the focus group discussion spoke about how the IB gives them an opportunity to grow, be creative, take risks, reflect. They appreciated being part of the ‘IB community’

Reflective Thinking-in-action

Findings of the study identified the outer culture characteristics that affect teachers to go through reflective thinking in-action of; puzzlement, putting the experience in focus, awareness, reframing, and change of practice to be;

- The Egyptian Culture of teachers' bringing up cultural beliefs, and their past experiences
- The International Baccalaureate Culture and the reflective culture the IB promotes

Mumby (1989) saw that for reflection in-action to happen and lead to reframing and action, it has to be encouraged by the context the teacher is in. El Fiki (2012) stated that the political culture of a country affects teachers' readiness for reflection. The study findings indicated that the Egyptian culture discourages the ideas of admitting mistakes that leads to reframing and action. It also indicated that the international school context encourages their reflection. Having the support of the IB culture, helped them notice unexpected feedback from students and reframe their thinking and change their actions in class.

6.4. Part 3: Solving the dilemma

Research has been asking why teachers do not maintain reflection when evidence supports its positive effect on their development (Marzano, 2012). From the conditions discussed it can be seen that the obstacles reflection meets are tremendous, if we see it from teachers' perspective. The findings of the study concluded that, although the absence of any of the aspects of different types of conditions would affect the reflective spiral, the presence of a few seem to move all the rest. These key aspects form another spiral of conditions either supporting or hindering reflection.

The conditions spiral starts from the teachers' emotions. Teachers are driven by their emotions; what they accept or not accept and feel about the idea of development and reflection. Teachers are highly affected by people in the context they reflect in. Context can make teachers feel that their self-image is always at stake from different stakeholders; students, parents, colleagues, school leaders, governmental or authorising audits. Approaching teachers to reconsider anything about their work is very sensitive; let alone asking them to connect with their inner self and discover what they need to develop. For the reflective spiral to work, continue and reach the depth required, it has to result in positive outcomes and form a positive self-image for teachers from the teachers' perspective. Collegiality makes teachers feel relaxed and when they are relaxed they can work, they can develop, they are opened to reflection, they are opened to ideas, they share their ideas.

According to Webster-Wright (2009), collaboration of all school stakeholders critically about academia and the school community can enable reframing that leads to professional learning. Upon exploring the conditions affecting the reflective spiral, instilling a supportive spiral of conditions prevailed, that can move with the reflective spiral as follows;

Collegiality → teachers' emotions and cognition → positive school culture → minimises drawbacks of outer culture and maximises its benefits → controls logistical factors of introducing and extending the task → teacher's agency → controls cognitive, affective, attitudes and knowledge capacities → engage in varied reflective tasks → deep conceptualisation → direct contextualisation → reframing

The following is an explanation of how collegiality can lead to reframing using the study findings and literature.

Collegiality → teachers' emotions and cognition

Collegiality that is meant here is not 'contrived collegiality' that is top-down compulsory teacher collaboration effort mandated collaboration (Hargareevs, 1994). It is collaborative collegiality with "the mutual exchange, feedback and joint pursuit" (El Fiki, 2012, p.54). Teachers discussing their work with trusted colleagues creates a feeling of safety. When teachers feel safe to speak their mind out and they know that someone will listen and help with ideas, their imagination is stimulated. Dewey (1916/1985) saw that social interaction "enlarges and enlightens experience; it stimulates and enriches imagination; it creates responsibility for accuracy and vividness of statement and thought" (p. 9). El Fiki (2012) saw that collaborative frameworks that support instruction creates a "non-evaluative, safe, non-threatening learning environments for teachers where they can experiment with new instructional techniques while at the same time rethinking the quality and impact of their instructional decisions and practices" (p.54).

Collegiality → positive school culture

Hargreaves (1997) indicated that characteristics of successful school cultures are composed of; openness, informality, care, attentiveness, lateral working relationships, reciprocal collaboration, candid and vibrant dialogue, and a willingness to face uncertainty together. Collegiality creates a positive school culture. It supports collectivism and promotes equality in distribution of power resulting in a shared vision between stakeholders (Hofsted, 1991, Trubowitz, 2005). Leaders are readier to listen to suggestions (Mundy, 2017), and teachers feel a stronger sense of community (El Fiki, 2012). Stakeholders in such a culture trust each other and understanding each other's needs (Connelly, 2014).

positive school culture → minimises drawbacks of outer culture and maximises its benefits

The place where the school is and where teachers come from affect teachers' beliefs and attitudes (Borg, 1998), and force some political and social norms on the school culture (El Fiki, 2012). Leaders can build on desired aspects in the social, political and international context by creating internal policies supporting these aspects. Principals and leaders of the school are the ones who mainly shape, enhance and maintain the traditions, beliefs, policies, and norms that form a school culture (Short and Greer, 1997). Leaders can also model desired norms and values. Cultures change by transferring current norms and values through modelling new values and behaviour (Fullan, 2007).

positive school culture → controls logistical factors of introducing and extending the task

A school culture where leaders are approachable helps develop strong positive and supportive relationships (Mundy, 2017), supporting teachers with what is needed to get about a reflective task effectively. Providing adequate support, time, and resources are important logistical factors for reflection (Finlay, 2008, LaBoskey, 1993; Korthagon and Vasalos, 2010).

A non-threatening positive reflective discussion with 'a coach' who is trusted takes the reflection deeper and support the teacher to conceptualise the experience and learn from it (Schon, 1987; Korhtagen and Vasalos, 2005). The reflective discussion can be through a 'collegial coaching' (Harris and Jones, 2010, El Fiki, 2012, Garmston, Linder, and Whitaker, 1993). For teachers to consider outcomes of this conversation, it has to show them a good self-image; it has to highlight the teachers' strengths (Korhtagen and Vasalos, 2005; Peterson and Seligman, 2003; Seligman and Csikszentmihalyi, 2000), and the teachers can see relevance to their goals and needs (El Fiki, 2012; Little, 2001).

positive school culture → teacher's empowerment and agency

Findings of the study indicated that teachers see themselves through the eyes of others. Whether these others are their students, their colleagues or their leaders; the school community. "The relationships between teachers and their colleagues are among the most educationally significant aspects of teachers' lives and work" (Hargreaves and Fullan, 1992, p. 217). El Fiki (2012) stated that a positive school culture that builds on teachers' strengths, gives them voice and values their opinion builds empowered active teachers as members of the school community increasing their loyalty and motivation to develop. She explained; "Teachers' motivation and readiness for engaging in PD activities -- seem to strengthen their agency in the process of professional learning" (El Fiki, 2012, p.250).

teacher's empowerment and agency → controls cognitive, affective, attitudes and knowledge capacities

We may be able to command, persuade or attract human beings to engage in a task that we hope will lead to learning but, we cannot actually make them learn (Claxton and Carr, 2004, p.88). Findings of the study showed that agentic teachers have the intentions and the willingness to learn and change themselves according to an action plan they have. They have the confidence and can regulate their feelings and actions to fulfil this plan. They can also reconsider their past actions, take corrective actions to reach their goals (Bandura, 2006). These capacities in an agentic teacher makes him/her able to adapt and adopt needed cognitive, affective, attitudes or knowledge capacities (Nieto et al., 2002, Frost, 2010, Farrell, 2006).

engage in varied reflective tasks → deep conceptualisation → direct contextualisation → reframing

Central to effective continuation of the reflective spiral is employing a variety of reflective stimuli. The variation here is important as, according to the findings of the current study, each type of task promotes different approach to consciousness, methods of expression, seeing details, level of analysis, and consequently different type of conceptualisation and reframing of the experience.

Originally reflection is inevitable; it happens unconsciously (Juklová, 2014). Teachers learn from experience, they reflect-in-action and form their own frames, but most of the time they cannot explain them as they happen unconsciously (Borg, 2006, Richards and Lockhart, 1994, Schon, 1983). Frames formed from reflection-in-action were not concluded from actions based on deep analysis and reconsideration of evidence i.e.; reasons behind success or failure of a practice (depth); or context (breadth). Therefore, critical reflection was not reached (Lucas (2012). El Fiki (2012) saw that if teachers learn only through personal experience and reflection “of moment-by-moment flow of action” result in shallow understanding based on impression. These understandings are based on pre-existing frames and do not encourage reframing based on reflection in action (p.254).

