



**MANAGEMENT OF UNIVERSTIY FACTORS TO SUPPORT
LIFELONG LEARNING OF FACULTY MEMBERS**

By

Hongyan ZHOU

A Dissertation Submitted in Partial Fulfillment of the Requirement
for the Degree of Doctor of Philosophy (Education Management)

Graduate School, China-ASEAN International College

Dhurakij Pundit University

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Doctor of Philosophy (Education Management) program

Title of Dissertation:

"Management of University Factors to Support Lifelong Learning of Faculty Members"

Presented by: Miss Hongyan ZHOU

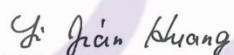
Principle co-supervisor: Dr. Chia-Ching Tu

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The above dissertation has met research requirement of the CAIC's Ph.D. (Education Management) program.

Evaluation of the dissertation: *S (Satisfactory)*

Accepted by China-ASEAN International College (CAIC)



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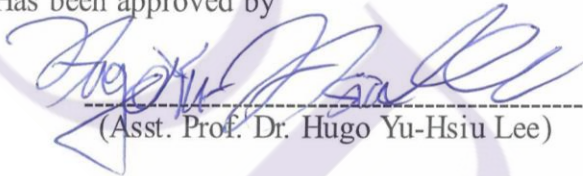
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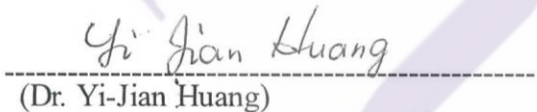
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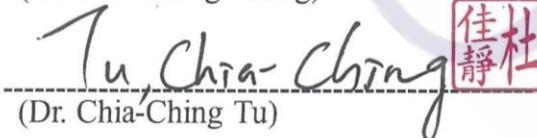
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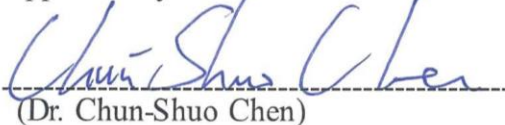


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Date 10 Jan 2019.

Dissertation Title: Management of University Factors to Support Lifelong Learning of
Faculty Members

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Dissertation Principle Supervisor: Dr. Chia-Ching Tu

Dissertation Supervisor: N/A

Program: Ph.D (Education Management)

Academic Year: 2018

ABSTRACT

University faculty members' lifelong learning and professional development are kept in an interactively sustainable relation. This study was designed to identify what factors were influencing university faculty members' lifelong learning in professional development, and to develop a better understanding of ways in which management of factors can contribute to higher level of pursuit of LLL. This study founded framework on Jarvis' lifelong learning definition that rooted in the constructivist paradigm and Person-Organization fit (P-O fit) theory, indicating that adult lifelong learning is a process constantly constructed and reconstructed along their individual experiences with external organizational conditions. And management of university factors was designed by testing how factors were organized and managed from Allen's P-O-L-C framework (Planning, Organizing, Leading and Controlling) perspective.

The nature of the research questions for the study under review directed the research design toward a quantitative approach plus a qualitative one. Samples for

quantitative survey were fulltime faculty members working in sample universities located in Shandong Province, China. And six experts were invited to interview. The significant positive relationships of variables demonstrated Organizational Learning Culture (OLC), Managerial Effectiveness (ME), Learning Content Focus (LCF), Collaborative Learning (CL) and Psychological Empowerment (PE) as influential factors. And PE acted as mediating role between OLC, ME, LCF and LLL. Improving management of influential factors could achieve higher higher level in PE and LLL.

And some problems revealed in data analyses deserved further considerations were concluded as six gaps: 1) Consciousness of lifelong learning VS Insufficient practical commitment; 2) Desire for organizational performance VS Low efficiency in professional development; 3) Need for cohesive management system VS Fragmented management structure; 4) Low managerial effectiveness VS Need for high-quality professional development; 5) Personal engagement in activities VS Little impacts on individuals; 6) Lifelong learning system VS Professional title ranking system.

Recommendations were provided for university managers to close these gaps from both organizational and individual levels. Detailed recommendations for organizations were provided in accordance with P-O-L-C framework to enable university managers to close gaps in supporting university faculty members' lifelong learning.

