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THE PERCEPTIONS OF TEACHERS AND INSTRUCTIONAL SUPERVISORS ON THE CHARACTERISTICS OF EFFECTIVE PROFESSIONAL DEVELOPMENT OF TEACHERS: THE CASE OF RWANDAN PUBLIC SCHOOLS

by
ROSINE MUKABAGORORA

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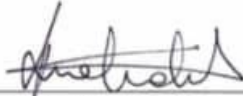at the American University of Beirut

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Approved by:

_____   _____
Dr. Lina Khalil, Assistant Professor   Advisor
Department of Education

_____   _____
Dr. Tamer Amin, Associate Professor   Member of Committee
Department of Education

_____   _____
Dr. Ghazi Ghaith, Professor   Member of Committee
Department of Education

Date of thesis defense: May 29, 2020

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AN ABSTRACT OF THE THESIS OF

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Title: The Perceptions of Teachers and Instructional Supervisors on Characteristics of Effective Professional Development of Teachers: The Case of Rwandan Public Schools

Professional development (PD) of teachers is a strategy that many school leaders use to face many reforms that education sector experience. These include curriculum change, the introduction of new teaching methods, the introduction of technology, and change in teaching instructions in general (Bredeson, 2002; Gibson, & Brooks, 2012). These changes make teachers be more required to stay updated to meet the needs of the community of students they teach. According to Smylie et al. (1999), "if we want to improve schools for students learning, we must also improve the school for the adults who work within them" (p.421). Previous research studies around the world found some characteristics that can make PD of teachers effective (Abu-Tineh et al., 2018; Brown, 2016; Carissa, 2018; Bayar, 2014; Gibson et al., 2012). However, there was no research conducted in Rwanda, which can guide PD designers in providing effective PD in response to the Rwandan REB introduction of continuous PD countrywide four years ago.

Therefore, the purpose of this study was to understand the perception of teachers and instructional supervisors on first, the nature of the PD program for math and English teachers in lower primary schools in Rwanda. Second, the challenges that impede the PD of teachers to be effective and, lastly, the characteristics of effective PD of teachers to be implemented in Rwanda. This study was intended to answer the following three research questions: a) what are the perceptions of teachers and instructional supervisors on the nature of the PD for English and Math teachers in lower primary schools in Rwanda? b) What are the challenges that teachers and instructional supervisors find to be impeding the PD programs to be effective in Rwanda? c) What characteristics do teachers and instructional supervisors perceive as key contributors to the effectiveness of PD programs in Rwanda?

The sample size of this study was composed of 20 participants, including sixteen teachers and four instructional supervisors from four public schools located in Ngoma district in the Eastern part of Rwanda. This qualitative study in nature used individual interviews and document analysis as tools for data collection. Furthermore, thematic analysis was used as a methodology of data analysis.

The findings of this study revealed that the ministry of education (MINEDUC) and Rwanda education board (REB) owns the PD program for English and Math teachers in lower primary

schools in Rwanda. This program is intended to improve the learning outcomes of students in English and mathematics from p1 to p3 public primary schools. Some challenges associated with teachers and other challenges associated with schools and the education systems were found to be affecting the effectiveness of the PD of teachers. Furthermore, this study found a list of six characteristics of effective PD to be implemented in schools in Rwanda. These include a) consideration of the needs of the teachers, b) Job-embedded, c) Encourage the collaboration of teachers, d) PD needs to be continuous, e) Include follow up, f)Availability of resources. Finally, this study offered recommendations for practitioners on designing effective PD of teachers and recommendations for future researchers in this field.

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CHAPTER I

INTRODUCTION

Teachers experience significant changes every year in their career, including but not limited to curriculum change (Loucks, 1979). For informing them and enhancing their ability to implement a new curriculum, it is crucial to engage them in continuous PD (Bredeson, 2002). According to Maggioli (2004), PD is "a career-long process in which educators fine-tune their teaching to meet student needs" (p.5). Literature uses different terms interchangeably to mean PD, including in-service, staff development, continuing education, training, and self-improvement (Bredeson, 2002). In schools, there are many learning activities for teachers and school leaders. However, many of these activities are criticized for not impacting professional learning as they do not ensure that teachers learn and get the opportunity to transfer the new knowledge or instruction in their classrooms (Bredeson, 2002). PD is considered an essential means of bridging the gap between teacher preparation and the demand for school change (Birman, 2000). However, most of these PD activities are not able to support the enhancement of the chance for reform to become effective.

The review of the literature shows that there is an uptake of scholars continuing to explore the topic of PD by trying to understand what can make PD effective. According to Darling-Hammond et al. (2017), effective PD is "defined as structured professional learning that results in changes in teacher practices and improvements in student learning outcomes"(p.1). Scholars discussed the effectiveness of PD in terms of elements, characteristics, and components that can contribute to the effectiveness of PD (Birman, 2000; Hunzicker, 2011; Hough, 2011; Desimone, 2011; Gibson et al. 2012; Bayar, 2014; and Abu-Tineh et al. 2018). This study will

focus on understanding characteristics that can contribute to the effective PD of teachers in Rwanda. While the government of Rwanda recognizes in its education policy decree that the teacher is the primary tool for bringing about anticipated learning improvement and that the quality of education depends on the quality and competency of teachers (MINEDUC, 2007), yet, the PD of teachers is not embedded in the policy. The following section will discuss the statement of the problem in detail.

Problem Statement

Today the vision of the Rwandan Ministry of Education is "to provide the citizens of Rwanda with equal opportunities to high-quality education through the world-class learning facilities and renowned learning institution "(MINEDUC, 2012, p.1). As one way toward the achievement of this vision, in 2016, the Ministry of Education through the Rwanda Education Board (REB) introduced a new curriculum named "Competency-Based Curriculum. According to Makunja (2016) Competence-based curriculum is a kind of education that seeks to develop learners ability to learn and perform activities to a prescribed standard.

The introduction of the Competency-Based Curriculum was needed because the local and global jobs market competition has required a paradigm shift from knowledge based to a competency-based curriculum. Furthermore, there was a need for ensuring that "knowledge, skills, values, and attitudes acquired by Rwandans in Schools meet the challenges of the 21st century" (REB, 2016).

With an ambition of empowering teachers, school leaders, and ensuring the effective implementation of the new curriculum in 2016, REB introduced national wide Continuous PD (CPD) (REB, 2016). Prior to 2016, CPD was not common; it was a rare occurrence in schools,

especially in public schools in Rwanda. After the introduction of a new curriculum, many educational organizations and institutions are interested in delivering CPD programs in schools as a way of contributing to the effective implementation of the competency-based curriculum. To inform teachers and enhance their ability to implement this new curriculum effectively, it is crucial to engage them in CPD (Bredeson, 2002; Gibson & Brooks, 2012). The following section will explain the reasons for conducting this study.

The Rationale of the Study

Previous research studies found characteristics of effective PD in different countries around the world including, Qatar (Abu-Tineh et al., 2018); USA (Brown, 2016) & (Carissa, 2018); Turkey (Bayar, 2014); Saudi Arabia (El-Deghaidy, 2015), and Canada (Gibson et al., 2012). However, until now, there is no research conducted in Rwanda, which can guide PD designers in providing effective CPD in response to the Rwandan REB introduction of continuous PD countrywide three years ago.

Much international literature discussed the characteristics of effective PD (Abu-Tineh et al., 2018; Brown, 2016; Carissa, 2018; Bayar, 2014; Gibson et al. 2012). However, some studies on cross-cultural knowledge production have found that we cannot transfer the knowledge produced in one context to inform the practice of another context because of cultural differences (Hofstede, 1981; Hallinger, & Leithwood, 1994, Kanu, 2005). More clearly, the results of the study conducted by El-Deghaidy et al. (2015) in Saudi Arabia, on the perception of teachers of science, about effective PD, bring forth additional support as to why it is important to consider the context. This study revealed that a large number of teachers, who participated, showed a high

preference for types of PD where they are passive learners, listeners, or just observers. This is different from the results of a similar study in a different context, which revealed that teachers find effective PD activities, the one which allow them to be active learners, to enable them to work collaboratively and which are not traditional workshops (Abu-Tineh et al., 2018; Brown, 2016; Carissa, 2018; Bayar, 2014; Gibson et al. ,2012).

Based on my literature review, the studies available only focused on the perceptions of teachers to get an understanding of the characteristics of effective PD. On the contrary, this study will combine both perspectives of teachers and instructional supervisors; hence, filling the gap in the literature. Considering the perceptive of instructional supervisors is very crucial because they play an important role in influencing teachers' practice and activities, including PD (Brown, 2016).

In public primary schools in Rwanda, there are two PD programs for teachers. One is for teachers of Kinyarwanda (local language) who teach in lower primary schools, which is provided by Chemonics International (NGO). The other PD is offered for English and Math teachers who teach in lower primary, and it is provided by the ministry of education. This study chooses to focus on a PD program offered for English and Math teachers of lower public primary school because it benefits many teachers which helped the researcher to get participants easily with diverse experience.

Research Purpose

The purpose of this study is to understand the perceptions of teachers and instructional supervisors on:

1. The nature of the PD program for English and Math teachers in lower primary schools in Rwanda;

2. The challenges they face which impede PD of teachers to be effective; and

3. The characteristics of the effective PD program to be implemented in schools in Rwanda.

Research Questions

This research study aims at addressing the following research questions, all from the perspective of teachers and instructional supervisors. Instructional supervisors in the context of Rwandan schools are school principals and directors of studies.

1. What are the perceptions of teachers and instructional supervisors on the nature of the PD program for English and Math teachers in lower primary schools in Rwanda?

2. What are the challenges that teachers and instructional supervisors find to be impeding the PD of teachers to be effective?

3. What characteristics do teachers and instructional supervisors perceive as key contributors to the effective PD of teachers?

Significance

The results of this study can have implications both in practice and research. First, it can serve as the basis for providing the Ministry of education in Rwanda, educational institutions

and/or educational organizations in charge of PD for teachers recommendations that are relevant to their work, mainly, which can help them to deliver effective PD.

Second, this research study will serve as the first foundation for researchers who want to investigate further PD teachers in Rwanda. Furthermore, the results of this study can inspire other researchers to conduct similar research on a large scale, as this study will consider a small sample.

<p align="center">**Rwandan Context**</p>

Rwanda is a small landlocked country located in East Africa known as the land of thousand hills. It has an area of 26,338 square kilometers and is bordered by four countries. In the north there is Uganda, in the south, there is Burundi, at East, there is Tanzania, and at the west, there is the democratic republic of Congo.

Figure 1. Map of Rwanda

According to the 4th population and housing census of 2012, Rwanda has 10.5 million people. The languages spoken in Rwanda are four, including Kinyarwanda, which is the first language and spoken by all the people of Rwanda, English, French, and Swahili, which are the official languages.

Rwandan Political Context

During the colonization period, German colonized Rwanda from 1884, which was replaced by Belgium in 1919. Before the colonization period, there were three social classes in Rwanda the minority Tutsi (15%) who were Cattle owners, the majority Hutu(84%) who were farmers, and the much smaller Twa (1%) who were hunters and gathers (Gordon, 2017). The Belgians transformed these three social classes into the ethnic groups, and in 1926, they introduced the national ethnic identity cards that made Rwandans start seeing themselves as different. In 1959, a violent case generated a Hutu revolution in which hundreds of Tutsi were killed, and thousands moved and obliged to flee to the nearest countries (UN Rwanda, 2017). July 1st in 1962, Rwanda gained independence, and the first republic of Hutu get the power. During this period, the government reinforced the hatred and discrimination among Rwandans, which lead to the 1994 genocide against the Tutsi, where over one million Tutsi killed in one hundred days. In July 1994, RPF Inkotanyi (Rwanda Patriotic Front) stopped the genocide, and the new government took power and tried to unite, reconcile Rwandans and rebuild the country. Today, the ethnic identity card is no longer used; all Rwandans are equal and united with one identity of being Rwandans.

Rwandan Education Context

Christian missionaries in Rwanda introduced education in 1929. Before the 1994 genocide against the Tutsi education has been used to teach Rwandans hatred and discrimination, but now it is used to build peace, reconciliation among Rwandans and to reduce poverty (Hilker, 2011). The vision of the ministry of education is " to provide the citizens of Rwanda with equal opportunities to high-quality education through world-class learning facilities and renowned learning institutions" (MINEDUC, 2012). The education system of Rwanda is organized as follow

- Pre-primary education: This level takes three years to complete and is for children who are between three to six years.

- Primary education: This level lasts six years, and the official age is from 7 to 12. At the end of this level, every student must pass the national exam to be eligible to enter secondary school.

- Secondary education: This level lasts for six years and is divided into two levels, lower secondary (1st cycle 3years) and upper secondary (2nd cycle 3years). Lower secondary end up with passing the national exam, which gives student eligibility to inter at the upper secondary level where a student chooses a specific field of study, including teacher training, languages, humanities, and sciences. The second level also end up with passing a national exam which gives the student eligibility to enter into university

- Vocation Training education: It provides useful skills to unemployed young people to help them to gain employment. It also helps the people who are already employed to increase their knowledge and skills in a particular area like entrepreneurship if they want to start their own business.

- Tertiary education: This is the higher learning education. It lasts between three and six years, depending on the institution and the field of study. The awarded degrees on this level are the bachelor's degree, master's degree, and a doctorate in medicine (MINEDUC,2012).

Chapter Summary

PD is considered an essential means of bridging the gap between teacher preparation and the demand for school change (Birman, 2000). However, most of these PD activities are not able to support the enhancement of the chance for reform to become effective. The review of the literature shows that there is an uptake of scholars continuing to explore the topic of PD by trying to understand what can make PD effective. According to Darling-Hammond et al. (2017), effective PD is "defined as structured professional learning that results in changes in teacher practices and improvements in student learning outcomes"(p.1). Scholars around the world conducted studies to understand the characteristics that can make PD of teachers effective including, Qatar (Abu-Tineh et al., 2018); USA (Brown, 2016) & (Carissa, 2018); Turkey (Bayar, 2014); Saudi Arabia (El-Deghaidy, 2015), and Canada (Gibson et al., 2012). However, until now, there is no research conducted in Rwanda, which can guide PD designers in providing significant PD in response to the Rwandan Education Board's introduction of continuous PD countrywide three years ago.

Therefore the purpose of this study is to understand the perceptions of teachers and instructional supervisors on:

1. The nature of the PD program for English and Math teachers in lower primary schools in Rwanda

2. The challenges they face which obstruct the PD of teachers to be effective

3. The characteristics of the effective PD program to be implemented in schools in Rwanda.

The next chapter will review the literature, which has a relation with the research questions, which will guide this study.

CHAPTER II

LITERATURE REVIEW

PD is a strategy that many school leaders use to face many reforms that education sector experience, including curriculum change, the introduction of new teaching methods, the introduction of technology, and change in teaching instruction in general(Bredeson, 2002; Gibson, & Brooks, 2012). These changes require teachers to stay up-to-date to be able to meet the needs of students they teach.

The purpose of this chapter is to review the literature pertaining to the research questions described in the previous chapter. This chapter will start by examining different definitions and forms of PD of teachers. Following this, it will be the identification of different characteristics of effective PD of teachers in the literature. More in in-depth discussion will be made to explore the link between adult learning theory and the PD of teachers. Finally, this chapter will end by discussing challenges affecting the effectiveness of the PD of teachers.