The conceptualisation of the experience depends on the depth of concepts collected around the experience. According to Badie (2016), the bigger the schemata, that construct meaning and shape inferences based on reasons to define truth, the deeper the conceptualisation. Reflective stimuli are used to boost reflection-on-action to help the unconscious to get to the conscious. Conscious ideas are available to be analysed and reach critical reflection that explores reconsideration of evidence i.e.; reasons behind success or failure of a practice (depth); or context (breadth). Juklová (2014) argued that, “reflection on teaching must necessarily be conscious, thought-out and goal-directed” (p.892).

The findings of the study indicated that each reflective stimulus encouraged conceptualisation and reframing differently. The collaborative reflection conceptualises the group experience by bringing ideas and thoughts to consciousness through high expression, analyse experiences by comparing them to a set of criteria, and writing an action plan. This process unconsciously prepares teachers for reflective-thinking in-action and reframing of ideas. The lesson reflective questionnaire conceptualises the personal class experience by answering carefully designed questions, reaching critical reflection, decide on next steps, encouraging reframing, and repeating the process to become a habit. These recurrences of the process, urge teachers for reflective-thinking in-action and reframing of ideas. The reflective journal conceptualises the personal experience of the individual teacher as a whole by teachers judging their experience expressing their ideas in writing. Reflective journals guide teachers to decide on personal goals and next steps to plan for future practices that puts clear steps for action in the class, reflective-thinking in-action and reframing. They all lead to reframing of the experience from different angles through taking action in the class based on both reflective thinking-on and/or in-action.

Varying the type of task infused in the spiral gives a chance for deeper, wider schemata, and thicker conceptualisation of the teaching experience from different angles. Sharing through continuous collegiality; and so on.

6.5. Summary

The chapter discussed the findings of the study with international literature. A figure summarising how to view the reflective spiral and conditions affecting it was introduced. The chapter then discussed three findings of the study in three parts. The first part discussed the reflective spiral that consists of reflection on-action and reflection-in-action. The second part discussed conditions affecting the reflective process grouped under three types; task conceptual conditions, teacher capacity conditions and contextual conditions. The third part discussed a suggested solution to regulate conditions affecting the reflective spiral.

The next chapter deduces some conclusions from the study and suggest some implications that could be considered by teachers, school leaders and policy makers to facilitate reflection.

CHAPTER 7

Conclusion

7.1. Introduction

The chapter commences by giving an overview of the study and the main research outcomes, and then states the contribution to knowledge of the study. Next, the chapter presents a set of recommendations, as well as the limitations of the study. Finally, recommendations for future research are presented.

The concept of reflection has captured the attention of researchers. Studies viewed reflection as a successful mean for professional renewal and professional learning (Dewey, 1933, Schon, 1983). Although reflection was known amongst educators, very few actually used it in their practical life, even when it was mandatory (Marzano et al., 2012). This motivated researchers to examine the conditions around reflection that affect its adoption; along with support to facilitate or hinder it. (Finlay, 2008; Juklová, 2004).

7.2. Overview of the Study

A growing demand for authentic continuous professional learning was observed (Webster-Wright, 2009; El-Fiki, 2012; Hunzicker, 2011). This demand increases with national teachers working in international schools in developing countries, as they are teaching curriculums that were designed in a context different from their own. The purpose of the study was to explore the perceptions of in-service teachers in international schools in Egypt about conditions that affect reflection as a tool for professional development.

The study took place in a first-year candidate IBPYP (International Baccalaureate Primary Years Programme) school in North East Cairo in a high socio-economic district. Teachers participating in the study were a homogenous group of seven upper middle class Egyptian female teachers. Teachers went through five cycles of reflection-on-action in six weeks. They started by participating in one collaborative reflection with all the school, answered three-lesson reflective questionnaires through the six weeks, and wrote one reflective journal at the end. After that, data was collected through a focus group discussion with the seven teachers, three in-depth interviews with three volunteering teachers from the seven participants, and document review of the action plan resulting from the collaborative reflection, the lesson reflective questionnaires answered by teachers, and the reflective journals written by teachers.

7.3. Main Research Outcomes

The study was mainly set to explore conditions affecting reflection as means for professional learning. Exploration examined closely the reflective process itself, which led to three major findings for the study. The first finding is concerned with the reflective spiral and its specific facets and how they work. The second finding is concerned with the conditions and sub-conditions, and how they affect the reflective spiral facets. The third finding is concerned with aspects of sub-conditions and how it can be used to create a spiral of conditions supporting the reflective process. Next are further elaborations on the study outcome.

7.3.1. The Reflective Spiral

The reflective process is spiral (Pollard, 2014; Korhtagen and Vasalos, 2005). It is a dynamic repetitive process that can start by cycles of repetitive reflection-on-action tasks entusing reflective thinking on-action that can reach critical reflection (Surbeck, Han and Mover, 1991; Miller, 2011; Lee, 2005; Hatton and Smith, 1995; O'Dowell, Reeve and Smith, 2011). Through critical reflection teachers conceptualise the experience (Pollard, 2014; Sezer, 2008; Badie, 2016), then take a reflective action based on their discoveries. Through their reflective action, they contextualise their discoveries, and reframe their learning (Johnson, 2009; Eraut, 1995; El Fiki, 2012).

Through teachers' action in the class another type of reflection can appear, namely; reflective thinking-in-action. While teachers are teaching, they reconsider their actions based on students' reactions (Munby, 1989; Schon, 1983). These thoughts of reflection stay with the teacher to start another cycle of reflective thinking-on-action, or reflective thinking-in-action, and so on. Next are the specific facets of this process as determined by the study:

For reflection-on-action facets are;

from unconscious → conscious → expression → put in focus → analysis → awareness →
make decisions → change of practice → reframing

For reflection-in-action facets are;

puzzlement → put in focus → awareness → reframing → change of practice

Reframing in reflection-on-action and reflection-in-action overlap. One cannot differentiate with certainty if actions in the class are a result of reflective thinking-in-action or on-action.

7.3.2. Conditions affecting the Reflective spiral

The spiral of the reflective process is affected by a number of conditions that either support, hinder, or may even stop it. Conditions affecting the reflective spiral were found to be of different aspects, that is grouped under three types as follows:

7.3.2.1. Task conceptual conditions

Task conceptual conditions have to do with the reflective task design, the stimuli used for reflection-on-action, and its ability to guide the teacher to conceptualise the experience and learn from it (Badie, 2016). Each reflection task type has unique features that differently affect the reflective spiral as presented in the following sub-sections.

7.3.2.1.1. The collaborative reflection

The unique features of the task design for the collaborative group reflection includes; discussing issues collaboratively, conceptualising the group experience, teachers writing a school action plan according to expectations, and giving the potential to take those conceptualisations of the experience to the class to start a cycle of reflection-in-action.

7.3.2.1.2. The lesson reflective questionnaire

When the lesson reflective questionnaire is carefully designed, it can work on most facets of the reflective spiral. It has the unique features of; structuring the reflective process, triggering feelings, seeing the details, reasoning, conceptualising the personal class experience, and following through the spiral.

7.3.2.1.3. The reflective journal

A variety of approaches exist for the design of reflective journals. The study considered the narrative approach as it gives teachers the opportunity to write from their own perspective, making personal inferences from their experience, and creating their own personal pedagogical principles (Bain et al., 1997). Unique features of the reflective journal considering a narrative approach are; conceptualising the whole personal experience, reasoning, and writing personal the next steps to be followed.

7.3.3. Teacher Capacity Conditions

Teachers act, and consequently learn, when they want to learn (Frost, 2010). Teachers' capacity conditions have to do with the teacher's personal feelings and abilities and how those affect the reflective process. Each special quality of the teacher during reflecting affects the reflective spiral differently. This depends on the teachers' cognitive capacities of; thinking skills and communication skills, their affective capacities of; love and managing feelings, their attitudes regarding; open mindedness, risk taking, self-efficacy, and willingness; and their knowledge capacity of; knowledge about own cognition, and knowledge about pedagogy used.

7.3.4. Contextual Conditions

Contextual conditions where the reflection occurs at different levels involving; logistic factors introducing and extending the reflective task, the immediate inner school culture context, and the outer context of social and political country culture, and the international programme adopted by the school. Each context level has its own characteristics that affect the reflective spiral, presented in the following sub-sections.