Keywords - University Factors, University Faculty Members, Lifelong Learning, Professional development

ACKNOWLEDGEMENTS

I would like to express my gratitude to all those who helped me complete this dissertation. First, I would like to express my deepest appreciation to my advisor, Dr. Tu Chiaching. Her guidance, support, and insight enabled me to face and solve problems that I experienced during my doctoral program. Her detailed attention and kindness taught me a lot about scholarly integrity and attitude. In addition, she encouraged me to have confidence and expand my perspectives as a researcher. I greatly appreciate her responsibilities for taking care of my dissertation.

I would also like to thank my committee members: Dr. Hugo Lee, Prof. Dr. Prayong Nouwabudra, Dr. Zhang Yuancheng, Dr. Huang Yijian, and Dr. Zhang Rencheng. They were willing to share their time with me and led me to think about diverse perspectives and provided helpful feedback to improve the quality of my dissertation. And I would express appreciation to the President Kelvin Lin, who provided me much encouragement and support to carry on my dissertation.

I would also like to thank my colleagues and friends. I owe gratitude to the Dean of HRD community in Shandong Yingcai College, Ms. Yang Shuping, who supported me in data collection and suggestions on interviews. Specifically, I appreciate Dr. Lou Wandong, Su Lin, Li Wenjuan, and Liu Jie for their friendship and support. Thanks to my colleagues, I experienced collaborative research, which ultimately helped me to write my literature review and analyze data for my dissertation.

Lastly, my sincere thanks go to my family in Chin. I would like to attribute this accomplishment to my family, including my parents, brother, and sister-in-law. I was able to complete my doctoral program and dissertation due to their love and trust.

In particular, my mother inspired me to have a positive mind and attitude during my life in Bangkok. My brother never gave up cheering and praying for me. From now on, I would like to share what I have learned during my journey in Bangkok with others. Thank you, again, my advisor, committee, colleagues, friends, and family for supporting me.

Hongyan ZHOU



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CHAPTER 1

INTRODUCTION

1.1 Research Domain

During the last fifty years, constant scientific and technological innovation and change have had a profound effect on learning needs and styles. Learning can no longer be divided into a place and time to acquire knowledge and a place and time to apply the knowledge acquired (Fullan, 2011). Instead, learning can be seen as something that takes place on an on-going basis from our daily interactions with others and with the world around us. The term “lifelong learning” serves as a way that learning is not confined to childhood or the classroom, but takes place throughout life and in a range of situations. Lifelong learning, also known as LLL (used as abbr. of “lifelong learning” hereafter), is the "lifelong, lifewide, voluntary, and self-motivated" pursuit of knowledge for either personal or professional reasons (National Staff Development Council, 2006).

Diverse variables in work environments are likely to influence the learning of individuals, groups, and organizations. It is not easy to define what factors influenced adult LLL in their workplace, previous studies having done some theoretical conceptualizations on the evolving definitions of LLL and empirical researches of LLL learner characteristics and behaviors, with little studies focusing on mediating factors to foster or hinder adult LLL process, i.e. the learning context for adult LLL occurs. This study lays emphases on the interactive effects on adult learning between organizational context and individual experience.

While a few studies have examined contextual and personal factors influencing workplace learning (Sambrook, 2005; Berg & Chyung, 2008), little research has been conducted to investigate how organizational or personal factors have direct or indirect impacts on adult learning through their professional development. Combining the factors influencing LLL and workplace learning and characteristics of effective professional development, this study is defined to investigate the topic of individually and organizationally contextual factors that influence pursuit of LLL in university faculty members' professional development.

Therefore, the problem addressed in this study is to investigate: (1) factors that are influencing university faculty members' LLL in their professional development; (2) whether a relationship exists between independent variables and dependent variable; (3) the degree to which relationships exist between independent variables and dependent variable.

From data result, researchers and practitioners may get more empirical evidence about the relationship among organizational, supervisor, instructional and personal factors and faculty members' LLL, which may be of great interest to educational administrators to conduct more reasonable and appropriate professional development designs.