Understanding PD: Definition, and Forms

The review of the literature shows that there is no single definition of PD. According to Speck & Knip (2001), PD "is a lifelong collaborative learning process that nourishes the growth of educators both as individuals and as team members to improve their abilities and skills" (p.4). Bredeson (2002), in his definition, highlighted three interdependent concepts (learning, engagement, and improved practices), and he defined PD "as learning opportunities that engage educators' creative and reflective capacities in the way that strengthens their practice" (p.663). Furthermore, Diaz-Maggioli (2004) defined PD "as a career-long process in which educators

fine-tune their teaching to meet student needs" (p.5). These definitions consider teachers as professionals in possession of knowledge but require to engage in ongoing learning to fine-tune their teaching practices. They emphasize the importance of teachers' learning to improve students' learning. PD, in summary, is the ongoing process of teachers learning at all level, whether novice or expert, which help them to improve or change their way of teaching to enhancing students learning. Al-Ghatrifi (2016) "provided three main objectives of PD, including teachers' growth as individuals, students' learning outcomes, and overall institutional development" (p.60). There are different forms or types of PD of teachers, and they will be discussed in detail in the next section.

The Forms of Professional Development of Teachers

There are multiple forms of PD used to enhance teacher learning. In 1995, Lieberman categorized the forms of PD into three classifications, including:

- Directing teaching (e.g., courses and workshops, conferences, and so on).
- Learning in school (e.g., peer coaching, problem-solving group, critical friends, Action research, sharing experience, and so on).
- Learning out of school (e.g., teacher centers, collaboration, school/university partnership, and so on)

In order to improve teacher learning and growth as professionals, there is a need for "moving from direct teaching-the dominant mode of in-service to practices that involve learning in school and out of school" (Lieberman, 1995). In the following section, the researcher discussed the most frequent forms of PD of teachers.

Training

Training is a form of PD where mostly teachers attend sessions of workshop-type (sparks & Loucks, 1989). Training put participants in a passive role, where, for instance, expert deliver the content to the teachers based on their agenda (Kennedy, 2005). This form assumes that teachers can change their behaviors to learn (sparks &Loucks, 1989). According to Joyce and Shower (1988)," someone has to decide what will be the substance of training, which will provide training, when and where the training will be held and for what duration (p.69). Training "can be short and/or long term; it is cost-effective as it can target more teachers in one place with a small number of trainers using materials that can be reused with other cohorts" (Al-Ghatrifi, 2016, p.71). Even though this form has debatably been the most dominant form of PD in the past years (Kennedy, 2005), this form does not allow teachers to find solutions to their problems (Eraut as cited in Al-Ghatrifi, 2016).

Coaching / Mentoring

Mentoring is one of the forms of the PD programs of teachers that is known mostly as an important part of the induction program for new teachers in schools. According to Allen and Casbergue (1997), teachers pass-through 3stages in their careers. First, teachers start their job as novice teachers, and this is when teachers have less than one year of teaching experience. Secondly, as teachers progress in their career become intermediate teachers, and this is when they have between 1 to 6.5 years of teaching experience. Lastly, as teachers keep growing professionally, they reach the stage of becoming expert teachers, and this is when teachers have a minimum of 10 years of excellent teaching experience. In most cases, we reviewed in the

literature; mentoring was used as a way of initiating or helping the novice teachers to start their teaching career with the support and guidance of an experienced teacher(s).

According to Black et al. (2016), it is believed that the mentoring program benefits only mentees; however, it is not the case. The mentoring program also benefits schools and mentors themselves in different ways. For novice teachers or mentees, the mentoring process supports them emotionally and pedagogically, and it gives them the satisfaction of their job. For the school, competent teachers are attracted and retained as a result of the support available to them. For mentors, the mentoring process gives experienced teachers the opportunity to share their experience and expertise with their peers. Moreover, mentors get the time to reevaluate their teaching practice and believe, which helps them to develop professionally and to get more competencies that are needed to support a less experienced colleagues.

As a way of understanding more mentoring programs in the school environment, it is very important to comprehend the roles and activities of a mentor-teacher and the skills that the mentor teacher needs to have. Generally, the functions of a mentor are classified into two categories: Career Functions, and Psychosocial functions (Galvez-Hjorvenik, 1986). Career functions are related to professional growth needs like Coaching and providing challenging assignments; however, Psychological functions are related to personal growth needs like counseling, role modeling, and friendship (Galvez-Hjorvenik, 1986).

Newcombe (1988) argues that the precise description of the roles and actions of mentor-teachers does not exist. Mentoring in schools means an ongoing relationship with the main purpose of professional guidance between a novice teacher and an expert-teacher in an unrestricted way. Some scholars have tried to discuss the different roles and responsibilities of a

mentor-teacher. For instance, Galvez-Hjornevik (1986) presented the responsibilities of mentor-teacher, including the following:

- To provide support related to curriculum

- To help new teacher on classroom management

- To take part in the evaluation of new teacher

Wildman et al. (1992) also provided a list of roles and activities for a mentor- teacher; however, mentor – teacher responsibilities presented by Galvez-Hjornevik (1986) were found to be part of one role that Wildman et al. (1992) labeled instruction.

The literature shows that one of the factors that affect the mentoring program is "time." Mentor teachers have a large number of responsibilities in addition to the mentoring role, and they end up losing time for supporting and guiding their mentees (Widma n, 1992; Black et al., 2016). Newcombe (1988) discussed the factors for a successful mentoring program under the following themes:

- **Mentors selection**: In selecting mentors, there must be a consideration of the competencies of mentor teachers and their willingness to become mentors.

- **Mentors and Mentees Matching**: when matching mentors and mentees, it is better to consider their age and gender. First, there must be a close relationship between mentors' tasks and one of the mentees (they can be teaching the same subject matter or same Grade level). Finally, there should be an assessment of the program after a certain period.

- **Roles for mentors**: There must be accessible and clear information about the responsibilities of Mentor –Teacher

- **Training for Mentors**: There should be ongoing training for mentors- teachers about their roles in the mentoring program. According to Thies-Sprinthhall (as cited in Newcombe 1988), Being an excellent teacher of children does not make mentor-teacher a good teacher of adults. Besides, mentor-teachers must get more knowledge and skills.

- **Supportive Environment**: School administrators should support a mentoring program in all manners by allocating time for meeting and providing needed resources.

- **Defining realistic expectation for the program**: The mentor won't resolve all the challenges and problems that new teachers may face because mentoring is just one part of induction support.

Wildman et al. (1992) recommended that for the mentoring program to be successful, there should be a consideration of the following key points.

- Teachers must work collaboratively in designing and implementing a mentoring program in their school.

- Mentors should not be given more responsibilities than their capability.

- Encourage leadership and collaboration among all teachers.

Action Research

Action research is one of the forms of PD that are currently used in schools as a tool for promoting teacher learning and grow as professionals, practitioners, and researchers with one primary purpose of improving student learning. According to Chad (2011), teachers start by

reflecting on their practice and on how they can improve, and then when this process becomes more systematic, they start engaging in research, which is called "Action research."

Action research is composed of two words: The "**action**" to mean what you do and the "**research**" to mean how you find out about what you do (McNiff, 2013). Corey, who was the first person to apply action research in the education field, defined "action research as a process of reviewing problems, taking corrective actions, and evaluating those actions" (as cited in Norasmah et al., 2016, p.44). Besides, Glickman, defined action research in the educational setting specifically, as research led by teachers in their school environment to develop their teaching practices (as cited in Norasmah et al., 2016, p.44). The main aim of engaging in action research is to support the actors in developing or refining their actions (Sagor, 2000). This is because action research is an approach of looking at your own practice to check whether things are as they should be (McNiff, 2013). If you are satisfied with your practice, action research will give you the opportunity to find the evidence related to your claim of being satisfied. However, if your practice needs to be improved, you will get the chance to take necessary actions to improve it and find the evidence to support the improvement of your practice (McNiff, 2013). According to Glickman et al. (2004), the process of action research has five phases: "(1) Select focus area (2) Conduct needs assessment (3) Design action plan (4) Carry out action plan (5) Evaluate effect and revise action plan" (p.306).

Chad (2011) suggests three common characteristics of action research:

- **Practical inquiry**: which means that action research can be considered as a tool, which can help teachers get the answers to the questions that confuse them

- **Transformation**: This means, "Action research occurs when knowledge is delivered from practice, and practice is informed by knowledge in an ongoing process" (p.90).

- **Methods:** "Action research is not a method of conducting research but a way of collaboratively orchestrating social research processes to enhance liberating social change processes"(Greenwood and Levin as cited in Chad 2011, p.90)

Groups of teachers do action research in most of the schools, and it is known as "Collaborative action research." According to Chad (2011), collaborative action research is a study conducted by a group of teachers in a school context with the aim of improving instruction. Besides, in creating collaborative action research in school settings, it is recommended to balance novice teachers and experienced teachers as it will create a deep understanding (Ado, 2013).

Action research has been found to be one of the PD forms that can provide support and retain Novice teachers in their workplace. The results of a study conducted by Ado (2013) on Action research and PD of earlier teachers show that action research led by teachers as a format of PD contributes to the improvement of a supportive culture in a professional environment and empowerment feeling, especially for novice teachers.

Although action research has been found to be an important tool in teacher professional development, they are some challenges that affect its implementation. For instance, a study conducted in Malaysia on challenges of action research by Norasmah (2016) found that teachers have a large amount of responsibility, which affects their time for engaging in Action research initiative. They lack knowledge about action research and the school administration's support. Glickman et al. (2004) presented some suggestions for improving the quality research of teachers, and they are in line with the solutions that Norasmah (2016) provided. The suggestions presented by Glickman et al. (2004) are the following:

a) Preparing teachers in collecting and analyzing data. b) School administrators should identify ethical guideline for action research to avoid students or teachers are exposed to any type of risks (emotional, academic, or social). c) Provide resources needed for action research groups. d) Provide opportunities for teachers to share their action research work with their action colleagues at the same school or even from other schools.

Community of Practice

A community of practice is one of the PD forms that are being used in different schools. The origin and primary use of the community of practice have been in learning theories (Wenger, 2011). The first-time application of community of practice was in teacher training and has been used in helping administrators who were facing isolation to become closer to their colleagues. According to Wenger (2011), "a community of practice is a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (p.1). The creation and encouragement of teacher to participate in a community of practice is very important as it creates an ongoing supported learning environment for teacher professional growth (Torrey, 2017).

Wenger (2011), who is the one who created the term community of practice together with an anthropologist Jean Lave, explained three characteristics that make a community to be called a community of practice. These characteristics are,

- **The Domaine**: This means that a community of practice has an identity defined by a shared domain of interest.

- **The community**: This means that the member needs to be engaged in collaborative activities which allow them to share information, to learn from each other, help each other and to build a strong professional relationship

- **The practice**: This means that members are practitioners who build an environment where they share all information about their work, stories, experience, tools, and ways of mitigating regular problems. The combination of domain, community, and practice constitutes "a community of practice."

According to Tracey (2012), "communities of practice like all living things, transform, reproduce and evolve" (p.302). For this to be sustainable, there is a need for carefully following the stages of the establishment of a learning community of teachers developed by Diaz-Maggioli (2004). These stages are discussed below

- **Emergence stage**: This is the beginning stage where teachers schedule different meetings and start sharing the specific area they want to discuss (doing need assessment).

- **Application stage**: Here, the teachers start executing their professional development role; the members also here develop a plan for each member. In this exact phase two, that is when members engaged in what anthropologist Jean lave(as cited in Diaz-Maggioli, 2004) called" community of practice."

- **Appropriation stage**: In this stage, the members develop awareness about their improvement and the work it will take them to integrate new knowledge into their teaching catalog.

- **Transformation stage**: This is the final stage where the knowledge gained from professional development form a new intellectual capital of school for empowering everyone. Besides, there is an achievement of goals as a team and as individuals as well.

It is very crucial to note that the success of the formation of a community of practice in school can be achieved by considering three levels, including teachers, school and education system (Tracey, 2012).

Elements that facilitate the community of practice to form and advance are many and can vary based on different contexts. A qualitative study conducted by (Tracey, 2012) in a small school in rural New South Wales, Australia, which considered a group of teachers members of their school community of practice found the following factors:

(1) Providing the opportunity for professional development and knowledge sharing, (2) Personal characteristics of the teacher, (3) Strong interpersonal relationship, (4) The obtainability of financial funding for supporting the teams. In the same study (Tracey, 2012) also found some factors that can hinder the community of practice success, including a) Participating in a community of practice is an additional workload for teachers, b)External pressures and accountabilities, and c) Sustainability concerns. In the following section, the researcher will review the characteristics that can contribute to the effectiveness of the professional development of teachers.

Characteristics of Effective Professional Development of Teachers

Effective PD is defined as structured professional learning that results in changes in teacher practices and improvements in student learning outcomes (Darling-Hammond et al. 2017). Guskey (2002) attributes the ineffectiveness of professional development programs to their failure to determine what motivates teachers to engage in professional development and the process by which change in teachers occurs. As it can be seen in figure 2.2 change in teachers'

beliefs and attitudes is seen only after teachers gain evidence of improving student learning

outcomes (Guskey, 2002)
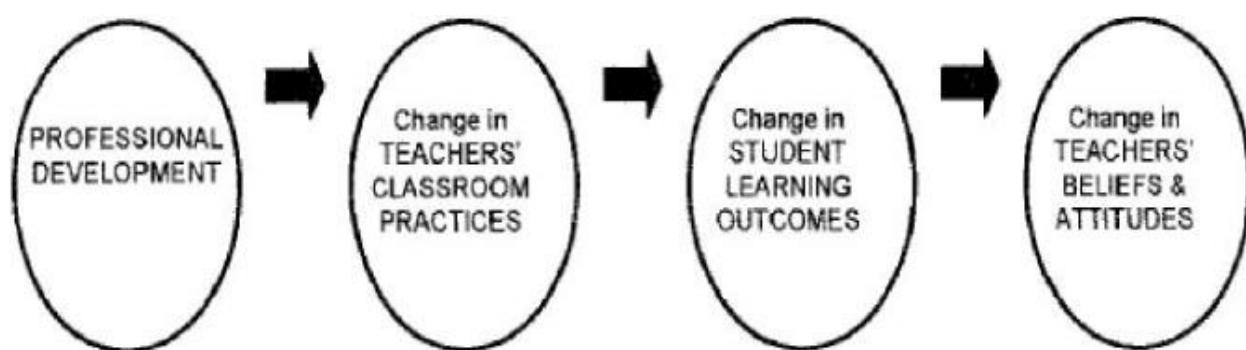
Figure 2. A model of teacher change (Guskey, 2002)

As a way of making PD of teachers effective, Webster-Wright (2009) invited scholars

interested in designing and researching PD. To shift their focus from PD to "professional

learning "and bringing the attention to engage teachers in continuous learning as they progress in

their career as professionals. Scholars from around the world discussed the effectiveness of PD

in different ways. For example, some discussed it in terms of elements, characteristics, factors,

components, or and criteria for PD to be effective(Birman et al. 2000; Rogers et al. 2007; Gibson

et al. 2012; Bayar, 2014; Darling-Hammond et al. 2017 and Abdullah et al. 2018).

Birman et al. (2000), in their study of identifying effective PD where more than 1,000

teachers who were part of the federal government's Eisenhower PD program, were participants.