7.3.4.1. Logistical factors of introducing and extending reflective tasks

Logistical factors introducing and extending reflective tasks that are given to teachers affecting the reflective spiral are; the timing and the duration, forced obligation to help conduct the task, informing teachers about the tasks' purposes, supporting reflection with reflective discussion, giving teachers feedback, and decisions taken based on the tasks.

7.3.4.2. School culture

Characteristics in a school culture affecting the reflective spiral are; collegial, having a shared vision, understanding and trusting, reflective, resourceful, and students are ready for change. Collegiality stands out as a key factor that can be the driver to the school culture desired. Collegiality can set the tone for shaping a shared vision (Hoefstede, 1991), and create cultures that are trusting, understanding (Mundy, 2017, Kolzow, 2014), and reflective (Peterson and Deal, 2002).

7.3.4.3. National and international context

The reflective spiral is affected by the national culture. The national culture shapes; the political context and policies of the school, teachers' growing up cultural beliefs, and teachers' gained experiences in

this culture. International schools have another outer context of the international authorizing programme they are adopting. As authorizing programmes try to create a culture and a community of its own, sometimes what they are trying to implement creates tension with the country culture where the school is and where teachers come from.

7.3.3. The Spiral of Conditions

Conditions affecting the reflective spiral do not have the same influence on the spiral, some are key conditions that drive the rest. These key conditions can instil a spiral of conditions supporting reflection and help it flourish. The spiral of supportive conditions start with collegiality and moves as follows;

Collegiality → teachers' emotions and cognition → positive school culture → minimizes drawbacks of outer culture and maximizes its benefits → controls logistical factors of introducing and extending the task → teacher's agency → controls cognitive, affective, attitudes and knowledge capacities → engage in varied reflective tasks → deep conceptualisation → direct contextualisation → reframing

7.4. Contribution to Knowledge

There is a growing need for authentic continuous professional learning. With this growth, the concept of reflection increases (Webster-Wright, 2009; El-Fiki, 2012; Hunzicker, 2011). This research contributes to the knowledge of teacher education fostering professional learning using reflection for in-service teachers as follows:

- The study presented a novel approach to reflection from the teachers' perspective, shedding light on the complexities and the sensitivity that teachers face going through the reflective process. By revealing the different facets of reflection, a vivid insight is exposed of the processes; mind, emotions, and action, for teachers dealing with such a task. In order for the reflective spiral to work continuously at profound levels, reflection has to focus on teachers' emotions and form a positive self-image for teachers from their perspective.
- The study revealed the key conditions that could drive all other conditions leading to a proposed solution to support reflection. The solution identifies a spiral of key conditions driving all other conditions that can be instilled and move with the reflective spiral.

- The study introduced a new critical reflection framework that is capable to capture a complete picture of what critical reflection could entail as per in the conceptual framework developed in the study herein. The conceptual framework has five levels of reflection, namely; reacting, recalling, realising, reconsidering, and reflecting. Each level deals with significant aspects about reflection in literature.
- The study gave a view of how to look at conditions affecting reflection summarizing as presented by figure (4).

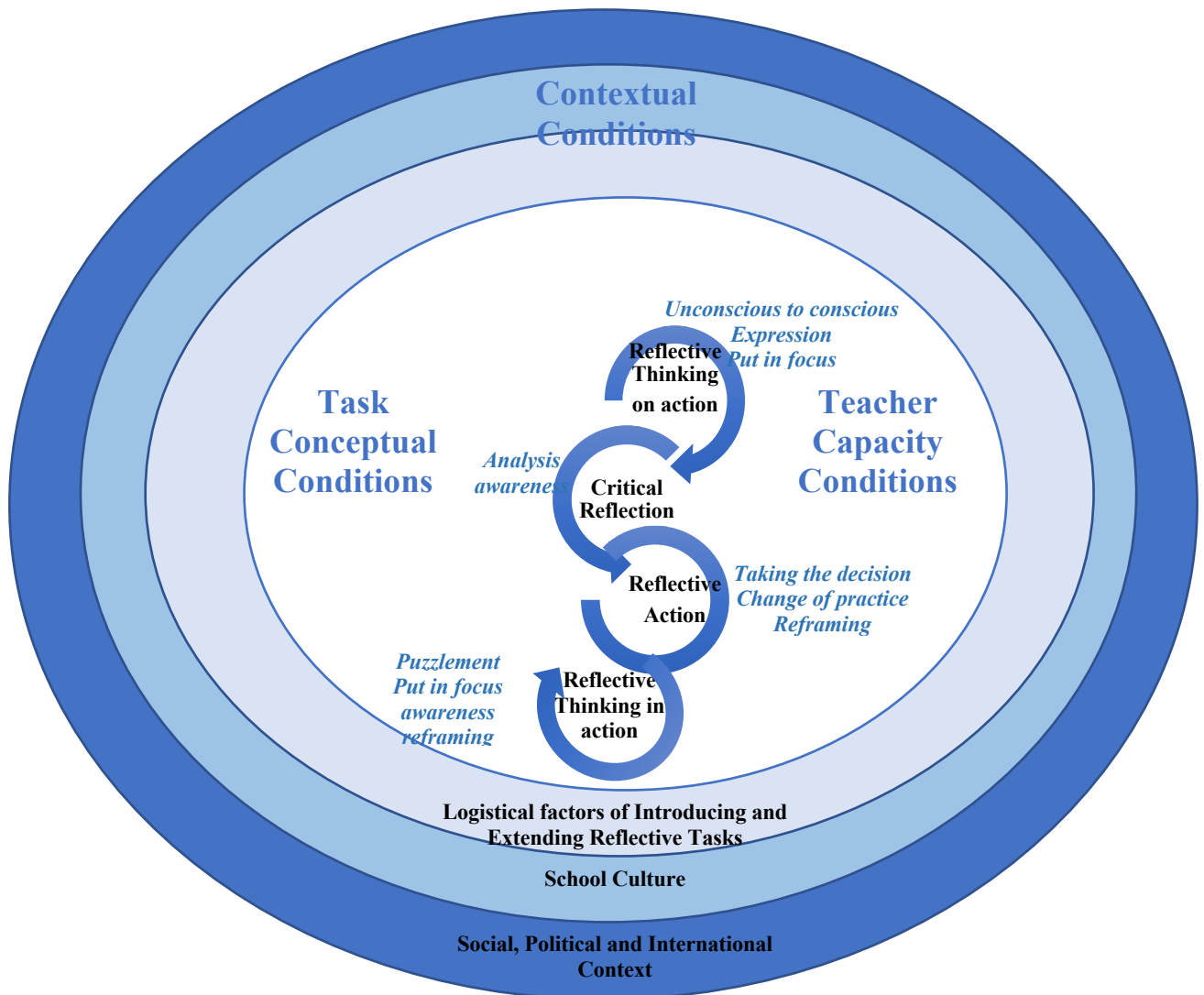


Figure (4): Conditions Playing Different Roles in the Progression of the Reflective Spiral

- The study added to the understanding of the different levels of context shaping teachers' feelings, thoughts, actions and reactions. The study gave teachers a voice in exposing how they are affected by the tension between the norms of the local context and the international context requirements. In addition, the study revealed the role of the school culture in supporting reflection by controlling

logistics of introducing and extending reflective tasks. As well as minimizing negative effects and maximizing positive effects of the national and international cultures.

- The lesson reflective questionnaire in the final form after reconsideration by findings of the study is a practical contribution to support school leaders and teachers who need to implement systematic reflection that reaches critical reflection.

7.5. Implications and Recommendations

7.5.1. For IBO policy makers:

Since the IB provides challenging curriculums, IB teachers need to be qualified to teach such curriculums (International Baccalaureate Organisation, 2014). By a ‘qualified’ educator, one could mean something different in every context (Burton, 2009). Especially when there are not specific obligatory requirements for hiring teachers. The IB-recognised professional development is a training course given by IB educators of “planned activities practiced both within and outside schools primarily to develop the professional knowledge skills, attitudes and performance of professional staff in schools” Blandford (2000, p.6). The training course is not contextualised to meet the needs of every context. The reflective practices the IB requires from schools are broad (see Appendix 2), and not ensuring critical reflection needed for professional learning.