1.2 Research Background

(1) Technology changes the workplace, education, and personal lives of generations—it changes people, their attitudes, and their habits (Berge, 2001; Evans, Kirby, & Fabrigar, 2003). In the context of knowledge economies and high-skilled labor demand (ICF GHK and Cedefop, 2014), employability acts as an educational

process that supports the transition from university to work. Learning and professional development of faculty in higher education institutions appear to be no exception. As Purdue (2003) noted, “The constant and ever-quickenning pace of change in the world today dictates that practicing professionals engage in a process of lifelong learning” (p. 615). Realizing the magnitude and importance of the challenge, policymakers, politicians, and educators have made high-quality professional development opportunities for teachers a priority in modern educational reform proposals (Fishman, Marx, Best, & Tal, 2003). For example, the No Child Left Behind (NCLB) Act of 2001 requires states to make “high quality” professional development available for all teachers. In addition, The Teaching Commission (2004) has cautioned that “ongoing and targeted professional development is essential to help teachers meet the demands of recent reforms” (p. 11).

The ineffectiveness of traditional professional development practices led Sykes (1996) to call them “the most serious unsolved problem for policy and practice in American education today” (p. 465), while Fullan (2011) observed that “nothing has been so frustratingly wasteful as the thousands of workshops and conferences that led to no significant change in practice when teachers returned to their classrooms” (p. 315). The clear ineffectiveness of conventional professional development methods provided the impetus for extensive research on what constitutes effective professional development.

(2) University leaders and policymakers are calling for “high quality” professional learning experiences for teachers and are making professional development “a key ingredient in the improvement of teacher instruction and student achievement” (Bassett, 2006, p.3). Teachers are at the heart of the educational process,

and viewed as “professional” career. Professional development is essential for the continued development of teacher research, discovery, and critical thinking (National Staff Development Council [NSDC], 2006). Professional development enabled teachers to increase their sense of self-efficacy (Avalos, 2011) and increased their ability to teach students effectively (Carini, Kuh, & Klein, 2006; Vescio et al., 2008; Shaha et al., 2015). Professional development could help faculty members create inclusive teaching environments (Lee, Poch, Shaw, & Williams, 2012), broaden their perspectives, and improve the fairness of student assessment (Santangelo & Tomlinson, 2009).

Given previous learning and research, professional development research has been limited to its effect on student achievements or the aspects of the professional development itself, less is known about the factors and processes that support and promote individual teacher’s professional growth (Clarke & Hollingsworth, 2002; Zwart, Wubbels, Bergen, & Bolhuis, 2007). They argued that the factors that constrain or afford change must be identified so as to inform the design of professional development. Kennedy (2010) pointed to the need to understand the situational factors that impact on teacher’s practices. The impact of this problem extends beyond individual teachers to the organizational level, to the district level, and to the federal level with the need for establishing a successful professional development resource baseline, which gives me confidence to conduct this research.

(3) The approach of lifelong learning (LLL), has gained currency through attempts to harness it as a means of providing people with the knowledge and skills they need to succeed in a rapidly-changing world. Nowadays, there is an increasingly

important basic skill in ever-changing technological universe: ability to learn and adapt to the needed new skills and training. Promoting LLL has received increased attention recently from the educational and business communities. Scholars and trend forecasters, looking towards the needs of the 21st century, have reached nearly unanimous agreement about the importance of a constantly improving and technologically competent workforce that can compete in global markets (McCoombs, 1991).

Although the concept of adult learning in the workplace has gained much attention in the field of human resources development, common understanding between practitioners and academia remains unclear (McLean, 2006). Researchers and practitioners continue to search for answers to how adults learn, and what factors influence learning in a dynamic and complex world. The synthesis of theory and practice may be the answer to creating a workplace conducive to continuous learning. The achievement of such a continuous culture may lie in the understanding of the contextual factors associated with lifelong learning behavior.