This study found six factors for making PD effective. They identified three structural features

that establish the framework for PD, including "form, duration, and participation." Furthermore,

they identified three main elements that characterize the procedures of PD experience, including "content focus, active learning, and coherence." However, Guskey (2003) criticized this study for not basing the results on verified evidence. Moreover, he disagreed on how their research was "based primarily on self-reported survey data" (Guskey, 2003). In Guskey's (2003) literature review which analyzed "a list of 13 characteristics of effective PD" published by different researchers and research agencies, teacher associations, national educational, and the U.S. department of education"(p.4). The findings of his review revealed continuing disagreement between researchers about the criteria for effective PD. Guskey called for more research, to seek agreement on criteria for effectiveness, along with clear descriptions of contextual factors.

Rogers et al. (2007) researched to understand also effective PD but contrary to Birman et al. (2000) and Guskey (2003) was that Rogers et al. (2007) focused on studying effective PD by considering the perception of teachers and facilitators of PD in science and mathematics education. In their study, they collected the view of teachers and PD facilitators and they compared to find out the relationship. Rogers et al. (2007) found that both teachers and PD facilitators have some common characteristics of effective PD. These include (a) demonstrating activities and teaching strategies that apply to the teachers' curricular needs, as well as providing teachers with the resources necessary to easily implement the activities. (b) Establishing opportunities throughout a PD project for teachers to experience activities from a student's perspective; and (c) developing a network of support for the teachers.

Gibson at al. (2012) conducted a study in Canada to understand the perception of elementary teachers about the effectiveness of planned PD for implementing the new curriculum. Teachers who participated in the study received PD programs for three to five years as assistance from the school district in implementing a new curriculum. They shared their experience in terms

of success and challenges; besides, they provided their view on what they felt can make PD effective based on their experience. After comparing their findings, Gibson et al. (2012) " suggests that effective PD needs to be based on teachers' needs; involve active learning, collaboration, and modeling; be supported by a culture of learning in schools; and considerate of teacher resistance to change"(p.1).

These findings are almost similar to the findings from the study conducted by Bayar (2014). In his research, Bayar (2014) wanted to build on the perceptions of teachers about effective PD to come up with a list of "components of effective PD." Bayar (2014) found six components of PD including a)match to existing teacher needs, 2) a match to existing school needs, 3) teacher involvement in the design/planning of PD activities, 4) active participation opportunities, 5) long-term engagement, and 6) high-quality instructors"(p.323). A study on characteristics of effective PD conducted in 2018 in Qatar found that teachers perceived the proposed list of characteristics of effective PD (which is a list that summarizes the characteristics proposed by different scholars) to be highly effective (Abdullah et al. 2018). The relationship among the findings of the above studies is that the PD programs that put teachers at the center of it process are effective. In the following section will discuss in detail the characteristics of effective PD that were found to be common in the above studies (Birman et al. 2000; Rogers et al. 2007; Gibson et al. 2012; Bayar, 2014; Darling-Hammond et al. 2017 and Abdullah et al. 2018).

Research about what makes PD effective based on teachers' perception revealed that considering teachers' needs when planning PD is an essential element to make it effective. Rogers et al. (2007) and Bayar (2014) found that it is important for the people who are in charge of planning PD to ask teachers what they want or think can help them teach their students

effectively. Instead of choosing on their behalf and ask them to attend a PD program as passive

learners. Besides, teachers are the best people to know better the current needs of their students.

However, the needs of teachers and students need to reflect the needs of the school in general

and to meet the national learning standards (Carissa, 2018). Bayar (2014) encourages each

school to have its PD activities that are related to their own needs.

The involvement of teachers in PD planning activities was also found to be a pivotal

point in having effective PD. Speck & Knip (2001) suggested that it is important to involve

teachers in the process of designing implementing and evaluating PD. Teachers are the recipient

of PD; that is why engaging them in all processes will motivate them to own their learning and to

make it relevant. Bayar (2014) found that over half of the respondents in his study criticized the

fact that they do not allow them to share their ideas in the planning or designing process of PD

activities as a negative practice. This is because they believe that it can be more reasonable and

helpful to involve them in the process, as it can improve their ownership of PD activities. Wells

(2013) argue that effective PD activities provide teachers with a space to make the decision

about their learning and allow them to grow not only as practitioners but also as researchers and

professionals in their career.

Different scholars identified that for PD to be effective, it needs to be an ongoing process

(Webster-Wright, 2009; Coine et al. 2010; wells, 2014). Being ongoing means the combination

of the meeting hours, PD program duration, and the relationship between PD activities with daily

work of teachers (Hunzicker, 2011). PD activities need to be considered as a learning process,

not as an incidence that happens for a short time (Guskey as cited in Bayar, 2014). These short-

time PD activities are likely to lack the essential potential to make an impact on teachers' practice

(Bayar, 2014). For example, among the models of PD programs workshop was criticized for

being ineffective because it takes a short time and most of the time there is no proper follow-up and no sustainable impact (Guskey, 2009).

For any change in teachers' practice to be durable, it will take time and effort to reflect, explore, and to take the opportunity for constant learning (Louks-Horsley et al. 2003). It is crucial to note that providing teachers with enough time to analyze the work of the students and to understand more the new instruction is vital for PD to be effective; however, the time needs to be used wisely (Guskey, 2009).

Furthermore, effective PD activities need to be aligned with the daily work of the teacher and to provide space for the teacher to apply their new learning into classroom practice (Hunzicker, 2011). According to Diaz-Maggioli (2004), "effective PD should be understood as a job-embedded commitment that teachers make to further the purpose of the profession while addressing their own particular needs"(p.5). Many researchers discussed the importance of considering teacher learning and their daily responsibility in their studies (Bredson, 2002; Speck & Knip 2011; Wells; 2014; Carissa, 2018). Besides, both wells (2014) and Guskey (2009) suggested that it is important also to recognize the expertise available in schools in building knowledge before searching for an expert from outside the school.

Both Birman et al. (2000) and Bayar (2014) found that PD activities that allow teachers to participate actively during their learning to be effective. More clearly, engaging teachers as active learners is beneficial to them because it will enable them to practice the same content or instructional that they will use in their classroom (Darling-Hammond et al., 2017). This motivates teachers and helps them to understand the material or teaching technique very well before implementing it in the classroom. Being active learners also helps teachers to make use of the knowledge they already have and relate them to the new knowledge. Furthermore, according

to Webster-Wright (2009), professionals learn through "practical experience and reflective actions "(720).

Even though the above studies found the participation of teachers in PD as active learners as an important characteristic of PD to be effective, however, the results of the study conducted by El-Deghaidy et al. (2015) in Saudi Arabia on the perception of teachers of science about effective PD show the contrary. The results of this study revealed that a large number of teachers who participated showed a high preference for traditional types of PD where they are passive learners, listeners, or just observers. In addition, the results revealed that the teachers do not prefer the PD activities that require them" to take positive leadership roles" (El-Deghaidy et al. 2015).

PD as a school initiative needs to be supported in all ways possible. School leaders need to allocate appropriate time for PD activities and to provide the resources needed to facilitate teachers' learning and the implementation of the new instruction (Louks-Horsley et al. 2003). Teachers need to enjoy professional learning experience instead of considering it as an added assignment that came to prevent them from having free time. Diaz-Maggioli (2004) suggested that PD activities should take place during the regular working hours of teachers.

Another important feature of effective PD is the enhancement of content and pedagogical knowledge. According to (Hunzicker 2011), the Content focus is discussed in relation to the content of PD programs where it is very important to focus on the content that improves students learning. This means that during PD activities, teachers' learning needs to reflect the content they teach and techniques or methods they use in teaching a specific subject (Darling-Hammond et al. 2017). Furthermore, Birman et al. (2000) found in their study that teachers who participated shared that they don't consider PD that provide them only with general teaching methods without

content knowledge to be effective. PD activities should focus on the content that the students supposed to learn and on the methodology that teachers will use in delivering that content (Desimone, 2011).

Lastly, effective PD of teachers promotes collegiality and collaboration. Teachers' collaboration means that teachers work together intending to achieve the same goals and help each other grow professionally (Hunzicker, 2011). Birman et al. (2000), in their study, found that PD programs that encourage teachers to work together are more effective. They explained that teachers who teach in the same school and within the same department share the same curriculum. When they work together, it facilitates their teaching by planning lessons together, helping each other to address different challenges related to their classroom instructions, and in general help them to create a culture of collaboration inside the school. On the other hand, Gibson et al. (2012) found that collaborative learning motivates teachers to learn and to implement the new instructional practice in their classroom because they are a team, and they can support each other. Furthermore, according to Javornik et al. (2008), collaborative culture is significant for the growth of the teachers as professionals and in helping them respond to their career needs and to work successfully.

Even though some teachers may find collaborative learning as a way of exposing their weakness, Speck & Knip (2011) argue, "Collaborative interaction is not a sign of lack of knowledge in a professional setting. It is evidence of both faculty strength and healthy school climate" (p.59). In addition, if teachers do not believe or experience the culture of working together will also affect the way they will encourage the students to work collaboratively (Javornik et al. 2008).

Adult Learning Principles and PD of Teachers

Adult learning principles are vital knowledge to consider before planning and implementing the PD of teachers. Teachers are adult people; in addition, they are professionals with rich experience. That is why understanding how they learn is a very crucial step in understanding what makes PD of teachers effective. Adult learning theory was developed in the 1920s and labeled Andragogy by Knowles (1980). Andragogy is defined as "the art and science of helping adults learn" (p.43). Educators from around the world have adopted this concept of andragogy in different disciplines in educating or training adults.

Knowles et al. (2012) argue that andragogy is a set of principles of adult learning and proposed six adult learning principles, which are also known as" adult learning assumptions. These principles include (1) The need to know, (2) Self-concept, (3) Experience of the learner, (4) Readiness to learn, (5) Orientation to learning, (6) Motivation to learn. In the following section, we will discuss these principles in detail.

A. **The need to know**: Learners need to understand first why they need to learn, what they need to learn, and how they will learn (Knowles et al. 2012). If adults are aware of the reasons why they need to learn certain skills, they will feel ready to learn that skills and they will be more interested in participating in class discussions with peers (McGrath, 2009). Furthermore, adult learners have a variety of life experiences; therefore, instructors must allow the adult learners opportunity or freedom to explore the content to make sure that it fits their educational needs (Knowles et al. 2015 as cited in Fallahi, 2019).

B. **Self-concept**: Under this principle, Knowles (1980) argues that the self-concept of adults shifts from being dependent toward being self-directed individuals. According to McGrath (2009), if learners are self-confident or have self-esteem needs, what is remaining is the role of an educator who needs to allow them to discuss and present their idea during the teaching and learning process. However, the level of autonomy varies among adult learners. Depending on different factors like lack of experience, and intimidation of some of the adult learners. That is why, while planning instructions, educators should take into consideration the uniqueness of the learners (Fallahi, 2009).

Knowles (1980) proposed a variety of implications for practice for responding to the self-concept of adult learners.

- It is suggested that the learning climate for adult learners should be one, which makes them feel confident and relaxed.

- Great emphasis needs to be put on involving adult learners in the process of evaluating their own needs for learning.

- The involvement of adult learners in the planning process of their learning, with the teacher guiding and providing them with content and resources needed.

- Helping learners evaluate themselves "shifts from evaluation to self-evaluation" (p.49).

C. **Experience of the learner:** The adult students have experience accrued over their lifetime that they would love to apply in the classroom as a way of understanding the material being discussed (McGrath, 2009). According to Knowles (1980), when adults find themselves in a context where their experience is not considered,

they feel that it is not their experiences that are being rejected but them as

persons. This is because adults describe themselves mainly basing on their

experience. In some cases, the experience of the adult learners may be found not

relevant in relation to the kind of education they are taking. In such a situation,

effective adult educator needs to try to transform the experience of these learners

as resources for them to build on confidence (Fallahi, 2019).

Some of the implications of this principle according to Knowles (1980) are the following

- Because adult learners are considered as learning resources, it is very important to use
techniques that connect their experience (e.g., role play, group discussion conference, and
so on).

- Emphases on how adults can apply what they learn in the classroom into their daily life

D. **Readiness to learn**: Adult students can be ready to learn certain skills based on

the reason behind the choice of learning (like, Job seeking after specific learning

specific skill or based on their stage of development (Knowles, 1980).   In

brief, readiness to learn for adult learners is influenced by job-related and

development factors (Knowles et al., 2012). Some of the implications for practice

under this principle are the following:

- The curriculum sequence must be in relation to their developmental tasks.

- Grouping the learners in a way that gives them a flexibility choice.

E. **Orientation to learning**: According to Knowles (1980), adult learners "enter an

educational activity in a problem-centered or performance-centered frame of

mind" (p.53). Orientation to learning needs to be considered in case the instructor

needs to make material relevant (Fallahi, 2019).

There are several implications of practice in relation to orientation to learning (1980).

- Adult educators need to address both the concern of adult learners and institutions they
  work within.
- The curriculum must be organized in sequences
    F. **Motivation to learn:** Motivation and factors that motivate people changes from
       time to time (Fallahi, 2019). Motivation to learn for adults can be affected by
       intrinsic value or personal pay off (Knowles et al., 2012). Adult educators must
       facilitate learning rather than encouraging and dictate the learning. Besides, they
       need to request the learners to get involved in their learning (Fallahi, 2019).

The principles of adult learning discussed in the previous section have implications to the

PD of teachers (Gravani, 2012). For instance, unless teachers, as adult learners, have an active

participation in the teacher development program through discussing their needs and problems

and utilizing their experience in schools, they are not satisfied and committed to the program.

Furthermore, teachers, as adults, are committed to learning when the program's goals and

objectives are related to their job and are perceived as being directly beneficial. Although

andragogy has been considered an important model for educating adults, there some criticism

about this approach. The lack of consideration of the political and social context of the adult

learners is one of the criticisms (Pearson& Padeschi as cited in Chan, 2010). However,

regardless of this criticism, the andragogy model is still a leading model of guiding educators of

adult learners in educating them. In fact, this theory is at the heart of PD practice in which allows

teachers to take control of their learning, including why, what, when, and how to learn in relation

to their teaching experience and their needs (Al-Ghatrifi, 2016). Many studies focused on understanding the applicability of adult learning principles in planning PD of teachers, and there was no contradiction in results. For instance, a case study conducted by Gregson and Sturko (2007), where the aim was to examine a PD experience, was designed following the guidance of the adult learning principle. The findings of this study revealed that when the PD of teachers programs are informed and shaped by principles of adult learning,

- Teachers get the opportunity to reflect on their own practice
- Teachers build a professional collaborative relationship, which allows them to develop or learn new knowledge with their colleagues.

Furthermore, the PD examined was found to be highly effective based on the perception of participants. Gregson and Sturko (2007) recommended that adult learning principles must be the foundation for all PD of teachers. Another similar study conducted in Cyprus by Gravani (2012) which aimed at investigating "the application of adult learning principles in designing learning activities for teachers' lifelong development "(p.419) found based on the perception and experiences of teachers and adult educators that:

- There was a lack of consideration of prior knowledge, skills, and experience of teachers
- There was Little involvement of teachers in planning and implementing their PD
- Learners (Teachers) were not active in learning activities as a result of the passive role they have been given.

Gravani (2012), based on the above results, recommended that" Adult learning principles might be further applied in designing learning activities for teachers development" (p.419).

Challenges Hindering the Effectiveness of PD of Teachers

In previous sections, we discussed definitions of PD, various forms of PD, characteristics of effective PD, and the link between adult learning principles and PD of teachers. In this section, we will discuss factors that affect the PD of teachers to be effective.

Diaz-Maggioli (2004) presented what he called "stumbling blocks" of PD practice, which are the following:

- Top-down decision making about the PD of teachers. This is when consultants or school administrators make all the decisions about PD.