The study proposes the following practices to ensure using reflection that contextualises IB pedagogy and leads to teachers’ continuous professional learning:

7.5.1.1. A Professional Learning Policy

A professional learning policy is to be added to the policies requested from candidate school aspiring to be authorized. The professional learning policy is to cover the following:

- A variety of teacher reflective stimuli, to be instilled in the programme. The school can choose from a number of recommended reflective stimuli that the teachers do through the life of the programme. Those reflective stimuli are designed to ensure reaching critical reflection and forming a reflective spiral that starts and continues leading to teachers’ professional growth.
- Identifying the role of a ‘coach’/or group coaching with clear outcomes of this role.

- A teachers' performance criteria with personal next steps visited and discussed regularly forming a spiral of professional learnings.

7.5.1.2. A structured Collaborative Meeting

The IB standards and practices value the role of collaborative planning and reflection. (International Baccalaureate Organisation, 2014). Research indicate that; “not all forms of collaboration are equally effective.... collaboration may range from the simple sharing of ideas and providing emotional support to the generation of useful knowledge” (El Fiki, 2012, p.53).

To seize the full potential of collaborative reflection and use it as a mean for professional development, it has to be structured. Structural aspects that ensure inquiry occurring in the collaborative discussion are like; initiating probing questions, noting critical observations, and considering different perspectives (Feiman-Nemser, 2001).

7.5.2. For school leaders

7.5.2.1. Minimizing power distance through collegiality

Collegiality supports collectivism and promotes equality in distribution of power minimizing power-distance (Hofstede, 1991). In this culture, leaders are ready to listen and accept suggestions. Stakeholders in such a culture trust each other and are understanding of each other's needs (Connell, 2014) leading to a school culture that is composed of; openness, informality, care, attentiveness, lateral working relationships, reciprocal collaboration, candid and vibrant dialogue, and a willingness to face uncertainty together (Hargreaves, 1997). In this school culture teachers are empowered and develop agency acting as experts, taking the responsibility of their development and professional growth. “process and success of teacher development depends very much on the context in which it takes place. The nature of this context can make or break teacher development efforts” (Hargreaves and Fullan, 1992, p. 13).

7.5.2.2. Designing and monitoring policies

Endurance of consistency in application and implementation of ideas needs a well-communicated and monitored policy. Principals and leaders of the school are the ones who mainly shape, enhance and maintain the traditions, beliefs, policies, and norms that form a school culture (Short and Greer, 1997).

Type of policies needed to support reflection are:

- Scheduling; allocation of duration of time for reflection.

- Reflection; instilling a variety of reflective stimuli throughout the year creating a reflective spiral supported by a coach. Monitoring of teachers' reflections and using them to inform decision making.
- Professional codes; minimize outer culture negative influence and maximize benefits.

7.5.3. For teachers

In a culture that encourages teachers' empowerment teachers could build capacities that support their learning from reflection. Unfortunately, with a culture that does not encourage teachers' empowerment, teachers are always in tension. They are focused on struggles to work the way they believe right and are distracted from students and their own development. Teachers believe that they have the ability to be "contributors to their life circumstances, not just products of them" (Bandura, 2006, p.164). Teachers aspiring for agency could consider the following:

- Manage negative feelings; like fear from mistakes, anxiety, and stress.
- Be open-minded; go out of their comfort zone, accept new ideas and try them out.
- Start a cycle of; learning, implementing, and reflecting.
- Use a variety of ways to reflect; individually or with others, verbal or non-verbal.
- Allow for self-efficacy to grow; the reflective cycle will lead to reframing of ideas leading to minor success. As success breeds success, they will lead to major ones.
- Feed their willingness and commitment; no one can make teachers learn, they learn when they want to learn (Frost, 2010)

7.6. Limitations of the study

The study was set out to explore the role of reflection in teachers' development and growth. A longitudinal study might detect real teachers' growth from the data. A period of time is needed to detect teachers' professional growth. Also, a longitudinal ethnographic study is a good way of understanding teacher growth.

Reframing is a key facet in the reflective spiral. Recurrent reframing incidences is how reflection contributes to professional learning, and differentiate it from professional development. Professional learning and teachers' growth can be marked by how much reframing the teacher is experiencing, whether through reflection-on-action or in-action.

The fact that participants of the study were all female teachers working in the same school context could limit the generalization of the study outcomes.

7.7. Recommendations for future research:

Based on the research questions and analyses of findings, some future research opportunities have been identified, and are given next:

- The study identified facets of the reflective process and conditions affecting these facets from the perspective of Egyptian teachers in international schools. Would these facets be the same or different in other cultures? Due to the significance of context as a condition affecting teachers' reflection, and its effect on other aspects, studying other cultures to explore effects is recommended.
- The proposed study solution of instilling a supportive spiral of conditions that can move with the reflective spiral needs to be tested. Trying out the solution and collecting data, exploring how do these factors act and how they can be influenced.

Personal Reflection

Having walked through this research journey, I stop and look back. I can see how it changed my perspective of life and affected how I approach my job. I had a motto that fueled my passion working with teachers; “I do not want to see a helpless teacher in a class”. Now I know that it takes a discrete eye, and an open heart and mind, to really help teachers not to be helpless. My exploration of the reflecting teachers’ human self was a deliberate design and an attempt to provide them with a professional growth path, with less stress and more enjoyment. Examining the collected data, and listening to the teachers’ voice stirred my viewpoint from a practitioner to a researcher. I fondly carry with me the outcome of this reflection forward into my professional life and future expeditions.

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Appendences:

Appendix 1: Some Curricula Offered in International Schools

Type of Curricula	Thompson Category	Description
National programmes	Exportation and adaptation categories	The school is adopting the exact version of the national curriculum of a certain country or an adapted version of it. Examples of accreditation bodies: British national curriculum accreditation: The Council of British International Schools (CBIS) American Common Core Accreditation: AdvancED
International General Certificate of Secondary Education (IGCSE)	Adaptation category	A variation of the General Certificate of Secondary Education (GCSE) in England. Examples of accreditation bodies: Cambridge International Examinations (CIE) Edexcel
Advanced Placement (AP) International Diploma	Adaptation category	An adaptation of the original AP programme established by the US College Board
French baccalauréat Option internationale	Adaptation category	Offered in international schools recognized by the French Ministry of Education.
European Baccalaureate	Integration category	Offered only in the final two years of secondary education of the 12 European Schools. It meets the requirements of all European Union member countries.
International Baccalaureate Diploma Programme (IBDP)	Integration category	A Pre-university programme for 16 to 18-year-olds. The curriculum content developed deliberately to be international rather than having any particular national affiliation. Offered by the International Baccalaureate Organization.
International Baccalaureate Middle Years Programme (IBMYP)	Creation category	Designed for the 11 to 16 age range. Has a heavy emphasis on teacher assessment with the possibility of external moderation. Curriculum materials designed to be international in focus. Offered by the International Baccalaureate Organization.
International Baccalaureate Primary Years Programme (IBPYP)	Creation category	Designed for the 3 to 12 age range, the curriculum is essentially teacher-assessed. Designed to have an international focus rather than a national affiliation. Offered by the International Baccalaureate Organization.

Type of Curricula	Thompson Category	Description
International Primary Curriculum (IPC)	Creation category	It is internationally-focused and internally-assessed programme covers the age range 4 to 12. Developed by Fieldwork Education, the IPC is more explicitly structured than the IBPYP and provides detailed documentation for use by teachers.
Cambridge International Primary Programme (CIPP)	Adaptation category	It is internally-assessed. CIPP provides a framework for the development of mathematics, English and science knowledge and skills in children of the 4 to 11 age range.

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Section A: Philosophy

Standard A

The school's educational beliefs and values reflect IB philosophy.

1. The school's published statements of mission and philosophy align with those of the IB.
2. The governing body, administrative and pedagogical leadership and staff demonstrate understanding of IB philosophy.
3. The school community demonstrates an understanding of, and commitment to, the programme(s).

PYP requirements

- a. The values of the PYP as indicated in the curriculum documents have an explicit impact on decision making and functioning of the school.
- b. The school as a community of learners is committed to a collaborative approach to curriculum development.
- c. The school is committed to a constructivist, inquiry based approach to teaching and learning that promotes inquiry and the development of critical thinking skills.
- d. The school is committed to the PYP as the framework for all planning, teaching and learning across the curriculum.
- e. The school demonstrates a commitment to transdisciplinary learning.