- The lack of ownership of PD on the side of teachers. This even affects their motivation to participate in PD activities.

- Little or no support in transferring PD ideas to the classroom

- Unreachability of PD opportunities.

- Lack of systematic evaluation of PD.

- Little or no acknowledgment of the learning characteristics of teachers among PD planners.

- Lack of variety in the delivery modes of PD.

Empirical studies have facilitated an excessive advance understanding of challenges hindering the effectiveness of the PD of teachers. Al-Ghatrifi (2016) found that challenges, which impede the effectiveness of PD, are organizational, personal, and infrastructure. Among the first category, which is organizational challenges, time is among them. Al-Ghatrifi (2016) found that teachers lack time to engage in PD activities because they have many other responsibilities to fulfill. Lack of time was also found in other studies as an obstacle to effective PD (Buczynski & Hansen, 2010; Park& So, 2014; Botham, 2018). Other organizational

challenges which were reported in this study conducted by Al-Ghatrifi (2016) were lack of clear

framework for PD, top-heavy bureaucracy around PD, and lack of funding for the PD of teachers

which was also found in another study conducted by Shelile &Hlalele (2014). In their study

which was conducted in inclusive Lesotho schools – South Africa, Shelile &Hlalele (2014)

found other organizational challenges including, lack of knowledgeable people to carry out

ongoing PD of teachers, lack of follow-up visit after training teachers, and lack of necessary

resources for facilitating the learning of teachers. Furthermore, they found that the duration of

training was short, which didn't give teachers sufficient time for learning.

The second categories of challenges affecting the effectiveness of the PD of teachers are

personal challenges (Al-Ghatrifi, 2016). Among personal challenges, Al-Ghatrifi (2016) found

that lack of appreciation and acknowledgment on the part of school administrators demotivate

teachers to perform at a high level. Other personal challenges that were found were associated

with the fact that teachers' PD needs were not addressed and that the opportunities on offer were

often not relevant to their needs, which was considered to be very demotivating(Al-Ghatrifi,

2016). However, in another study Shelile &Hlalele (2014) found that one of the challenges was

that teachers were not aware of their PD needs. Another personal challenge, which affects the

effectiveness of PD, was the lack of collaboration of the teachers (Shelile &Hlalele, 2014). In

some countries like Korea, "teachers rarely have the opportunity to observe one another for the

purpose of improving classroom practice, this means that they are very nervous about opening

their classrooms to their peers and to be evaluated from peers" (Park, 2014,p.103).

The third category of challenges affecting the effectiveness of PD is infrastructure (Al-

Ghatrifi, 2016). In his study, he found that teachers lack the spaces where they can discuss their

teaching issues, and they lack internet facilities to support them in their learning and teaching.

Chapter Summary

The primary purpose of this chapter was to review the literature to get an understanding of first, the definition and forms of PD of teachers. Second, the characteristics of effective PD and third, the link between adult learning theories and PD of teachers. Lastly, the challenges affecting PD of teachers to be effective.

All the definitions reviewed define PD as the engagement of teachers in continuous learning with the purpose of improving students learning. Findings of empirical studies showed that for PD to be effective there is a need of consider teachers' needs and involve them in designing PD activities. Being ongoing, to be job-embedded and content-focused, to be supported and given resources needed to promote teacher collaboration and to involve active learning opportunities (Birman et al. 2000; Rogers et al. 2007; Gibson et al. 2012; Bayar, 2014; Darling-Hammond et al. 2017 and Abdullah et al. 2018).

Furthermore, this chapter reviewed the literature on multiple forms of PD used to enhance teacher learning like training, mentoring, action research, and community of practice (Loucks, 1989; Lieberman, 1995; Kennedy, 2005; Wenger, 2011; McNiff, 2013; Black et al., 2016). Since teachers are adults, adult learning theory was an important lens to analyze the teachers' approach to learning. The review showed six adult learning principles that teachers or trainers of adult learners need to consider when educating adult people. It has been found that when the PD of teachers programs are informed and shaped by principles of adult learning to be effective (Gregson& Sturko, 2007).

This chapter ended with a discussion of challenges affecting the PD of teachers to be effective. Three categories of challenges were found, including organizational, personal, and

infrastructure challenges (Al-Ghatrifi, 2016). The following chapter will discuss the

methodology, which guided this study on the PD of teachers in the context of Rwandan schools.

CHAPTER III

METHODOLOGY

The purpose of this study was to understand the perceptions of teachers and instructional supervisors on 1) the nature of PD programs offered for English and math teachers in lower primary schools in Rwanda. 2) The challenges they face, which impede the PD to be effective, and characteristics of the effective PD program of teachers. Therefore, this chapter starts with an explanation of the reasons behind the choice of qualitative method as a research design and interpretive as a paradigm choice for this study. Participants' selection will be discussed, and data collection tools will be presented. Then, data collection and data analysis procedures will be discussed in two different sections consecutive. The chapter will conclude by presenting ethical considerations concerning this study.

Research Design

This study used a qualitative research design. The reason behind the choice of this design is that qualitative methods are relatively suitable for making or developing theories. Also, qualitative research provides the opportunity for people to express their ideas in their voice relatively than approving terms or categories imposed by others (Sofaer, 1999). Since there are different approaches to qualitative studies, this study adopted one of them, which is a multiple case study because this study will use more than one case. The importance of using multiple case study is that it allows the researchers to analyze the findings from each set separately and transversely settings. Besides, it "examining several cases to understand the similarities and differences between the cases" (Yin as cited in Baxter & Jack, 2008 p.517). Furthermore, this

study employed the interpretive paradigm. This paradigm encourages researchers to look through the eyes of the participants or to enter their world to understand their world (Charmaz, 2006). Since the purpose of this study is to understand the perceptions of teachers and instructional supervisors on the research questions that guided this study based on their knowledge and experience, the interpretive paradigm is suitable for this study. The next section will explain the process and the method which has used to select teachers and instructional supervisors who participated in this study.

Participants' Selection

A purposeful sampling technique was employed in this study to the participants, including teachers and instructional supervisors. This technique is extensively used in the research of qualitative nature for identifying and selecting information-rich cases concerning the phenomenon of interest (Palinkas et al., 2015). Since the purpose of this study is to understand the perceptions of teachers and instructional supervisors based on their experience, it is reasonable to select the participants who have knowledge that is relevant to this study. Therefore, the sample of twenty participants, including sixteen teachers and four instructional supervisors w from four public schools in Ngoma district in Rwanda, were selected. The researcher was aware of the drawbacks of this sampling technique, including the fact that purposeful sampling is highly prone to researcher bias because it is produced based on the judgment of the researcher (Sharma, 2017). In this study, the researcher tried to be as objective as possible by setting clear criteria and considering them in selecting the participant. These criteria are discussed below:

1. The participating teachers and instructional supervisors must be from public schools

2. Teachers must be teaching English or math in lower level primary schools (grade1, 2, and 3 or be English or Math subject leaders in the school.

3. Both participating teachers and instructional supervisors must be the people who participate in the professional development programs for English and Maths teachers in their schools.

In the following section, the researcher will describe the instruments which have been used in collecting the data.

Data Collection Instruments

Individual interviews and documents and media analysis were used as instruments for collecting data in this study.

Individual Interviews

The qualitative research interview aims to provide conceptual and theoretical knowledge that is founded on the perspective and experience of the interviewee (DiCicco-Bloom, 2006). According to Charmaz (2006), "Interview permits an in-depth exploration of a particular topic with a person who had the relevant experiences" (P.25). As this study aims at understanding the perceptions of teachers and instructional supervisors about the research questions that are related to their professional development, the interview was one of the appropriate data collection tools to be used in this study.

In this study, to get an understanding of the perspectives of teachers and Instructional supervisors, semi-structured interviews were employed. "Semi-structured interview is a verbal interchange where one person, the interviewer attempts to elicit information from another by asking questions" (Longhurst, 2003, p. 143). The semi-structured interviews are commonly

organized according to predetermined open-ended questions, and then from interviewer and interviewee conversation come other questions (DiCicco-Bloom, 2006). The role of the interviewer in this process is to provide questions and comments as a way of guiding and helping participants share their knowledge (Charmaz, 2006). It is advised for the interviewer to repeat the question when it is necessary and to give time to the interviewee to hear, think, and respond to the question (DiCicco-Bloom, 2006). This is why the researcher prepared interview questions guide and allocated sufficient time up to one hour for the interview to allow the participants to express themselves.

The researcher conducted a second round of individual interviews for member checking with the same participants who participated in the first-round individual interviews. According to Birt et al. (2016), member checking "is a technique for exploring the credibility of results. Data or results are returned to participants to check for accuracy and resonance with their experiences" (p.1802). This was the opportunity for the participants to provide more information they forgot in the first round of interviews and to confirm that the interview transcript reflects the answer they shared.

Documents and Media Analysis

Qualitative researchers frequently use texts as an additional source of data (Charmaz, 2006, p.38). As a way of getting an understanding of the nature of the design of professional development in public schools in Rwanda, which is related to the first research question of this study, documents and media analysis was analyzed.

The researcher analyzed different documents available at schools that guide the professional development program in public schools in Rwanda. In addition, the researcher

analyzed online resources, as well. The following table shows in summary how the data

collection tools helped to answer the main research questions.

Table 1. Summary of how the data collection tools helped in answering the research questions

No	Research Questions	Participants	Tools
1.	What are the perceptions of teachers and instructional supervisors on the nature of the professional development program for English and Maths teachers in lower primary schools in Rwanda?	✓ Instructional Supervisors ✓ Teachers	1. Individual interviews 2. Document and Media analysis.
2.	What are the challenges that teachers and instructional supervisors find to be impeding the professional development programs of teachers in the context of school improvement in Rwanda?	✓ Instructional Supervisors ✓ Teachers	1. Individual Interviews
3.	What characteristics do teachers and instructional perceive as key contributors to the effectiveness of professional development programs in Rwanda?	✓ Instructional Supervisors ✓ Teachers	1. Individual interviews.

Data Collection Procedures

Obtaining Research Permission

The data collection process started after obtaining approval from the AUB Institutional Review Board and the authorization to conduct research in Rwanda. The researcher requested permission from the mayor of Ngoma district in the Eastern province of Rwanda to collect data in four public schools in the district.

Recruiting Interview Participants and Conducting Interviews

After getting the authorization, the researcher visited four approved public schools. She met with the principals of each school and explained to them about the research study. The researcher requested the principals to participate in the study if they are willing. Furthermore, the researcher asked permission to the school principal to meet with English, Math teachers of lower level primary, and the leaders of these subjects in school. The researcher explained to them about the study and gave them consent forms to read and understand more. The researcher allowed them to ask questions. After the teachers understood the study and had the opportunity to ask questions, the researcher asked for willing participants to sign the consent form. Together with selected teachers and instructional supervisors, the researcher scheduled the time and location for individual interviews. From each school out of four schools, four teachers and one instructional supervisor were selected.

Before conducting interviews, the researcher read different sources online and guiding books at schools about the professional development program offered for math and English teacher of lower primary public schools in Rwanda (Education Development Trust, 2020; REB, 2018).

Each participant among 20 participants before starting the interview was asked to sign the consent form and give it to the researcher. The researcher conducted interviews using the questions listed in appendix (B) to guide the conversation**.** With the permission of the

participants, the researcher used the audio recorder to record the conversation for later use during data analysis.

Member Checking

After the interview transcription researcher went back to meet with the same participants to do member checking, the purpose of doing member checking was to confirm, modify and verify the interview results (Birt et al., 2016). The researcher met each participant individually and was presented the data found from his or her interview. Participants were allowed to share their feedback and comments by saying if what is written on the interview transcript represented what they shared during the interview. They were asked to add any information they forgot, or they want to add. Some of the participants shared more information in addition to their first responses.

Data Analysis Procedures

This study adopted thematic analysis as a methodology for analyzing the data. "Thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) within data" (Braun & Clarke, 2006, p.79)**.** The purpose of this study was to understand the perceptions of both instructional supervisors and teachers from four different public schools across Ngoma district. Thematic analysis is suitable for achieving the above purpose because; thematic analysis is a useful method for highlighting similarities and differences from participants' responses (Braun & Clarke, 2006). As the significance of this study is to inform the practitioners, researchers, and educational policymakers about the characteristics of effective professional development. Thematic analysis, which is a very "useful method for producing qualitative analyses, suited to informing policy development "(Braun & Clarke, 2006, p.97) was suitable for this study. Furthermore, the results

of a study used thematic analysis are usually easy to understand for general educated people (Braun & Clarke, 2006).

In the process of data analysis, the researcher followed the six phases of the thematic analysis process as described by Braun & Clarke (2006).

Phase1: **Familiarizing yourself with data:** In this phase, the researcher transcribed data from documents and media, and interviews into written form. The researcher read and re-read the data and noted down the initial ideas. In this phase" researchers are encouraged to engage with the analysis as a faithful witness to the accounts in the data, being honest and vigilant about their perspectives, preexisting thoughts and beliefs, and developing theories" (Starks & Trinidad as cited in Nowell et al.,2017, p.5).

Phase 2: Generating Initial Code: According to Savage (as cited in Nowell et al., 2017) "Coding is a process of reflection and a way of interacting with and thinking about data" (p.5). In this phase, the researcher coded systematically interesting features of data through the whole data set. Furthermore, the Researcher gathered data relevant to each code. Braun & Clarke (2006) advise researchers in this phase to code as many prospective themes as possible.

Phase 3: Searching for themes: Here, the researcher arranged the codes into perspective themes. Besides, the researcher gathered all data related to each potential theme. According to DeSantis and Ugarriza (as cited in Nowell et al., 2017) "a theme is an abstract entity that brings meaning and identity to a recurrent experience and its variant manifestations. As such, a theme captures and unifies the nature or basis of the experience into a meaningful whole" (p.8). Themes capture something relevant to data, which is relative to the research questions (Braun & Clarke, 2006). However, King warned researchers to avoid being intensely guided by research questions

only so that the themes, which are not directly relevant to research questions, are disregarded (as cited in Nowell et al., 2017).

Phase 4: Reviewing Themes: The researcher checked if the themes worked relatively to the extracted code and the entire data set. Besides, the Researcher created a thematic map of the analysis. At the end of this phase, the researcher was able to have a proper good idea of existing themes and how they are all fit together, and the whole story these themes communicate about the data (Braun & Clarke, 2006).

Phase 5: Defining and Naming Themes: The researcher refined the details of each theme and the whole story. She also generated clear definitions and names of each theme.

Phase 6: Producing the Report: After finalizing and establishing themes, the researcher started writing the report. She did a final analysis by selecting rich, fascinating extracts examples and relating them to the research questions. Finally, the researcher wrote up the report of the analysis by including the direct quote from respondents. King (as cited in Nowell et al., 2017) suggested that including direct quotes from participants is an essential element of the analysis.

Ethical Considerations

Ethical Risks

Some participants may feel not secured to share the whole information as they are during the interviews. Here the researcher ensured the participants that the information they will provide would remain confidential

Approval by Institutional Review Board

This study was reviewed and approved by the AUB Institutional Review Board to avoid any risk it may cause to participants.

Quality Criteria

Qualitative research has been criticized for being subjective and for missing scientific rigor compared to quantitative study (Cope, 2014). Therefore, as a way of developing trustworthiness in qualitative research, Lincoln and Guba presented four criteria. These include credibility, transferability, dependability, and confirmability. In the next section, the researcher will describe each criteria and its relevance to this study.

Credibility: This explains the confidence that the researcher has concerning the truth of research findings (Pandey& Patnaik, 2014). Concerning this study to ensure that the results are credible, the researcher used member checking and triangulation methods. For the member checking, the researcher consulted the participants again to get their feedback before discussing results. For triangulation, the researcher used individual interviews and document and media analysis as tools for data correction to ensure the truth from research findings.

Transferability: According to Pandey and Patnaik (2014), transferability refers to the degree to which the findings can be applied in other settings or context or can be generalized. Since this study was an in-depth study; therefore, the information could be transferrable to schools in a similar context, particularly Rwandan public schools.

Dependability: Dependability shows that "the findings are consistent and could be repeated" (Pandey& Patnaik, 2014, p. 5746). This criteria is not applicable to this study at hand.

Confirmability: This refers to the degree to which the findings of a study can be confirmed by the participants and by researchers' bias (Pandey& Patnaik, 2014). In relation to this criteria, the researcher conducted member checking.

Chapter Summary

This study used a qualitative research design with a multiple case study approach. It employed interpretive as a paradigm choice. Four public schools from Ngoma District in the Eastern part of Rwanda were purposefully selected. From each school, four teachers and one instructional supervisor were selected based on their willingness to participate in the study and on the established criteria. Twenty participants participated in this study. Individual interviews and document analysis were used as tools for data collection in this study. Furthermore, this study adopted thematic analysis as a methodology for analyzing the data collected. For avoiding involving participants in risks or harmful experiences, this study was reviewed and approved by the AUB Institutional Review Board before data collection.

CHAPTER IV

RESEARCH FINDINGS

The purpose of this study was to understand the perceptions of teachers and instructional supervisors on the nature of the PD program of English and math teachers in lower primary schools in Rwanda. The challenges they face, which impede their PD to be effective, and the characteristics of the effective PD program to be implemented in schools in Rwanda. Four schools from the Ngoma District in the Eastern province of Rwanda were selected to participate in this study. From each school, four teachers and one instructional supervisor were selected based on their willingness to participate in this study. In the following part, the researcher presents a description of the background of the involved schools and participants. The researcher used pseudonyms in presenting the results to keep the name of schools and participants confidential. The schools were named School A, School B, School C, and School D, and the participants were named, for example, Teachers (T1, T2, T3…) and instructional supervisors (S1, S2, S3, and S4).

The following table presents the background information of four schools that participated in this study.

Table 2. Background information of schools that participated in this study

Name of the School	The year the school was founded	Sector	Type of the school	Number of the students	Number of teachers	PD programs in the school
School A	1998	Remera	Government Aided	552 students	16 teachers	PD program for : • Kinyarwanda teachers in Lower Primary • English and maths teachers in lower primary
School B	1956	Kibungo	Government Aided	2290 Students	42Teachers	PD program for : • Kinyarwanda teachers in Lower Primary • English and maths teachers in lower primary
School C	1945	Kibungo	Government Aided	1530 Students	31 Teachers	PD program for : • Kinyarwanda teachers in Lower Primary • English and maths teachers in lower primary
School D	1978	Remera	Government Aided	1156 students in primary school	21 Teachers	PD program for : • Kinyarwanda teachers in Lower Primary • English and maths teachers in lower primary

The schools which participated in this study were four, two schools are located in the Remera sector, and the other two schools are located in the Kibungo sector. Sectors are the third-level administrative subdivision in Rwanda after District. All four public schools are government-aided, and religious bodies run them. In all four schools, they have continuous professional development programs for teachers who teach English, maths, and Kinyarwanda (local language) at the lower primary level.

The following tables present the background information of the 16 teachers and four instructional supervisors who participated in this study classified by schools

Table 3. Background information of teachers and instructional supervisors from school A

Teachers and Instructional Supervisors	Teaching Subject or Position	Educational - Level	Experience in the Education Field	The Number of PD Activities Attended or facilitated
T1	English and Social Studies	High school Diplomat(A2)	7 Years	More than four-time
T2	Math, SET, and Creative and performance	Bachelors' degree(A0)	23Years	More than five times
T3	Math teacher and Math subject leader in the school	Bachelors' degree(A0)	22 Years	More than ten times
T4	English teacher, and English subject leader in the school	High school Diplomat(A2)	4 Years	More than 20 times
S1	Head Teachers	Bachelor's degree(A0)	20 Years	More than 20 times

Table 4. Background information of teachers and instructional supervisors from school B

Teachers and Instructional Supervisors	Teaching Subject or Position	Educational - Level	Experience in the education Field	The Number of PD Activities Attended or facilitated
T5	Maths, and Kinyarwanda	High school Diplomat(A2)	30 years	More than 15 times
T6	English	Bachelor's degree(A0)	15 years	More than 5times
T7	Math	High school Diplomat(A2)	33 Years	More than 20 times
T8	Math, social studies, French, and religion	Bachelor's degree(A0)	17 Years	More than ten times
S2	Director of Studies	Bachelor's degree(A0)	17 Years	More than five times

Table 5. Background information of teachers and instructional supervisors from school C

Teachers and Instructional Supervisors	Teaching Subject or Position	Educational - Level	Experience in the Education Field	The Number of PD Activities Attended or facilitated
T9	Kinyarwanda, English, Math, and SET	High school Diplomat(A2)	20 Years	More than ten time
T10	Math, English, and Kinyarwanda	High school Diplomat(A2)	38 Years	More than five times
T11	Math, Kinyarwanda, and English	High school Diplomat(A2)	18 Years	More than ten times
T12	Math, Kinyarwanda, and English	Bachelor's degree(A0	25 Years	More than ten times
S3	Head Teachers	Bachelor's degree(A0)	20Years	More than five times

Table 6. Background information of teachers and instructional supervisors from school D

Teachers and Instructional Supervisors	Teaching Subject or Position	Educational - Level	Experience in the Education Field	The Number of PD Activities Attended or facilitated
T13	English Teacher and English subject leader in the school	High school Diplomat(A2)	9months	More than two times
T14	Math, Kinyarwanda, and Social Studies	High school Diplomat(A2)	15 years	More than three times
T15	Math, Kinyarwanda, SET, and Social Studies	High school Diplomat(A2)	28 Years	More than five times
T16	English	High school Diplomat(A2)	39 Years	More than five-time
S4	Director of Studies	Masters' degree	22 Years	More than 15 times

The participants who participated in this study were teachers and instructional supervisors. Teachers who participated in this study teach different subjects in primary school and their experience in teaching varies between 39 years to nine months. All the teachers attended PD activities at least more than two times. Furthermore, among 16 teachers, 11 teachers hold a high school diploma, and five teachers hold a bachelor's degree. Concerning the instructional supervisors who participated in this study, two of them are the director of studies, and the other two are head teachers. Their experience in the field of education varies between 20 years and 22 years. Among four instructional supervisors who participated in this study, three hold a bachelor's degree, and one holds a masters' degree. All the instructional supervisors at least attended or facilitated PD activities more than five times.

The following part of this chapter presents the findings of this study, which will be grouped into three sections. The first section offers the perspective of teachers and instructional supervisors about the nature of the PD program for English and math teachers in lower primary schools. The

second section reports the challenges impeding the implementation of effective PD of teachers, and the third section describes the characteristics of effective PD of teachers to be implemented in Rwanda.

The Nature of PD Program for English and Math Teachers in Lower Primary Schools in Rwanda

Teachers and instructional supervisors who participated in this study were asked to describe the PD program for teachers of English and Math in the lower primary at their schools. The researcher combined the views of teachers and instructional supervisors with the information found on the website of Education Development Trust. The data which were found were classified into two themes, including information related to the background and objective of the program and description of the program activities.

Background and Objective of the Program

The PD program of English and Math teachers in lower primary public schools in Rwanda is called the" Building Learning Foundation (BLF)." BLF is a PD program that is owned by the Ministry of education (MINEDUC) and Rwanda Education Board (REB) and is funded by DFID. BLF focuses on three foundations, including teacher development, leadership for learning, and system strengthening. In this study, we will focus on one foundation, which is "teacher development."

Based on the results from document analysis and interviews with teachers and instructional supervisors, the BLF program started working in the schools, which participated in this study in 2019. It intends to improve the learning outcomes of students in mathematics and

English from P1 to P3 public primary school in all government and government-aided schools (Education Development Trust, 2020).

During the interview, one of the instructional supervisors explained that " It has been found that students reach the upper-level classes (p4 to p6) most of the time without having basic knowledge in English and mathematics." He gave an example saying that" in mathematics there some students who reach grade 4,5,6 without knowing multiplication table even some students can reach the level of secondary school"(S2).

According to Education Development Trust (2020)," The switch from Kinyarwanda (local language) at p3 to English at p4 as the medium of instruction is a critical impediment to pupils' learning in Rwanda".

The beneficiaries of this program are teachers of English and mathematics at the lower primary level from all government and government-aided schools in Rwanda. BLF follows the national curriculum in developing learning materials for teachers and students. The Program Activities are discussed in the following section.

Description of the Program Activities

All participants in this study revealed that BLF gathered all teachers who teach English and Math in the lower primary in the same sector for orientation of one day about how they can do self-study using BLF- Toolkits.

According to the information we got from the Education Development Trust website (2020), which was also confirmed by the participants in this study, BLF provides self and peer learning toolkits to all teachers and mathematics at lower level primary school. The kits consist of printed books with supporting audio-visual materials on removable media. The toolkits have

been designed to be used on teachers' mobile phones, and besides, each school has been provided with two smart-phones so that teachers can watch the instructional videos and film their classes for self-reflection and peer discussion. The subject-specific toolkit covers Math and English specific teaching pedagogy and provides vital subject knowledge.

Participants explained that after receiving a one-day orientation and the toolkits, they came back to their schools and started the community of practice. All four schools that participated in this study have a community of practice groups based on the subject teachers teach. The teachers meet once a month for 90 minutes in their communities of practice after finishing one unity, and they discuss that unity. The participants were asked to talk about their experience in the community of practice. They said that it has been helpful to their learning and their teaching.

For example, one of the instructional supervisors said," community of practice method is a useful method because it helps teachers to come together and assess what they are teaching and try to find the solutions among themselves regarding the challenges they are encountering. The fact of finding solutions among themselves is what makes the community of practice productive method" (S4).

One of the teachers also explained that " community of practice is a beneficial method because I can ask my colleagues about what I do not understand, and the one who understands more among us can help me get solutions to the challenges I faced" (T16).

In all schools, the teachers and instructional supervisors reported that school leaders and other people from the district level evaluate the teachers to see the implementation of new instructions in classrooms. One of the teachers stated that" evaluation happens at least once per

school term and people who do evaluation include sector learning facilitator, district teaching advisor, and headteacher" (T1).

The evaluation is done in different ways, as one of the instructional supervisors explained. "We evaluate differently; we can conduct class visits where we can see the improvement of teachers who are part of the BLF- teacher development program. We can also observe the learners if there is some improvement or if they have been taught well"(S3).

Another instructional supervisor explained that the evaluation is done to help both school administrators and teachers. He mentioned that

"The purpose of the evaluation is to know if the work is done well. On the side of the school administration, evaluation helps them to know if the scheme of work is being followed. For the side of teachers, evaluation helps them see if they are on the right track concerning what they are teaching and what they are supposed to teach" (S4).

In the next section, the researcher presents the challenges that teachers and instructional supervisors reported as an impediment to the effective professional development of teachers based on their experience.

The Challenges that Impede the Effective PD of Teachers

This section will present the perspective of teachers and instructional supervisors on the challenges that impede the professional development to be effective. During the interviews, all teachers and instructional supervisors were asked to share the challenge they face, which hinders the effectiveness of their PD. Two themes regarding the challenges impeding the effectiveness of the PD of teachers were revealed, including challenges associated with teachers and challenges related to school and education system in general.

Challenges Associated with Teachers

The data analysis based on the responses given by instructional supervisors and teachers during individual interviews showed four challenges, which are associated with teachers, including Lack of extrinsic motivation, language barrier, and evaluation.

<u>*Lack of Extrinsic Motivation*</u>

This was found to be one of the challenges that some participants reported during the interviews. Numerically, four teachers and three instructional supervisors mentioned a lack of extrinsic motivation as one of the challenges. Some teachers and instructional supervisors shared that Lack of motivation for them is associated with the salary of the teachers. Their salary is low, and asking them to participate in PD activities to them is an added responsibility, yet their salary remains the same. One of the teachers expressed himself, saying that" Teachers need to be given value. Most of the time, doing training takes us a lot of energy; however, sometimes teachers go to those training, and they do not get at least transport fees or other facilities "(T4). This discourages them and can make them not encouraged to implement what they learned from those training as one of the instructional supervisors said,

> "If a teacher has an assignment to work on away from their school, they don't receive the same expense fees as other government workers, and this discourages them. For example, if a nurse can attend training and earn a certain amount of money for paying expenses related to that training and when a teacher goes and receive nothing, this can discourage the teachers from putting into practice what they have learned" (S4).

Another instructional supervisor who shares the same view added that" some of the PD programs that provide facilities, teachers who are part of these programs are delighted, actively involved, motivated to learn and to implement what they have learned" (S1).

<u>*Language Barrier*</u>

Some teachers reported the English language barrier to be a challenge that impedes their PD to be effective. Four teachers and one instructional supervisor stated that their fluency in English is still low, and this obstructs their PD. They explained that because they studied a long time ago when the language of instruction was French, they still straggling as one of the teachers explained, "English is a barrier to my learning because I studied in the French system" (T10). Rwanda has switched from French as a language of instruction to English from 2009 until the present. One of the instructional Supervisors also stated that English is still a barrier for some teachers in his school where he explained that

"The level of English of our teachers is still low, and some of the learning materials are in English. For example, some of the teachers have toolkits, but they do not understand well the content because it is in English. Some teachers end up keeping them, and they do not use them" (S3).

Furthermore, one of the participants shared that their students also are not proficient in English. He explained, "The students I teach do not know English, they reach in P3 without knowing basic English. The problem is that when I am teaching them in English they do not understand and I end up using Kinyarwanda"

Feeling Threatened by the Evaluation

Two teachers mentioned "evaluation" as one of the challenges that impede effective PD. These teachers explained that for them, they believe that evaluation is there to help them improve their teaching; however, sometimes discourage them as one of the teachers explained:

"I didn't like the way one of the supervisors evaluated me; instead of helping me improve my teaching, he discouraged me. One day I was teaching, and one of my supervisors came to my class to observe my teaching. That time I was feeling confident in the way I was delivering my lesson; I clearly remember that I even thought that if I can teach that way every day, my students can improve their learning. During the lesson, a student made a mistake in writing his name, and at the end of the lesson, the supervisor was mad at me, and he started telling me that if the minister of education can see that he can remove me from teaching. Instead of telling me in the

right way what I need to change or improve to make my teaching better, he yelled at me. Evaluation needs to be a way of improving my teaching instead of discouraging me" (T1).

T1 also added that sometimes, a high number of supervisors come to observe her in-class teaching, and this makes her feel not comfortable to teach. She gave an example by saying, "you can find five people, coming in one class for evaluation including district education officer, sector education officer, a policeman, a person from the ministry of education, soldiers, even this disturb learners as well"(T1).

Teachers who share the same view with T1 explained that some people who come to evaluate them do not give them constructive feedback. He gave examples of some words he found discouraging

"Some of the terms that some of the supervisors use are not encouraging at all. For example, words like you did nothing; you are not qualified for teaching, is this how the teachers of this school prepare lessons? All of this makes teachers feel discouraged to the point of not having the courage to ask anything they don't understand or any guidance" (T4).