4. The school develops and promotes international-mindedness and all attributes of the IB learner profile across the school community.
5. The school promotes responsible action within and beyond the school community.
6. The school promotes open communication based on understanding and respect.
7. The school places importance on language learning, including mother tongue, host country language and other languages.

PYP requirements

- a. The school makes provision for students to learn a language, in addition to the language of instruction, at least from the age of seven. Schools with two languages of instruction are not required to offer an additional language.
- b. The school supports mother tongue and host country language learning.

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8. The school participates in the IB world community.
9. The school supports access for students to the IB programme(s) and philosophy.

PYP requirement

- a. The school implements the PYP as an inclusive programme for all students.

Section B: Organization

Standard B1: Leadership and structure

The school's leadership and administrative structures ensure the implementation of the PYP.

1. The school has developed systems to keep the governing body informed about the ongoing implementation and development of the programme(s).
2. The school has developed a governance and leadership structure that supports the implementation of the programme(s).

PYP requirements

- a. The responsibility for pedagogical leadership within the school is a shared responsibility, including at least the PYP coordinator and the primary school principal.
- b. The governing body places the responsibility for the implementation of the PYP on the pedagogical leadership team.

3. The head of school/school principal and programme coordinator demonstrate pedagogical leadership aligned with the philosophy of the programme(s).
4. The school has appointed a programme coordinator with a job description, release time, support and resources to carry out the responsibilities of the position.
5. The school develops and implements policies and procedures that support the programme(s).

PYP requirements

- a. The school has developed and implements a language policy consistent with IB expectations.
- b. The school has developed and implements an assessment policy that is consistent with IB expectations.

6. The school has systems in place for the continuity and ongoing development of the programme(s).
7. The school carries out programme evaluation involving all stakeholders.

Standard B2: Resources and support

The school's resources and support structures ensure the implementation of the IB programme(s).

1. The governing body allocates funding for the implementation and ongoing development of the programme(s).
2. The school provides qualified staff to implement the programme(s).

3. The school ensures that teachers and administrators receive IB-recognized professional development.

PYP requirement

- a. The school complies with the IB professional development requirement for the PYP at authorization and at evaluation.

4. The school provides dedicated time for teachers' collaborative planning and reflection.
5. The physical and virtual learning environments, facilities, resources and specialized equipment support the implementation of the programme(s).
6. The library/multimedia/resources play a central role in the implementation of the programme(s).
7. The school ensures access to information on global issues and diverse perspectives.
8. The school provides support for its students with learning and/or special educational needs and support for their teachers.
9. The school has systems in place to guide and counsel students through the programme(s).
10. The student schedule or timetable allows for the requirements of the programme(s) to be met.

PYP requirement

- a. The schedule or timetable allows for in-depth inquiry into the transdisciplinary and disciplinary dimensions of the curriculum.

11. The school utilizes the resources and expertise of the community to enhance learning within the programme(s).
12. The school allocates resources to implement the PYP exhibition, the MYP personal project (or community project for programmes that end in MYP year 3 or 4), the DP extended essay and the IBCC reflective project for all students, depending on the programme(s) offered.

Section C: Curriculum

Standard C1: Collaborative planning

Collaborative planning and reflection supports the implementation of the IB programme(s).

1. Collaborative planning and reflection addresses the requirements of the programme(s).

PYP requirements

- a. The programme of inquiry and all corresponding unit planners are the product of sustained collaborative work involving all the appropriate staff.
- b. Planning at the school makes use of the PYP planner and planning process across the curriculum and by all teachers.
- c. Planning at the school addresses all the essential elements to strengthen the transdisciplinary nature of the programme.

2. Collaborative planning and reflection takes place regularly and systematically.
3. Collaborative planning and reflection addresses vertical and horizontal articulation.

PYP requirements

- a. There is a systematic approach to integration of the subject-specific scope and sequences and the programme of inquiry.
- b. The school ensures balance and articulation between the transdisciplinary programme of inquiry and any additional single subject teaching.

4. Collaborative planning and reflection ensures that all teachers have an overview of students' learning experiences.

PYP requirements

- a. The school provides for easy access to completed PYP planners.
- b. The school ensures that PYP planners are coherent records of student learning.

5. Collaborative planning and reflection is based on agreed expectations for student learning.
6. Collaborative planning and reflection incorporates differentiation for students' learning needs and styles.
7. Collaborative planning and reflection is informed by assessment of student work and learning.
8. Collaborative planning and reflection recognizes that all teachers are responsible for language development of students.
9. Collaborative planning and reflection addresses the IB learner profile attributes.

Note: "Collaborative planning and reflection" is used as a single concept as the two processes are interdependent.

Standard C2: Written curriculum

The school's written curriculum reflects IB philosophy.

1. The written curriculum is comprehensive and aligns with the requirements of the programme(s).

PYP requirements

- a. The programme of inquiry consists of six units of inquiry—one for each transdisciplinary theme—at each year/grade level, with the exception of students who are 3–5 years, where the requirement is at least four units at each year/grade level, two of which must be under "Who we are" and "How we express ourselves".
- b. The school ensures that there is a coherent, horizontally and vertically articulated programme of inquiry.
- c. The PYP exhibition is one of the six transdisciplinary units of inquiry in the final year of the programme.
- d. There is documented evidence that the curriculum developed addresses the five essential elements of the PYP.

2. The written curriculum is available to the school community.
3. The written curriculum builds on students' previous learning experiences.
4. The written curriculum identifies the knowledge, concepts, skills and attitudes to be developed over time.

PYP requirements

- a. The school has scope and sequence documents that indicate the development of conceptual understanding, knowledge and skills for each PYP subject area.
- b. The overall expectations of student achievement in the school's scope and sequence documents are aligned with those expressed in the PYP scope and sequence documents.

5. The written curriculum allows for meaningful student action in response to students' own needs and the needs of others.
6. The written curriculum incorporates relevant experiences for students.

PYP requirement

- a. The written curriculum provides opportunities for student learning that is significant, relevant, engaging and challenging.

7. The written curriculum promotes students' awareness of individual, local, national and world issues.

PYP requirement

- a. The programme of inquiry includes the study of host or home country, the culture of individual students and the culture of others, including their belief systems.

8. The written curriculum provides opportunities for reflection on human commonality, diversity and multiple perspectives.
9. The written curriculum is informed by current IB publications and is reviewed regularly to incorporate developments in the programme(s).

PYP requirement

- a. There is a system for regular review and refinement of the programme of inquiry, individual units of inquiry and the subject-specific scope and sequences.

10. The written curriculum integrates the policies developed by the school to support the programme(s).
11. The written curriculum fosters development of the IB learner profile attributes.

Standard C3: Teaching and learning

Teaching and learning reflects IB philosophy.

1. Teaching and learning aligns with the requirements of the programme(s).

PYP requirements

- a. The school ensures that students experience coherence in their learning supported by the five essential elements of the programme regardless of which teacher has responsibility for them at any point in time.
- b. The classroom teacher takes responsibility at least for the language of instruction, mathematics, social studies and science, to support the PYP model of transdisciplinary teaching and learning.
- c. The school ensures that personal and social education is the responsibility of all teachers.

2. Teaching and learning engages students as inquirers and thinkers.

PYP requirement

- a. The school ensures that inquiry is used across the curriculum and by all teachers.

3. Teaching and learning builds on what students know and can do.

PYP requirement

- a. Teaching and learning addresses the competencies, experiences, learning needs and styles of students.

4. Teaching and learning promotes the understanding and practice of academic honesty.
5. Teaching and learning supports students to become actively responsible for their own learning.
6. Teaching and learning addresses human commonality, diversity and multiple perspectives.
7. Teaching and learning addresses the diversity of student language needs, including those for students learning in a language(s) other than mother tongue.
8. Teaching and learning demonstrates that all teachers are responsible for language development of students.
9. Teaching and learning uses a range and variety of strategies.
10. Teaching and learning differentiates instruction to meet students' learning needs and styles.

PYP requirement

- a. The school provides for grouping and regrouping of students for a variety of learning purposes.

11. Teaching and learning incorporates a range of resources, including information technologies.
12. Teaching and learning develops student attitudes and skills that allow for meaningful student action in response to students' own needs and the needs of others.