Challenges Associated with School and Education System

The analysis of the data of this study revealed four challenges associated with the school and education system in general that impede the effectiveness of the PD of teachers. Based on the response given by instructional supervisors and teachers, the challenges are the following:

Lack of Enough Training Opportunities

According to some teachers, one of the challenges that impede their PD to be effective lack of enough training opportunities is one of them. Thirteen teachers mentioned that training opportunities are still not enough compared to their needs. One of the teachers explained, "They do not provide enough training, and even if we studied in the French system if we could have

received enough training in English, we could have been able to speak English very well" (T15). Some teachers also stated that they teach more than one subject. However, the current program focuses only on English and Math as one of the teachers explained, "I did not receive training related to other courses that I teach apart from English "(T2). Other teachers who share the same challenges with T2 specify that they need more training in English, ICT, training on how to teach students with disabilities, and so on. For example, in the interview with one of the teachers said, "I teach Science Elementary Technology (SET), but I do not have skills in ICT, and I did not receive any training. Even if I can try to ask my colleagues to support me, it is not enough" (T15).

Furthermore, the Lack of enough training is affecting the teachers to implement the new curriculum. One of the teachers explained that" They introduced the competence-based curriculum, and immediately we started following it without training, we tried our best as teachers to deal with the chance; however, we still need training" (T6). Teacher 8 added," there are many reforms in education, but most of the time they tell us what changed and they forget to empower us to be able to deal with that change."

Lack of Resources

Some participants reported different challenges related to resources, including Lack of materials for teacher learning and teaching, lack of adequate space for teachers' learning, and time.

Lack of materials for teacher learning and teaching: Twelve teachers and one instructional supervisor mentioned that Lack of enough materials for supporting the learning of teachers as well as their teaching is a challenge. One of the instructional supervisors during the

interview stated that" The materials for teachers' learning are not sufficient, and even what they have in teaching are not enough" (S3). One of the teachers explained how it is challenging for her to teach without teaching aids where she said:" When they come to evaluate me, they ask me why I didn't use the teaching aids in my lesson, but those materials are not available to our school" (T1).

During the interviews, some teachers mentioned some of the materials that are not sufficient, including books for students, dictionaries, laptop, and internet for teachers to do research, materials for making teaching aids. Two smart-phones available at school are not enough for all the teachers, and some of them do not have their smart-phones. One of the teachers mentioned, "During the training, the materials are available, however, when we reach our school, there are no materials, and they want us to implement the same method or content we learned in our classroom, and this becomes challenging"(T4).

Teachers explained that when there are no teaching materials, they are not able to implement the new methods. Teacher 16 who share similar view gave an example by showing the researcher one of the model lessons videos they gave them by saying

"In this video, they gave us as a guide where you can follow a model lesson you can see that every student has its book, however, for us we do not have enough books for every student, and I have only one book that I have to show to 70 students. That is why it is challenging to implement the methods they taught us"(T16).

Lack of adequate space for teachers' learning: Lack of proper location for teacher learning was reported by one of the teachers and instructional supervisors to be one of the challenges. All four schools, which participated in this study, have communities of practice. However, it has been found that in those schools, there is no specific location for the COP meetings to take place as one of the instructional supervisors explained, "Some schools like this

one don't have a proper place where teachers can meet and learn from"(S4). This result in changing the location every time of the meeting, as T13 explained:

"The location changes every month. Today we can meet in our COP here in the secondary school compound, next month we can meet at the primary school compound and another time at one of the teachers' house. We do not have a specific place, it is not good, and it is challenging."

Time was reported as one of the challenges that impede the active professional development of teachers. Numerically, fifteen respondents, including thirteen teachers out of sixteen teachers and two instructional supervisors out of four instructional supervisors, explained how time is a challenge in two ways, including Short time for PD program orientation and Lack of time for teacher learning.

Short time for PD program orientation: Three teachers and one instructional supervisor reported that the time for orientation for the current PD program they are part of was short. They did not get time to understand what they are supposed to do as one of the teachers explained "When they trained us for the first book, it was one day, and they told us that it is orientation, but to be honest, we left the training center without even knowing what we were supposed to do" (T5). Besides, the respondent explained that the content was huge. One of the instructional supervisors also explained" In our current PD program, they trained teachers for one day 6hours, and this time is not enough for understanding very well all the units in the whole book and based on the responsibilities that teachers have to be able to read that book alone it is not easy"(S1). Another teacher who shares a similar view explained: "They gave us orientation for one day for covering a book of 290 pages and after they gave us three more books like that one and they want us to read those books; however, we do not get time to read them" (T13).

Lack of time for teacher learning: Ten teachers and one instructional supervisor reported a lack of time for teacher's self-study as one of the challenges. The participants shared that they were supposed to do self-study and peer learning as part of their PD; however, they felt overwhelmed because of other responsibilities and workload as one of the teachers explained below:

"We come to school very early in the morning and go home evening, to get the time to do self-study, as teachers become a problem. When I am at school and get free time, I use it for planning lessons that I have to teach, and when I am at home during the weekend, I have other responsibilities to fulfill" (T3).

Furthermore, teachers also reported that having heavy work overload does not allow them to get time to focus on their PD. For example, one of the teachers explained, "You find someone is a teacher, a mentor at the school level, and the sector level. What we do in this situation, we balance our responsibilities and see what a priority is. This results in ending up without doing some of our duties, including PD activities" (T4).

Lack of Teachers' Participation in Planning their PD

Some respondents shared that the people who are in charge of their PD don't consult the teachers before planning their PD, and this affects the teachers because their needs are different. One of the teachers explained that "The people who plan our PD program consider the point of view of few teachers from schools in town; however, the challenges we face are different from one school to another and from one teacher to another"(T4). Another teacher who shares a similar view with T4 said

"They sit and work on the program content without considering the point of view of teachers who are on the field. For example, you can find that we have to teach probability, statistics, and even sometimes you find that the teachers do not have the knowledge needed. Some of us did not reach the level of the university, what teachers do in this situation is to skip the topics they do not understand" (T2).

Overcrowded Classrooms

Throughout the interviews, some respondents reported overclouded classrooms as one of the challenges hindering the effective PD of teachers. Three teachers and two instructional supervisors said that there is a large number of students in their classrooms to the point that each class has 70 to 80 students for each shift. In public primary schools in Rwanda, P1 to P3 students study morning shift or afternoon shift. The morning shift starts at 7:20 to 11:40; the Afternoon shift begins at 12: 40 to 5 pm. It is impossible to implement the methods they learned from their PD program with overcrowded classrooms. One of the teachers explained that "to work with 70 students and make sure that they are all learning it is a challenge. Even if you can put them in the small groups still to reach each group in 40 minutes dedicated for each period of teaching, it is not possible" (T16).

The characteristics of Effective PD to be Implemented in Schools in Rwanda.

This section presents the perceptive of teachers and instructional supervisors on the characteristics of effective PD. During the individual interviews, teachers and instructional supervisors were asked to share their perceptions on characteristics of effective PD; the data analysis revealed six themes.

Consideration of the Need of the Teachers

The data analysis revealed that seven teachers and four instructional supervisors believe that for PD to be effective, the needs of teachers must be taken into consideration before

planning or designing their PD. Needs are different from one teacher to another, and teachers are

the ones who know what students need the most. Teachers explained this bellow, where one of

them said:

"They need to know first what I need; they do not have to think on my behalf about my
needs. Even if people who prepare the PD activities for teachers are in the field of education,
they do not know the challenges teachers are facing. That is why it is essential to ask the teachers
to share their needs before developing their PD program"(T1).

Similarly, another teacher explained that "They need to know first what I need or lack so

that my teaching can be useful before providing training. For example, they can collect

information from teachers by asking them what do they need to learn? In this school, what kind

of support do you need?.

T2 added, "Consulting teachers before developing their PD activities are necessary
because they are the ones who know the needs of their students." Furthermore, one of the
instructional supervisors mentioned that" before planning PD activities for teachers, there is a
need for researching to understand what teachers need. Most NGOs do not do that, and it is
helpful because involving teachers makes them feel that they have contributed to their learning"
(S2).

Job Embedded

Respondents reported the relationship of what teachers learn and their daily responsibilities

or job-embedded as one of the characteristics of effective professional development of teachers.

Eight teachers shared that what they learn need to have a direct impact on their teaching. One of

them explained that the PD program needs to reflect their daily responsibilities because" This helps

teachers to learn and put into practice what they learn or make use of what they learn (T5). Another

teacher with a similar view stated that" what I learn need to have a relationship with what I teach

because my learning is about guiding me on how I can prepare adequately" (T1).

Encourage Collaboration of the Teachers

Participants emphasized the collaboration of teachers as one of the features of effective PD of teachers. Numerically, five teachers and two instructional supervisors mentioned the collaboration of teachers as a characteristic of effective PD. They believe that working together as teachers will allow them to support each other and to learn from each other.

For instance, one of the teachers explained that

"For having effective PD, there is a need for sharing knowledge. This is because when people are learning, they do not gain knowledge in the same way or at the same time. Besides, you can reach a certain chapter and find that you do not understand it well, and in this case, all you can do is to ask your colleague to help or guide you" (T5).

On the other hand, one of the instructional supervisors who believe that working together of teachers make an impact on the students' learning said,

"We are following the competency-based curriculum, which encourages the children to work together in small groups. If the teachers are used to work together with their colleagues, it will be easy for them to encourage their students to do the same" (S2).

PD of Teacher Needs to be Continuous

Five teachers and one instructional supervisor reported that allowing sufficient time for teachers to learn is one of the characteristics of PD. Teachers mentioned that PD activities have to be provided in the long term to allow teachers to have time to reflect and to implement what they learn. For instance, one of the teachers said," We need time to reflect, and time for putting what we have learned into practice" (T5). Furthermore, teachers believe with enough time; some teachers can be able to use the new methods or techniques effectively. As one of the teachers explained," Continuous learning can help those teachers who think they are experts in teaching, who do not want to learn and change their old methods to get the time to reflect on their teaching and change" (T8).

Include Follow up

Participants, including seven teachers and two instructional supervisors, reported follow-up as one of the characteristics of effective PD. The respondents mentioned that people in charge of PD have to visit teachers in their classrooms to see if they are implementing what they learned or if they are facing any challenge in the teaching and learning process. For instance, one of the teachers said," They have to keep following-up to make sure that we are putting into practice what we learned (T5). Another teacher who shares the same view with the above teacher said:" those people who train us need to come back and see if we are implementing what they taught us and if we are facing any challenges"(T10).

Availability of Resources

Seven teachers and one instructional supervisor reported that the availability of materials for learning and teaching and also facilities are one of the factors which can make PD effective. During the interviews, teachers and instructional supervisors explained that based on their experience, if materials like books, internet, laptop, and teaching aids can be available, it can help their PD to be effective. One of the teachers, for example, said, "They need to make sure that if teachers need a book will be available, and if the teachers need the transport will be provided if the training won't take place at their school" (T4).

Similarly, one of the instructional supervisors also said," you cannot tell teachers to come for training without providing them with all necessities like transport, food, and per diem and expect them to learn effectively. For example,

"Teachers who are part of one of the PD programs at my school are happy and motivated to learn, and even when we visit them in their classrooms, we can see the improvement in their

teaching. This is a result of how they are treated in their PD program because they cover all their expenses needed to be part of the program" (S2).

Chapter Summary

This chapter aimed at presenting the findings of this study, it started by describing the background of the participants and their schools. It followed by giving nature of PD of teachers of English and Math in lower primary schools in Rwanda. In this section, the researcher the background, objectives, and activities of the PD program for English and Math teachers in lower primary schools in Rwanda.

In the following section, the researcher presented the findings related to the challenges that teachers and instruction supervisors find to hinder the effectiveness of PD of teachers. These challenges were classified into two categories, including the challenges associated with teachers and challenges associated with schools and the education system in general. The last part of this chapter presented the findings on the perceptions of teachers and instructional supervisors on the characteristics of effective PD of teachers. These characteristics include consideration of the need of the teachers, job-embedded, encourage the collaboration of the teachers, providing teachers with appropriate and sufficient time to learn, include follow up, and availability of resources. In the following chapter, the researcher will discuss the above findings.

CHAPTER V

DISCUSSION

This chapter will offer interpretations of the findings of this study by showing how they relate to research questions and the existing literature. The results will be discussed in three sections. The first section will discuss the research findings that emerged as the answer to the first research question: What are the perceptions of teachers and instructional supervisors on the nature of the PD design offered for English and Math teachers in lower primary schools in Rwanda? The second section will discuss findings that emerged as the answer to the second research question: What are the challenges that teachers and instructional supervisors find to be impeding the PD programs of teachers to be effective in the context of school improvement in Rwanda? The third section will discuss findings that emerged as the answer to the third research question: What characteristics do teachers and instructional supervisors perceive as key contributors to the effectiveness of PD programs in Rwanda?

The Nature of the PD Design Offered for English and Math Teachers in Lower Primary Schools in Rwanda

The results of this study showed that the PD program for teachers of English and Math in the lower primary schools in Rwanda started with an orientation where the teachers got an opportunity to be introduced, provided with toolkits for guiding and facilitate them in doing self and peer learning at their schools. In every school, all teachers take time to do self- learning, and after they all meet in their community of practice based on the subjects, they teach to do peer learning. The PD program for English and Math in lower primary schools in Rwanda based on the above findings, it is clear that adopted a community of practice as one of the forms of PD of teachers. In each public primary school, there is a community of practice for teachers who teach

English and another for teachers who teach Math in lower primary. They meet once a month within their respective community of practice with the aim of sharing their experience to improve their teaching. This resonates with Wenger's (2011) definition of a community of practice, which "is a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (p.1).

Furthermore, the results of this study revealed that teachers enjoy the community of practice and find it relevant to their learning. It allows them to learn from each other and to find themselves the solutions to the challenges they face in their teaching. This resonates with a study conducted by Torrey (2017), which found that the creation and encouragement of teachers to participate in the community of practice is very important. However, more importantly, when school administration does it, become more productive as it creates an ongoing supported learning environment for teacher professional growth.

The Challenges Impeding the PD Program of Teachers to be Effective

They are different challenges that hinder the effectiveness of the PD of teachers. The challenges identified in this study are described in two categories. First, some challenges are associated with teachers to mean those challenges that are connected with individual teachers. Second, other challenges are associated with the school and education system to mean those challenges that are linked with school context and structure.
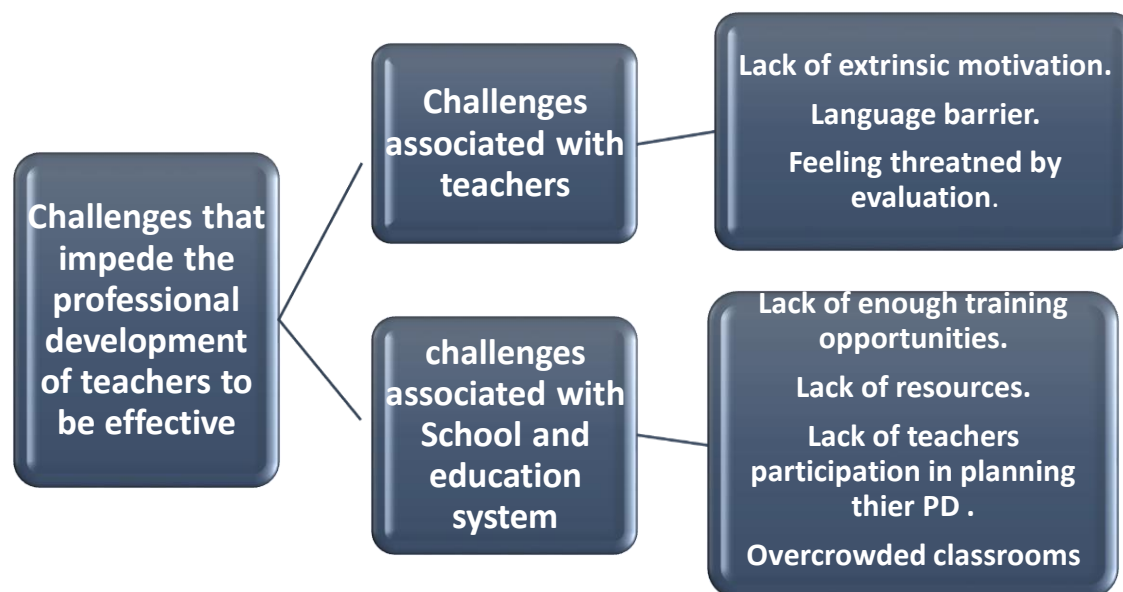
Figure 3. Challenges that impede the PD of teachers to be effective

Figure 3 presents the challenges that hinder the PD of teachers from being effective based on the perspectives of the teachers and instructional supervisors who participated in this study. Figure 3 shows that the teachers face some challenges that are associated with them like Lack of extrinsic motivation, language barrier, and Feeling threatened by the evaluation. Among these challenges apart from feeling threatened by the evaluation, which was reported by teachers only, other challenges were reported by both teachers and instructional supervisors. The following section, will discuss each challenge.

Both teachers and instructional supervisors reported **a lack of extrinsic motivation,** which rendered the PD ineffective at times. Some have argued that engagement in PD activities of teachers requires them to be motivated to learn and change their old practice (Gravani, 2012). Extrinsic motivation refers to motivation to engage in an activity expecting a reward or tangible outcome (Linnenbrink & Pintrich, 2002). Among the principles that guide how the adults' people learn, motivation plays a vital role in their learning to be effective (Knowles et al., 2012). In this

study, it was found that some teachers feel not motivated to engage in PD activities because they consider their PD as added responsibility that doesn't provide them with monetary income. This finding is consistent with the result of a study conducted in South Africa by Bernadine (2019) which found that educators are demotivated to participate in their PD program because it does not offer them monetary incentives.

The language barrier: In 2009, that is when Rwanda shifted from the French to English as a language of instruction. A large number of teachers who participated in this study revealed that they are still affected by this change. Some teachers who teach English find it challenging to speak fluently, and this hinders their ability to teach the students effectively. Besides, teachers find doing self-study challenging mainly because the resources are in English, and their vocabularies are limited.

The review of literature reported language barrier as a challenge that teachers face from other countries with similar experience like Rwanda. Especially teachers from countries like Kenya, Turkey, Uganda, and Malaysia where English is being used as a medium of instruction as different from their native language (Anyiendah, 2017; Cankaya, 2017; Namuchwa, 2007; Othman & Saat, 2009). Teaching all subjects in English affected their teaching because for some, they were not proficient in English themselves, and the students were not ready to learn in English because they did not comprehend English vocabulary due to lack of exposure to English speaking environment (Namuchwa, 2007; Anyiendah, 2017; Cankaya, 2017). This forced the teachers to use their local language to help the students understand better (Namuchwa, 2007). This was a similar case with what one of the teachers who participated in this study shared during the interview.

Feeling threatened by the evaluation was also found as a challenge among some teachers who participated in this study. It has been found that some of the supervisors in charge of teacher evaluation do not provide constructive feedback to the teachers, and this discourages teachers and make them not to consider assessment as a learning experience. According to Knowles(1980), "Nothing makes an adult feel more childlike than being judged by another adult; it is the ultimate sign of disrespect and dependency as the one who is being judged experiences it" (p.49). Teacher evaluation systems have been found to play a significant role in the professional development of teachers (Delvaux et al., 2013). Teacher evaluation has two primary purposes. First, teacher evaluation as formative, which encourage teachers' professional development. Second, teacher evaluation as summative, which serves as a tool to measure the performance of teachers and to make them accountable. Based on the experience of some of the teachers who participated in this study have with evaluation, this can explain on one hand that their supervisors focus on one purpose of evaluation, which is summative. However, Researchers recommend that teacher evaluation should have both purposes (Delvaux et al., 2013). On the other hand, this can be explained as a contradiction of the idea behind the community of practice. If teachers feel discouraged by the feedback given by their supervisors then the impact of teachers being part of a community of practice can be questioned. Torrey (2017) found that the creation and encouragement of teachers to participate in the community of practice is very important because it creates an ongoing supported learning environment for teacher professional growth. Furthermore, it creates a supportive environment where teachers feel open to feedback regarding their performance (Knowles, 1980).

Figure 3 also presents some challenges, which are associated with the school and education system, including:

a) Lack of enough training opportunities, b)Lack of resources, c) Lack of teachers' participation in planning their PD, d) Overcrowded classroom. In the following section, these challenges will be discussed one by one.

Lack of enough training opportunities: Many educators take training as a synonym for staff development. However, training is a staff development form where mostly teachers attend sessions of workshop-type in which presenter is an expert who provides the content and how activities will follow (Sparks &Loucks, 1989). The results of this study show that teachers face the challenge of a shortage of training opportunities while they have many things they need to learn to make their teaching better. Training opportunities, most of the time, are provided for teachers at the time they need them, and because they don't play a role in planning and delivering them, their needs can go unmet (Diaz-Maggioli, 2004).

Lack of resources: For PD to be effective there must be resources necessary to support the teachers' learning and support teachers in the implementation of newly learned skills and knowledge in their classrooms. The findings of this study revealed that teachers face challenges related to the lack of resources like materials for teachers' learning and teaching, which affect the teachers to put into practice what they learned in their classrooms. This finding is consistent to a finding of other studies conducted by Shelile and Hlalele (2014) and Buczyns & Hansen,2010. In their study, Shelile and Hlalele (2014) found that the lack of resources necessary to facilitate the learning of teachers to be a challenge for their PD. Teachers who participated in this study mentioned that at their school level; they do not have resources to facilitate their learning, including internet access, computers, and needed textbooks. Lack of teachers' learning and teaching materials discourage some teachers who want to learn and improve their teaching but, at the same time, can serve as an excuse for the teachers who do not want to learn and improve their teaching (Shelile

& Hlalele, 2014). Furthermore, Buczyns & Hansen (2010) found that "the unavailability of resources posed the largest barrier to the full application of professional development in the classroom" (p.605). Similarly, to the study at hand teachers complained that at their schools, they are no resources to support them to put into practice what the learned from PD program into their classrooms. "Little or no support in transferring professional development ideas to the classroom" is the obstacle to the PD of teachers (Diaz-Maggioli, 2004).

Besides, issues related to time, like lack of time for teachers' learning, also was reported in this study. The teachers have many responsibilities compared to the time they have available to fulfill those responsibilities. Some teachers assume leadership roles in their schools, sector, and district level in addition to their job of teaching, which is not simple at its own. Time was also found to be a challenge affecting the PD of teachers in other studies (Buczynski & Hansen, 2010; Park& So, 2014; Botham, 2018). These studies found that teachers lack time to engage in their school-based PD activities because of having excessive workload (Buczynski & Hansen, 2010; Park& So, 2014; Botham, 2018).

Lack of teachers' participation in planning their PD: The findings of this study revealed that the lack of the voice of teachers in planning their PD to be a challenge that affects the effectiveness of PD. Given that the voices of teachers are not usually heeded in planning their PD, they precisely question their active participation in programs that were designed behind their backs yet are meant to change the way they do things (Diaz-Maggioli (2004). This finding resonates with another study conducted in Lesotho schools- South Africa, where Shelile and Hlalele (2014) found that the views of teachers about the challenges they face in the schools and the suggestions for improving their PD were often not taken into consideration. In most cases PD decisions are taken by education administrators or consultant instead of teachers and this make PD to be considered

as a burden to teachers rather than being a solution to the problem teachers are facing (Diaz-Maggioli, 2004).

Overcrowded classrooms: This was found as a challenge teachers face during the implementation of what they learned in PD programs into their classrooms. This study found that some of the methods they learned like learner-centered methods were not applicable to the context that teachers teach in based on a large number of students in a classroom. It is a challenge because if the purpose of PD is to improve students' learning and then teachers are not able to use the new knowledge in their classroom, there is no importance for them to get that knowledge. Furthermore, Guskey (2002) found that after teachers gain evidence of improvement of student learning outcomes, that is when they will change in their beliefs and attitudes and be motivated to engage in PD activities. Based on the reviewed literature in this study there was no other study that found overcrowded classroom as a challenge that affects the effectiveness of PD of teachers.

The Characteristics Perceived as Key Contributors to the Effectiveness of the PD Program of Teachers in Rwanda

This section discuss the characteristics of effective PD found in this study based on the perceptions of both teachers and instructional supervisors.
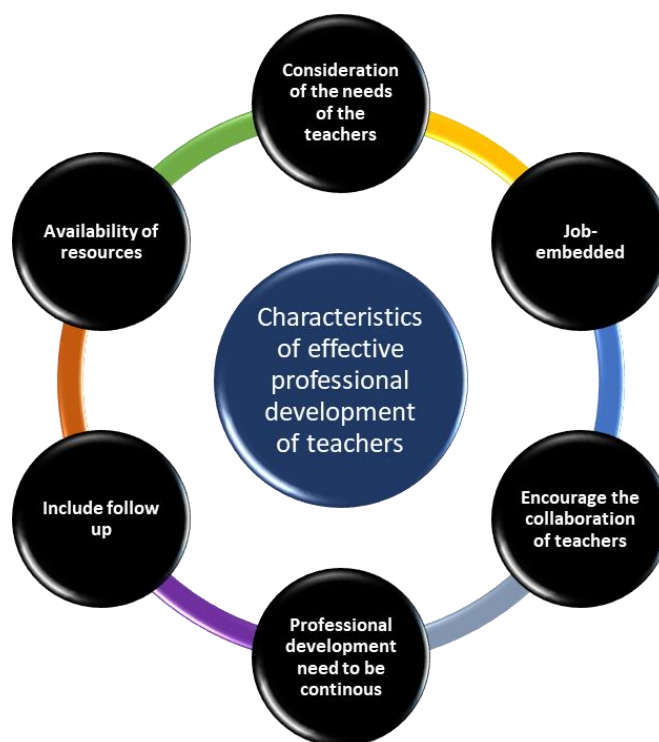
Figure 4. Characteristics of effective PD of teachers.

Effective PD is defined as structured professional learning that results in changes in teacher practices and improvements in student learning outcomes (Darling-Hammond et al. 2017). Teachers and instructional supervisors who participated in this study reported the characteristics as listed in figure 4 that they believe can make PD of teachers effective based on their experience. Each characteristic will be discussed below.

Consideration of the needs of the teachers in planning their PD is an important feature for making teachers feel motivated to learn as they are sure that their needs will be addressed. According to Knowles et al. (2012), adult learners like teachers need to understand first why they need to learn, what they need to learn, and how they will learn. This is because adult learners can be ready to learn certain skills based on the reason behind the choice of learning. If adults are aware of the reasons why they need to learn specific skills, they will feel ready to learn those skills,

and they will be more interested in participating (McGrath, 2009, Knowles, 1980). Furthermore, adult learners have a variety of life experiences; therefore, the instructor must allow them the opportunity or freedom to explore the content to make sure that it fits their educational needs (Knowles as cited in Fallahi, 2019). Adult learners like teachers, their self-concept shifts from being dependent toward being self-directed individuals, and they consider themselves as producers and decision-makers who are ready to face the consequences of their actions (Knowles,1980). They are naturally motivated to acquire knowledge and skills that they see there is a need for learning them. Involving them in the planning process of those things, they are supposed to learn to make their learning effective. "There seems to be a law (or, at least, a tendency) of human nature that goes like this: human beings tend to feel committed to a decision (or an activity) to the extent that they have participated in making it (or planning it)" (Knowles, 1980, p.48).

Considering the needs of teachers in planning their PD has been found as one of the characteristics of effective PD of teachers in other studies conducted in the USA (Rogers et al.,2007) and Turkey (Bayar,2014). Furthermore, it has been found on the list of 21 characteristics of effective professional development cited by various sources presented by Guskey (2003). Rogers et al. (2007) and Bayar (2014) found that it is crucial for the people who are in charge of planning PD to ask teachers what they want or think can help them teach their students effectively. Instead of choosing on their behalf and ask them to attend the PD program as passive learners. Speck & Knip (2001) suggested that it is essential to involve teachers in the process of designing implementing and evaluating PD. Teachers are the recipient of professional development; that is why engaging them in all processes will motivate them to own their learning and to make it relevant. Bayar (2014) found that over half of the respondents in his study criticized the fact that

they do not give them the opportunity to share their ideas in the planning or designing process of professional development activities as an unfavorable practice.

Job embedded: This characteristic means the relationship between the things that teachers learn and their daily responsibilities. Teachers in Rwanda have specific subjects that each one is responsible for teaching, and they have a curriculum to follow. It makes sense that they believe that the PD which focuses on addressing the challenges they face in their daily work to be effective. Furthermore, this is also more related to the personality of teachers as Adults people. According to Knowles (1980), adult learners "enter an educational activity in a problem-centered or performance-centered frame of mind" (p.53). Orientation to learning needs to be considered in case the instructor needs to make material relevant (Fallahi, 2019). Adult learners perceive learning to be effective based on the immediate application it has (Knowles, 1980)." To adults, education is a process of improving their ability to cope with life problems they face now" (Knowles, 1980, p.53). Job embedded was found in other studies to be one of the characteristics of effective professional development of teachers. For instance, Hunzicker (2011) found that effective PD activities need to be aligned with the daily work of the teachers and provide space for them to apply their new learning into classroom practice. According to Diaz-Maggioli (2004), effective PD "should be understood as job-embedded a commitment that teachers make to further the purpose of the profession while addressing their own particular needs"(p.5). Many researchers discussed the importance of focusing on the daily responsibility of teachers in their professional development activities (Bredson, 2002; Speck & Knip 2011; Wells; 2014; Carissa, 2018).

Encourage collaboration of teachers: Working together as teachers support them to learn from each other and easily. Teachers' collaboration means that teachers work together intending to achieve the same goals and help each other grow professionally (Hunzicker, 2011). Teachers,

as adult learners, have the experiences that are needed to be considered as resources for them to build on confidence (Fallahi, 2019). Knowles (1980) recommended that because adult learners are regarded as learning resources, it is crucial to use techniques that connect their experiences like role pray, and group discussion. The study at hand showed that teachers meet in their communities of practice and share their experiences as a way of improving their teaching.

This finding is consistent with other studies, which explored the characteristics of effective PD of teachers. For instance, Birman et al. (2000), found that professional development programs that encourage teachers to work together are more effective. They explained that teachers who teach in the same school and within the same department share the same curriculum. When they work together, it facilitates their teaching by planning lessons together, helping each other to address different challenges related to their classroom instruction. On the other hand, Gibson et al. (2012) found that collaborative learning motivates teachers to learn and to implement the new instructional practice in their classroom because they are a team, and they can support each other. Furthermore, according to Javornik et al. (2008), collaborative culture is significant for the growth of the teachers as professionals and in helping them respond to their career needs and to work successfully.