13. Teaching and learning engages students in reflecting on how, what and why they are learning.
14. Teaching and learning fosters a stimulating learning environment based on understanding and respect.

PYP requirements

- a. The school provides environments in which students work both independently and collaboratively.
- b. Teaching and learning empowers students to take self initiated action as a result of the learning.

15. Teaching and learning encourages students to demonstrate their learning in a variety of ways.
16. Teaching and learning develops the IB learner profile attributes.

Note: "Teaching and learning" is used as a single concept as the two processes are interdependent.

Standard C4: Assessment

Assessment at the school reflects IB assessment philosophy.

1. Assessment at the school aligns with the requirements of the programme(s).

PYP requirements

- a. Assessment at the school is integral with planning, teaching and learning.
- b. Assessment addresses all the essential elements of the programme.
- c. The school provides evidence of student learning over time across the curriculum.

2. The school communicates its assessment philosophy, policy and procedures to the school community.
3. The school uses a range of strategies and tools to assess student learning.
4. The school provides students with feedback to inform and improve their learning.
5. The school has systems for recording student progress aligned with the assessment philosophy of the programme(s).
6. The school has systems for reporting student progress aligned with the assessment philosophy of the programme(s).

PYP requirement

- a. Student learning and development related to all attributes of the IB learner profile are assessed and reported.

7. The school analyses assessment data to inform teaching and learning.

PYP requirement

- a. The school ensures that students' knowledge and understanding are assessed prior to new learning.

8. The school provides opportunities for students to participate in, and reflect on, the assessment of their work.
9. The school has systems in place to ensure that all students can demonstrate a consolidation of their learning through the completion of the PYP exhibition, the MYP personal project (or community project for programmes that end in MYP year 3 or 4), the DP extended essay and the IBCC reflective project, depending on the programme(s) offered.

Appendix 3: Collaborative Reflection Action Plan

Standard C3: Teaching and learning Teaching and learning reflects IB philosophy.					
Standards & Practices	Action	Timeline for action to be achieved or progress towards strategy assessed	Person/Group responsible for achieving the goal	Budgetary Implications	Evidence of achievement or of progress towards achievement of goal
C3.1 Teaching and learning aligns with the requirements of the programme(s).	Five essential elements of the programme included in planning: units of inquiry and lesson plans	9/01/2016 Ongoing	PYP coordinator Teachers	None	Lesson plans Unit planners
C3.1a The school ensures that students experience coherence in their learning supported by the five essential elements of the programme regardless of which teacher has responsibility for them at any point in time.	The five essential elements of the programme included in planning activities by all teachers.	9/01/2016 Ongoing	PYP coordinator Teachers	None	Unit planners Lesson plans
C3.1b The classroom teacher takes responsibility at least for the language of instruction, mathematics, social studies and science, to support the PYP model of transdisciplinary teaching and learning.	Homeroom teachers job description Co-teachers job description	2/28/2017	Principal, PYP Head, PYP coordinator	None	Jobs' descriptions
C3.1c The school ensures that personal and social education is the responsibility of all teachers.	Create the Policy for Personal and Social Education	6/30/2017	PYP coordinator PSPE Teachers	None	Policy for Personal and Social Education
C3.2 Teaching and learning engages students as inquirers and thinkers.	In-school workshops to increase the inquiry-based learning: <ul style="list-style-type: none"> encourage students to be inquirers and thinkers in all areas by providing authentic learning experiences: trips, guest speakers, 	3/31/2017	Administration PYP Coordinator	None	

	involving family members into projects.				
C3.2a The school ensures that inquiry is used across the curriculum and by all teachers.	<ul style="list-style-type: none"> • Increase in inquiry-based learning: <ul style="list-style-type: none"> ➤ Provide resources for inquiry-based teaching ➤ Focus on IB workshops Category II trainings for Inquiry-based teaching 	10/31/2017 3-years plan starting March 2017	Administration PYP Coordinator Administration PYP Coordinator	Cost of resources	
C3.3 Teaching and learning builds on what students know and can do.	In school workshop: Create different strategies of assessing the previous knowledge	10/31/2016	Administration PYP Coordinator	None	
C3.3a Teaching and learning addresses the competencies, experiences, learning needs and styles of students.	Ongoing teachers' development (In school workshops): <ul style="list-style-type: none"> ➤ differentiation strategies in the classroom. ➤ research and implement centers and learning engagements that appeal to different learning styles 	9/01/2016 Ongoing 5/31/2017	Administration PYP Coordinator	None	
C3.4 Teaching and learning promotes the understanding and practice of academic honesty.	Announcing to school honesty policy to students and school community Increase academic honesty in regards to plagiarism while researching	4/30/2017 2-years plan starting February 2017	Principal, PYP Head, PYP coordinator Teachers	None	
C3.5 Teaching and learning supports students to become actively responsible for their own learning.	Include in units of inquiry students' self-assessments and independent projects across all subjects and grade levels Create centers and stations that are relevant and cover multiple subject areas	9/01/2016 Ongoing 9/01/2016 Ongoing	PYP coordinator Teachers	None	Students' self-assessment documents
C3.6 Teaching and learning addresses human commonality, diversity and multiple perspectives.	Provide resources (books, videos, guests) for students to build the awareness of human commonality, diversity and multiple perspectives according to units of inquiry	10/31/2017	Principal, PYP Head, PYP Coordinator, Teachers	None	

	("Who we are", "How we express ourselves").				
C3.7 Teaching and learning addresses the diversity of student language needs, including those for students learning in a language(s) other than mother tongue.	Parallel reading program Support unit Arabic language support unit	5/31/2017 2/31/2017	PYP coordinator Teachers	None	Parallel reading and support unit documents
C3.8 Teaching and learning demonstrates that all teachers are responsible for language development of students.	Increase subject teachers' involvement in the IB planners	9/01/2016 Ongoing	PYP coordinator Teachers	None	Unit planners
C3.9 Teaching and learning uses a range and variety of strategies.	Assign an instructor from an educational center" Edupedia" to provide teachers with practical strategies in teaching.	8/01/2016 Ongoing	Principal, PYP Head, PYP coordinator	Cost of resources	
C3.10 Teaching and learning differentiates instruction to meet students' learning needs and styles.	Develop strategies that will empower teachers to address the needs of all students: ➤ Include differentiated practices in the planner.	9/01/2016 Ongoing	PYP coordinator Teachers	None	Lesson plans
C3.10a The school provides for grouping and regrouping of students for a variety of learning purposes.	Use formative assessment to guide grouping and direction to teach.	10/01/2016 Ongoing	PYP coordinator Teachers	None	Lesson plan (differentiation section)
C3.11 Teaching and learning incorporates a range of resources, including information technologies.	Purchase more resources to support teachers <ul style="list-style-type: none"> Consistent use of IT materials (computers, smart boards, internet): ➤ Use of ICT room at least twice a week 	10/31/2017	PYP coordinator Teachers	Cost of resources	
C3.12 Teaching and learning develops student attitudes and skills that allow for meaningful student action in response to students' own needs and the needs of others.	Ensure that a variety of teaching approaches are expressed in the learning engagements that develop student attitudes and skills (box 4 in unit planner)	9/01/2016 Ongoing	PYP coordinator Teachers	None	Unit planners

C3.13 Teaching and learning engages students in reflecting on how, what and why they are learning.	Include in units of inquiry students' self-assessments and independent projects across all subjects and grade levels	2/31/2017 Ongoing	PYP coordinator Teachers	None	Students' self-assessments and independent projects
C3.14 Teaching and learning fosters a stimulating learning environment based on understanding and respect.	To follow the school's goals & objectives as per the Mission and Vision Documents.	9/01/2016 Ongoing	Principal, PYP Head, PYP coordinator Teachers	None	Mission and Vision Documents.
C3.14a The school provides environments in which students work both independently and collaboratively.	Students' access to the library and ICT room	9/01/2016 Ongoing	PYP coordinator Teachers	None	Schedules
C3.14b Teaching and learning empowers students to take self-initiated action as a result of the learning.	Plan provocations and teacher questions to promote self-initiated action in unit planners	9/01/2016 Ongoing	PYP coordinator Teachers	None	Unit planners
C3.15 Teaching and learning encourages students to demonstrate their learning in a variety of ways.	Plan for diverse activities: <ul style="list-style-type: none"> allocate more time for exploration through open ended questions Problem solving, open ended questions. 	10/01/2016 Ongoing	PYP coordinator Teachers	None	Lesson plan
C3.16 Teaching and learning develops the IB learner profile attributes	Create variety of activities and include in planners that develop the attributes of the learner profile Provide authentic demonstrations of attitudes in the daily lives of the students in order to raise an awareness of the IB learner profile attributes	9/01/2016 Ongoing	PYP coordinator Teachers	None	Unit planners Lesson plans

Appendix 4: Lesson Reflective Questionnaire

Teacher name:.....

Date:

Questionnaire

Choose a lesson every week and answer the following questions about this lesson after directly after you leave the classroom:

1. How did you feel about the lesson?

.....
.....
.....

2. What was the objective of the lesson?

.....
.....
.....

3. Describe what happened in the lesson as you see it?

.....
.....
.....

4. Did you reach your objective? How?/Why not?

.....
.....
.....

5. What were you pleased with in this lesson?

.....
.....
.....

6. Why?

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.....

7. What were you unhappy about in the lesson?

.....

.....

.....

8. Why ?

.....

.....

.....

9. What would you do differently next time? Mention reasons.

.....

.....

.....

10. What did you do differently this lesson as a result of your last lesson reflective questionnaire? Give specific examples.

.....

.....

.....

Appendix 5: Focused Semi Structured Questions for the Focused Group and In-depth Interview

Related to the first research question:

- ❖ How do teachers identify the conditions that help reflective practices lead to their professional development in international schools in Egypt?
 - What are the conditions in the school that help you reflect?
 - What are the challenges facing you to reflect and apply your findings?

Related to the second research question:

- ❖ How do teachers' perspective and background knowledge and skills personal capabilities affect reflection as a tool for professional development?
 - Would your personal background and how you were brought up affect your reflection? How? Give examples.
 - Do you think that your reflective skills get better if it is repetitive? If yes, give specific examples.
 - What are teachers' different perspectives about reflection?
 - How do background knowledge and skills of the teacher affect the quality of their reflection? Give specific examples.

Related to the third research question:

- ❖ How does the nature of the reflective task help teachers reach their full awareness of what they do, how it should change and change it?
 - How did you feel when you were answering the lesson reflection questions and the journals?
 - What did it make you think of?
 - How did each question help you reflect?
 - Which question was the most difficult for you to answer? Why?
 - How did you answer the question that asked you to specify your next steps? Give specific examples.

Related to the fourth research question:

- ❖ How do teachers in international schools in Egypt describe the relationship between school culture and reflection as a mean for professional development?
 - How does leadership practices and decision making affect how you reflect?
 - Does a structured evaluative culture (giving feedback) helps you better, or a reflective free environment help you better reflect?
 - What is the support from leaders needed to help you reflect?
 - Do you think that a reflective culture, where leaders and student reflect will affect your reflection?

Appendix 6: Data Analysis Examples

The following example from the focus group script illustrates how data looked like at this stage:

Script Focus Group:

Nevine: which of the three reflections do you think helped you more? Which helped you really to reflect deeply.

Negma: I think it was the journal because it was an overall look at whatever I have done throughout the whole year. So I was just being honest to myself and I was thinking about everything I have done in the class and writing a plan for myself next year and coming years. What exactly I would like to change and what I have to work on. So this one was very reflective.

Dona: I think the second one was very helpful , the collaborative reflection because we all sit together and we know exactly how it was at the beginning of the year and how they developed. Plus the journal reflection I agree with what Nesma said the journal reflection puts all of your feelings, your exact feelings towards the students. When I started to write the journal reflection a lot of things came up to my mind how do they act in such situation, how do students start to resolve conflicts. Maybe we did not do it the perfect way, but at least they started to change. For me they started to love the inquiry. They do not like more the traditional ways of teaching or teacher centered way. When I thought about things that I would like to adapt in the journal I found things that I already adapted a lot of things that were obstacles in my teaching process.

Raga: I will peruse the question you were asking; what can help me to reflect about my work, so first I need a specific plan for myself, I need to put a specific plan for myself, second I need proper feedback so together I can reflect with the feedback and my personal plans I will know if I am going on the right track or not. About which way of reflection that helped me more. I think the three of them are very important, because collaborating with my colleagues was very important, writing about my lessons was very very important because sometimes writing about your lessons you remember things that you did not even think about during the lessons.

Nevine: Can you give some examples?

Raga: for the lessons. Sometimes during the lesson for example. I had a lesson that I gave students some fabrics and a measuring tape. And to be very honest I thought students will never be able to do anything and I did it for the sake of an inquiry activity let us see what they can do, but they really did a great job. I found the kids using measuring tapes and they took the pieces of fabric and they started making their own designs and they asked me to help them make a big bow or a cape. So it was really lovely and when I started reflecting about the lesson I remembered little details about kids enjoying the lesson. So I started to tell myself it is not always about what you think. At the beginning, I thought the lesson will not be good enough. Will not be successful but it turned out to be a very good one.

Nevine: so what are you going to do next? What did this activity teach you?

Raga: it taught me; I have to dare to try. I don't have to say no, no, it will not work. No they will not love it. I have to try. I have to give them the inquiry activity and just watch and see and at the end I have to decide whether it was good or bad or I can repeat it or not, but I have to try.

General themes identified represented patterns and gave meaning to the data in relation to the research questions (Braun & Clarke, 2006). At this stage, some quotes were left behind as they did

not belong to neither of the themes above and did not seem, at the point, to have any significance.

Identifying sub-themes was done through categorizing main themes into sub-themes using tables. When sub-themes were categorized some of the quotes left behind in the previous stage had significance to sub-themes. Sub-themes formed the main concepts of the findings. When identifying sub-themes, there was a consideration of both the most common themes as well as the most unique responses to identify both implicit and explicit ideas within the data (Guest et al., 2012).

This is how the data looked like at that stage:

2. About the Teacher	2.2 Affective capacities	2.2.1 Love	<p>Naga: throughout the reflection time I did not want to feel I am not doing my work properly. If I reflect, and I found lots of mistakes than I am not a good teacher. I love teaching. It is the only thing I want to do. Sometimes when I reflect and find lots of mistakes, It is really disappointing. This is a challenge for me. It is really disappointing especially when you are doing something you love.– in-depth interview</p> <p>Raga: I love the kids very much and I love being with them and I love results. The kids are coming to you with little information and at the end of the year they know a lot of things with your help. And how they are truly attached to you and the pure feelings they hold. So I decided that this is what I would like to do and I tried to improve myself more in that career.– in-depth interview</p>
		2.2.2 Safety	<p>Raga: “you have the flexibility to do the lesson the way you want to do it. The way it is suitable or the kids, without anyone coming to you and telling you way you did not finish this. Why you did not do that.– Focus group</p> <p>Negma: “I think the safe environment makes you feel that you do not have any limits. To let the students do what ever they want and they are safe and you have nothing to worry about.” Focus group</p> <p>Nesrine: “You need to feel that you have the options to change your thinking and to turn things around to achieve your goal at the end. So, you need to be motivated.” Nermine – Focus group</p> <p>Dona: “You believed in him. This is what we need. We need the leaders to believe in what we are doing. This is very important. – Focus group</p>
		2.2.3 Managing feelings	<p>Salima: reflection needs..... managing your feelings. - In-depth Interview</p> <p>Salima: Teachers have to reflect when they are in the right mood..... it would be just a piece of paper that they are filling in, it won't be sincere and it won't be their real feeling and it would have the right reflection – in-depth interview</p> <p>Naga: I felt that I was afraid at the beginning. ... and I thought, how am I going to answer these questions. How am I supposed to do that. At the beginning this was really hard for me. But as I started answering the questions and doing more than one questionnaire it started being easier. - in-depth interview</p> <p>Naga: Before coming here we were nervous. I was. I was really nervous. I didn't know what is going to happen. How will the questions be. How will I answer them. How will people think of me. As humans this is how we feel. We always think of how others will think of us. Sitting together knowing that we all share good things and bad things makes you more comfortable - Focus group</p> <p>Naga: In the class sometimes we are stressed. We have lots of things to do. We want everything to go as planned. Being stressed sometimes make us feel the wrong feelings..... I should avoid those feelings which might give a negative outcome from me, which will reflect on the students of course.– Focus group</p>

Permission from School Leaders

Background Information

Title: Realization of Effective Reflective Practices in Teacher Professional Development

Researcher: Nevine El Souefi.