Even though some teachers may find collaborative learning as a way of exposing their weakness, Speck & Knip (2011) argue, "Collaborative interaction is not a sign of lack of knowledge in a professional setting. It is evidence of both faculty strength and healthy school climate" (p.59). Besides, if teachers do not believe or experience the culture of working together will also affect the way they will encourage the students to work collaboratively (Javornik et al. 2008).

Providing continuous PD activities for teachers makes their PD effective as it allows them to reflect, practice, and implement the new instructions in their classrooms. This finding is consistent with other research studies that identified that for PD to be effective has to be an ongoing process (Webster-Wright, 2009; Coine et al. 2010; wells, 2014). Being ongoing means the combination of the meeting hours, PD program duration, and the relationship between professional development activities with daily work of teachers (Hunzicker, 2011). According to Guskey (as cited in Bayar, 2014), professional development activities need to be considered as a learning process, not as incidence that happens for a short time. These short- time PD activities are likely to lack the essential potential to make an impact on teachers' practice (Bayar, 2014). For example, among the forms of PD programs workshop was criticized for being ineffective because it takes a short time and most of the time there is no proper follow-up and no sustainable impact (Guskey, 2009). For any change in teachers' practice to be durable, it will take time and effort to reflect, explore, and to take the opportunity for constant learning (Louks-Horsley et al. 2003). For having a successful professional development of teachers, it must be seen as a process, not an event (Loucks-Horsley et al. as cited in Guskey, 2002).

Include follow-up as a part of the process of PD of teachers; is an important feature. As the purpose of the teachers' learning is to improve the students' learning. It is very crucial to make sure that the environment that teachers work in is supportive when it comes to implementing the new instruction in their classrooms. Follow up "provides encouragement, motivation, and occasional nudging that many practitioners require to persist in the challenging tasks that are intrinsic to all change efforts" (Guskey, 2002, p.388). This study found that school leaders or PD facilitators need to visit teachers to find that if they are implementing the new methods or seeing if they are facing some challenges in supporting them and or providing them with feedback to

improve their teaching. If the use of new knowledge and skills is to be continuous, and changes are to sustain, the people involved need to obtain consistent feedback on the effects of their efforts (Guskey, 2002). However, It is crucial to have a supportive environment where teachers feel open to feedback regarding their performance (Knowles, 1980).

The availability of resources for teachers' learning and implementing new instructions,is an essential characteristic for making PD of teachers. Teachers need to have all the necessary materials for making their learning and teaching. PD as a school initiative needs to be supported in all ways possible. School leaders need to allocate appropriate time for PD activities and to provide the necessary resources to facilitate teachers' learning and the implementation of the new instruction (Louks-Horsley et al. 2003). The implementation of the newly learned knowledge into the classroom is subject to alteration to increase professional development effectiveness (Veenman et al. 1994). All characteristics of the effective professional development of teachers found in this study resonate with the characteristics that were found in the literature

CHAPTER VI

CONCLUSION

This chapter presents the conclusion, recommendations, and limitations of this study. It starts by summarizing and reflecting the overall arguments about the findings with proper consideration of the purpose of this study. It followed by a presentation of recommendations for practice and further studies, and it ends with a description of the limitations of this study

The first purpose of this study was to understand the nature of the professional development program for English and Math teachers in lower primary schools in Rwanda. Based on the qualitative analysis of this study, it was found that the professional development of teachers is not a new topic in public primary schools in Rwanda. Two PD programs are being implemented currently in public primary schools in Rwanda, including the program for Math and English teachers in lower public primary schools and program for Kinyarwanda teachers who teach in lower primary schools. This study chooses to focus on a PD program offered for English and Math teachers of lower public primary school because it benefits many teachers which helped the researcher to get participants easily with diverse experience.

The results of this study showed that the objective of this program which is owned by the MINEDUC and REB is to improve the learning outcomes of students in mathematics and English from p1 to p3 public primary school in all government and government-aided schools. This program adopted a community of practice as a form of PD to support teachers' learning. This community of practice is an open space where teachers who teach the same subject mentioned above meet and learn from each other by sharing their stories, experiences, and challenges they are facing as a way of finding solutions together. The educational leaders from

the level of the district to the school level work hand in hand with the teachers to make sure of the effective implementation of the program.

The second purpose was to understand the challenges that teachers and instructional supervisors find to be impeding the effective PD of teachers. This study revealed two categories of challenges, including first, the challenges associated with the teachers like feeling threatened by evaluation, language barrier, and lack of extrinsic motivation. The second category is challenges associated with schools and the education system like lack of resources, overcrowded classrooms, lack of training opportunities, and lack of teachers' participation in planning their PD. Some of the challenges which affect the effectiveness of PD like feeling threatened by evaluation and overcrowded classroom were found to be unique to the context of Rwanda because they have not been found in other studies.

Some of the challenges which were found in this study affect teachers to engage in learning activities successfully, like, for example, lack of adequate space for teacher learning, language barrier, feeling threatened by evaluation, and lack of participation in the planning process of their PD. Another challenge like overcrowded classrooms, affects teachers in implementing the newly acquired knowledge from their PD programs in their classrooms, and other challenges like lack of resources and lack of extrinsic motivation affect teachers in both ways.

The third purpose of this study was to understand the characteristics of effective PD of teachers. Based on the perception of teachers and instructional supervisors who participated in this study, for the PD of teachers to be effective, there is a need to consider teachers' needs, to be job-embedded, to encourage the collaboration of teachers, to be continuous and to have resources necessary. These characteristics reflect the principles of adult learning theory, and they are

consistent with characteristics of effective PD of teachers, which were found in other studies. It was found that the effectiveness of the PD of teachers does not depend only on teachers' acquiring knowledge through PD activities but also on the process of applying newly learned skills, methods, and knowledge into their classroom.

The PD program for teachers who teach English and Math in lower primary public schools in Rwanda is supporting teachers to improve their knowledge to be able to impact the students' achievement in English and Math. However, there is still more work to be done to improve the current PD programs available in schools by addressing the challenges teachers are facing and to provide more PD opportunities for all teachers in public schools in Rwanda. This study prepared some recommendations which can be considered for practitioners and researchers in the field of PD of teachers.

Recommendations

This study found different challenges that impede the effectiveness of the PD of teachers in schools in Rwanda. In addition, it found characteristics that teachers and instructional supervisors who participated in this study believe can make PD effective based on their experience. It is in that line that this study presents the following recommendations for practice and for further research.

Recommendations for Practice

For NGOs, educational institutions, and schools who are in charge of designing PD of teachers are recommended:

- To involve teachers in the process of designing, delivering, and evaluating their PD.

- To provide the teachers with the necessary resources to facilitate their learning and implementing the new instructions in their classrooms.

- To provide ongoing PD opportunities related to all subjects taught in primary schools in Rwanda.

- To make sure that teachers are not only proficient in English language, but also in the pedagogical and classroom instruction language to meet the needs of a competency based curriculum

Based on some of the challenges impeding effective PD of teachers presented by teachers and instructional supervisors who participated in this study, it is recommended :

- To allocate time for teachers' learning on their work schedule.

- To provide a room in every school for accommodating PD activities of teachers.

Recommendation for Further Studies

There is a need of conducting other in-depth small-scale studies in other geographical areas in Rwanda to understand what makes PD of teachers effective and including points of view of professional development facilitators to explore this topic more.

There is a need of conducting research to explore to what extent does professional development in Rwanda achieves its acclaimed goals.

This study, like other studies, revealed that the primary purpose of the PD of teachers is to improve students' learning. With this in mind, this study recommends to researchers to conduct studies on exploring the impact of professional development of teachers on students' learning in Rwanda.

Furthermore, this research recommend to researchers to conduct studies on understanding the challenges that teachers are facing in using English as medium of instruction and strategies to address them.

Limitations of this Study

The timeline for data collection was short based on the approval process of getting the participants to participate in the study, which is long. This restricted the researcher to include the PD facilitator or designer in Rwanda who could have brought new insight into the effectiveness of the PD of teachers.

Given the fact that this study used interviews as a tool for data collection certain themes could have imposed on the data rather than emerging them.

The sample size of this study, which was 20 participants from four schools in one district out of 30 districts in Rwanda, was small. This affects the finding of this study to be generalized.

APPENDIX A:

INTERVIEW GUIDE FOR INSTRUCTIONAL SUPERVISORS

PART I. **Perspective of instructional supervisors about the nature of professional development for English teachers in lower primary school.**

1. Can you tell me what you understand by the term "professional development of teachers"?

2. *The following questions I am going to ask you are related to the nature of the professional development program that your school offers to teachers of English in Lower primary school.*

   a. What are the objectives?

   b. Who chooses the topic that teachers are going to study?   How does it happen?

   c. What are the format or methods of professional development do you use in your professional development program? (Workshops, conference, a community of practice, mentorship…).

      a. Do you find these methods helpful for teachers learning? Why?

   d. When do teachers meet for their professional development and for how long?

      a. Do you find the time sufficient and why?

   e. What is the location(s) for teachers' learning? (in school, out of school)

   f. Do you find this location appropriate for their learning why?

   g. Who evaluates teachers' professional development for English teachers in your school? How? In addition, when?

      a. How often does the evaluation happen? Monthly? Every term? And son on

      b. Do you find evaluation helpful why?

PART II. **Challenges impeding the implementation of effective professional development of teachers**

3. Based on your experience what do you think are the challenges or factors that affect the professional development of teachers in your school

PART III. **Characteristics of effective professional development of teachers**

4. What do you think can be the characteristics of effective professional development program of teachers in Rwanda?

   ❖ What can you recommend to people in charge of planning or designing professional development programs of teachers to be effective? (E.g. MINEDUC, NGOs, REB...).

APPENDIX B:

INTERVIEW GUIDE FOR TEACHERS

PART I. **Perspective of teachers about the nature of professional development for English teachers in lower primary school.**

1. Can you tell me what you understand by the term "professional development of teachers"?

2. *The following questions I am going to ask you are related to the nature of the professional development program that you are part of in your school.*

   a. What are the objectives?

   b. Are you the one who chooses the topic that you are going to study? How? how does it happen

   c. What are the format or methods of professional development do you use in your professional development program? (Workshops, conference, a community of practice, mentorship…….).

      ❖ Do you find these methods helpful? Why?

   d. When do you meet for your professional development and for how long?

      a. Do you find the time sufficient and why?

   e. When did you start taking part in the Professional Development program at your school?

   f. What is the location(s) for your learning? (in school, out of school)

      a. Do you find this location appropriate for your learning? Why?

   g. Who evaluates your professional development? How? And when?

      ❖ How often does the evaluation happen? Monthly? Every term? And son on

❖ Do you find evaluation helpful why?

PART II. **Challenges impeding the implementation of effective professional development of teachers**

3. Based on your experience what do you think are the challenges or factors that affect your

    professional development?

PART III. **Characteristics of effective professional development of teachers**

4. What do you think can be the characteristics of effective professional development of

    teachers in Rwanda?

    ❖ What can you recommend to people in charge of planning or designing professional

        development programs of teachers to be effective? (E.g. MINEDUC, NGOs,

        REB...).

APPENDIX C**:**

INDIVIDUAL IINTERVIEW PROTOCAL FOR TEACHERS

 Individual Interview Protocol for Teachers

The researcher opens the interview by introducing the purpose of the meeting, the ethical procedure, what will be done with the information, the benefits of the study, how long the interview will take, and will remind the *teacher* of the confidentiality of the discussions during the interview. The researcher will point out to the *teacher* that he/she reserve the right to withdraw from the discussion at any time he/she wish without any penalty or loss of benefits. The researcher then starts off the discussion.

Opening statement: In this interview, we will be addressing one issue: I will proceed to ask you questions to solicit your thought. I will need your objective and sincere responses, to any question. Feel free to ask me to skip a question that you do not feel comfortable responding to.

A. Now, let us look at the guided questions for this interview (I will then refer to interview questions for guidance and proper wording)

B. *Possible probes:* Do you have anything to add? Is there anything you would like to talk about concerning professional development?

Closing question: Thank you for allowing me to interview you, I also appreciate your time and responses to the question. May God bless you!

APPENDIX D:

INDIVIDUAL INTERVIEW PROTOCAL FOR INSTRUCTIONAL SUPERVISORS

Individual Interview Protocol for Instructional Supervisors

The researcher opens the interview by introducing the purpose of the meeting, the ethical procedure, what will be done with the information, the benefits of the study, how long the interview will take, and will remind the *instructional supervisor* of the confidentiality of the discussions during the interview. The researcher will point out to the *instructional supervisor* that he/she reserve the right to withdraw from the discussion at any time he/she wish without any penalty or loss of benefits. The researcher then starts off the discussion.

Opening statement: In this interview, we will be addressing one issue: I will proceed to ask you questions to solicit your thought. I will need your objective and sincere responses, to any question. Feel free to ask me to skip a question that you do not feel comfortable responding to.

C. Now, let us look at the guided questions for this interview (I will then refer to interview questions for guidance and proper wording)

D. *Possible probes:* Do you have anything to add? Is there anything you would like to talk about concerning professional development?

Closing question: Thank you for allowing me to interview you, I also appreciate your time and responses to the questions. May God bless you!

APPENDIX E**:**

MEMBER CHECKING INTERVIEW PROTOCOL FOR INSTRUCTIONAL SUPERVISORS

Opening statement: The aim of this interview is to validate the data obtained. This interview should not be more than 20 to 30 minutes. I will first present to you the themes that have emerged from my data analysis. I would like to know if you would like to add any missing idea/topic and to clarify any misconception(s). Then I would appreciate your feedback concerning these themes.

Possible probes: Do you have anything to add to this theme? Do you agree with the title? Did I clearly capture the idea? Is it clearly presented?

Closing question: After discussing the analyzed categories, would you like to add anything?

APPENDIX F:

MEMBER CHECKING INTERVIEW PROTOCOL FOR TEACHERS

Opening statement: The aim of this interview is to validate the data obtained. This interview should not be more than 20 to 30 minutes. I will first present to you the themes that have emerged from my data analysis. I would like to know if you would like to add any missing idea/topic and to clarify any misconception(s). Then I would appreciate your feedback concerning these themes.

Possible probes: Do you have anything to add to this theme? Do you agree with the title? Did I clearly capture the idea? Is it clearly presented?

Closing question: After discussing the analyzed categories, would you like to add anything?

APPENDIX G:

CHALLENGES IMPEDING THE EFFECTIVENESS OF THE PROFESSIONAL
DEVELOPMENT OF TEACHERS

Challenges	Number of Teachers(16)	Number of Supervisors(4)
Lack of extrinsic motivation	4	3
Language barrier	4	1
Feeling threatened by the evaluation	2	0
Lack of enough training opportunities	13	0
Lack of materials for teacher learning and teaching	12	1
Short time for PD program orientation	3	1
Lack of time for teacher learning	10	1
Lack of adequate space for teachers' learning		
Lack of teachers' participation in planning their PD	2	0
Overcrowded classrooms	3	2

APPENDIX H:

CHARACTERISTICS OF EFFECTIVE PROFESSIONAL DEVELOPMENT OF TEACHERS

Characteristics	Number of Teachers(16)	Number of Instructional Supervisors(4)
Consideration of the need of the teachers	7	4
Job embedded	8	0
Encourage collaboration of the teachers	5	2
Professional development needs to be continuous	5	1
Include Follow up	7	2
Availability of resources	7	1

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