Details of Participation:

1. Teachers participating in the collaborative reflection and sharing in writing the action plan.
2. Teachers filling six lesson reflective questionnaires.
3. Teachers participating in a focus group discussion for around 40 minutes.
4. Two teachers from the group to be selected for an in-depth interview for around 30-40 minutes.

Permission Statement

1. We understand that our teachers participation is voluntary and that they can withdraw unconditionally at any time from taking part in this study.
2. We have been informed about the study with the attached information sheet..
- 3 We understand that the coded data may be shared with other competent researchers. Our school name and other identifying details will not be shared with anyone.
4. The overall findings may be submitted for publication in a scientific journal, or presented at scientific conferences.
5. This study will take approximately Three months to complete.

We are giving our permission for data to be used for the outlined purposes of the present study. All questions that we have about the research have been satisfactorily answered.

Signature:

Date:

Information Sheet

Title: Realization of Effective Reflective Practices in Teacher Professional Development

You school is being invited to take part in a research project titled; Realization of Effective Reflective Practices in Teacher Professional Development. Before you decide on whether to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully before you decide whether or not you wish to take part.

Purpose of the research

The purpose of this study will be to explore school conditions supporting reflection as a tool for teachers' professional development in international schools in Egypt.

Why have I been chosen?

As the school is an international school in Egypt it falls under the category studied. A group of six participants (teachers) from the school is to be chosen to participate in the study. Teachers volunteer to participate in the study. A random sample is selected from the bigger group of volunteers. All six teachers are to be given the lesson reflective questionnaire, are asked to write a reflective journal and share in one focus group. From those six participants two teachers are chosen for the in-depth interviews. The choice is done also randomly.

Do I have to take part?

Taking part in the research is completely voluntarily. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form). You can still withdraw if you do not want to be part of the study.

What do I have to do? / What will happen to me if I take part?

The whole process will take three months going through six volunteering participant teachers from the school doing the following:

5. Participating in the collaborative reflection that happens every term at your school. They will also participate in writing of the action plan as an outcome of the collaborative reflective meeting.
6. They will be given a lesson reflective questionnaire (attached) to fill it for a lesson of your choice every week for six weeks.
7. Participate in a focus group discussion for around 40 minutes about what conditions help/restricted them to reflect.
8. Two of them will be randomly selected to do the in-depth interview. The in-depth interview will

take around 30-40 minutes done on skype. Questions will be exploring deeper the issues discussed in the focus group.

9. Write a reflective journal on their classroom practice throughout the three months of what they would like to; keep, adapt, stop or add to your teaching practice mentioning reasons for each.

What are the possible inconveniences taking part?

- They will be asked to be opened about their personal experience, feelings and ideas.
- They will dedicate sometime for the interviews and the reflective journal.

What are the possible benefits of taking part?

- They will learn how to reflect effectively and enhance their personal development techniques.
- They will be able to identify what works better and be more aware of the basics of effective learning processes.
- The organization will be able to highlight what conditions they employ that help teachers develop.
- The whole school culture will appreciate reflection as a mean for professional development.

Will my taking part in this project be kept confidential?/What will happen to the results of the research project?

Data from the research will be published, but the school and participants will not be identified in any reports or publications.

Thank you for taking the time to read this information sheet.

Please contact if you have any other queries or clarifications.

Researcher: Nevine El Souefi

Date: 28/1/2017

Appendix 8: Teachers Written Consent & Information Sheet

Participant Consent Form

Background Information

Title: Realization of Effective Reflective Practices in Teacher Professional Development

Researcher: Nevine El Souefi.

Details of Participation:

10. Participating in the collaborative reflection and sharing in writing the action plan.
11. Filling six lesson reflective questionnaires.
12. Participating in a focus group discussion for around 40 minutes.
13. Can be selected for an in-depth interview for around 30-40 minutes

Consent Statement

1. I understand that my participation is voluntary and that I can withdraw unconditionally at any time from taking part in this study.
2. I have been informed about the study with the attached information sheet..
- 3 My coded data may be shared with other competent researchers. My coded data may also be used in other related studies. My name and other identifying details will not be shared with anyone.
4. The overall findings may be submitted for publication in a scientific journal, or presented at scientific conferences.
5. This study will take approximately Three months to complete.

I am giving my consent for data to be used for the outlined purposes of the present study

All questions that I have about the research have been satisfactorily answered.

Signature:

Date:

Information Sheet

Title: Realization of Effective Reflective Practices in Teacher Professional Development

You are being invited to take part in a research project titled; Realization of Effective Reflective Practices in Teacher Professional Development. Before you decide on whether to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully before you decide whether or not you wish to take part.

Purpose of the research

The purpose of this study will be to explore school conditions supporting reflection as a tool for teachers' professional development in international schools in Egypt.

Why have I been chosen?

A group of six participants (teachers) from the school is to be chosen to participate in the study. Teachers volunteer to participate in the study. A random sample is selected from the bigger group of volunteers. All six teachers are to be given the lesson reflective questionnaire, are asked to write a reflective journal and share in one focus group. From those six participants two teachers are chosen for the in-depth interviews. The choice is done also randomly.

Do I have to take part?

Taking part in the research is completely voluntarily. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time.

What do I have to do? / What will happen to me if I take part?

The whole process will take three months going through the following:

1. Participating in the collaborative reflection that happens every term at your school. You will also participate in the writing the action plan as an outcome of the collaborative reflective meeting.
2. You will be given a lesson reflective questionnaire (attached) to fill it for a lesson of your choice every week for six weeks.
3. Participate in a focus group discussion for around 40 minutes with the other members of the research about what conditions help/restricted you to reflect.
4. You can be selected to do the in-depth interview. Selection will be done randomly. The in-depth interview will take around 30-40 minutes done on skype. Questions will be exploring deeper the

issues discussed in the focus group.

5. Write a reflective journal on your classroom practice throughout the three months of what you would like to; keep, adapt, stop or add to your teaching practice mentioning reasons for each.

What are the possible inconveniences taking part?

- You will be asked to be opened about your personal experience, feelings and ideas.
- You will dedicate sometime for the interviews and the reflective journal.

What are the possible benefits of taking part?

- You will learn how to reflect effectively and enhance your personal development techniques.
- You will be able to identify what works better and be more aware of the basics of effective learning processes.
- The organization will be able to highlight what condition they employ that help teachers develop.
- The whole school culture will appreciate reflection as a mean for professional development.

Will my taking part in this project be kept confidential?/What will happen to the results of the research project?

Data from the research will be published, but you will not be identified in any reports or publications. To make sure you agree about the data collected, script of interviews is to be shared with you to ensure that this is what they meant.

Thank you for taking the time to read this information sheet.

Please contact if you have any other queries or clarifications.

Researcher: Nevine El Souefi

Date: 28/1/2017

Appendix 9: The Adapted Lesson Reflective Questionnaire

Questionnaire

Choose a lesson every week and answer the following questions about this lesson after directly after you leave the classroom:

1. How did you feel about the lesson?

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2. a. How did students feel about the lesson?

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b. What makes you think so?

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3. What was the objective of the lesson?

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4. Describe what happened in the lesson as you see it?

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5. Did you reach your objective? How?/Why not?

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.....

6. What were you pleased with in this lesson?

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7- a. Explain why do you see this as positive in consideration to; achievement of teaching expectations and students' learning expectations in your context?

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.....

c. What did you do that lead to this result? / What actions do you think you did that lead to those results?

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7. What were you unhappy about in the lesson?

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8. a. Explain why do you see this as negative in consideration to; achievement of teaching expectations and students' learning expectations in your context?

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d. What did you do that lead to this result? / What actions do you think you did that lead to those results?

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9. a. What are the most valued ethos about learning in your school, mention two? How are they related to your answers of the questions above?

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- b. What are the most valued ethos about learning in your country/culture, mention two? How are they related to your answers of the questions above?

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10. What would you do differently next time? Mention reasons.

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11. What did you do differently this lesson as a result of your last lesson reflective questionnaire? Give specific examples.

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