The professional literature documented various environmental changes that had created a demand for teacher's LLL. Teachers need to be lifelong learners themselves in order to shoulder the heavy responsibilities entrusted to them and be capable of positively influencing the students in their thoughts, behaviors and lifestyle (Shuming Gu, 2001; Huisman, De Boer, Dill, SoutoOtero, 2015). So study in uncovering factors influence teachers LLL process during professional development is of great urgency and significance.

(4) From my personal experiences, I, as a teacher in university, realized the immeasurable values of sustainable professional development and continuous learning,

and was also deeply confused by the helplessness, arbitrariness and poor efficiency. So I desire to make it clear that what factors influenced myself and the like to learn and how improvements are to be conducted.

1.3 Research Significance

This study has theoretical and practical implications for Educational Management and Human Resources Development. Prior researchers have shed some light on factors that influence employee training participation, however, there is scarce research conducted within the professional development sector that addresses influencing factors of employee pursuit of lifelong learning, from both individual and organizational perspectives.

The theoretical importance of this study is that it provides additional empirical evidence for future studies to explore the impact of related or other factors influencing adult LLL in workplace learning. This study includes organizational, managerial, and personal factors influencing adult learning process in learning organization (university) as a process of interactive experiential construction between personal and organizational knowledge and norms (organizational socialization process). Identifying these factors, educators may glean other valuable information regarding the influential factors have on creating a lifelong learning culture. Knowledge gained from the study may generate interest in conducting additional studies about individual attitudes, motivation, and behavior toward education, training, and professional growth.

From a practical perspective, this study sets out to provide clarity on the organizational structures that are in place to support faculty members learning in their

professional development of academic at universities. It will result in a number of practical recommendations on how these two universities might go about improving existing approaches so that they will gain more tangible results for their investment in faculty members professional development, providing better information for decision making to organizations and education administrators in order to reexamine approaches to foster learning cultures from a more sustainable perspective from teachers' pursuit of continuous learning. Identifying the more influential dimensions in an organizational context and personal characteristics, organizations can develop more specific requirements and conditions to enrich professional opportunities for faculty continuous learning behavior.

1.4 Research Objective

There are considerable gaps in the literature concerned with adult learning or lifelong learning. One such gap is the lack of tendency to focus on adult learning with professional development in specific fields. Literature revealed that researches on adult learning mainly focused on its andragogy theory, characteristics of adult learners, or its evolving definitions and connotations. And similarly in lifelong learning, characteristics of lifelong learners, its theoretical basis and objectives (mainly community learners after retirements) drew interests of most researches. And in professional development in higher education, the scholars are usually looking at professional development in a specific area, like model building, teaching and learning, or leadership. The literature review carried out for this study did not reveal any research that focused on professional development from the perspective of the university management. The literature concerned with university management, by and

large, pays very little attention to managing the provision of faculty members' professional development.

As Purdue (2003) noted, "The constant and ever-quickenning pace of change in the world today dictates that practicing professionals engage in a process of lifelong learning" (p. 615). University faculty members' lifelong learning occurred in professional development is considered as a typical workplace learning, with university being knowledge-based jobs and environments demanding highly skilled labor and educated workers and both individual and organizational learning occurring in teachers' daily life, and learning are seen as inextricably linked within the same process because learning cannot be separated from working (Clarke, 2002).

The overall objective of this study was to gain better understanding of factors influencing university faculty members' LLL in professional development and organizational structures' management practices of these influential factors to support faculty members' LLL in professional development. Therefore, the objectives of this study were

- (1) To identify factors that influence university faculty members to implement lifelong learning in their professional development;
- (2) To analyze relationships between these factors that impact university faculty members' lifelong learning in their professional development;
- (3) To better understand the management of faculty members' lifelong learning in professional development at universities;
- (4) To identify ways in which management of university factors can contribute to the higher level of faculty members' lifelong learning in professional development;

(5) To explore ways that how university factors can be better organized and managed to enhance faculty members' lifelong learning in professional development.

1.5 Research Questions

According to Sambrook (2005), factors influencing workplace learning have been categorized into organizational, functional or managerial, and personal levels. Based on Sambrook's (2005) criteria, the current study has representative factors reflecting contextual (organizational, supervisory and teaching) and personal categories. The contextual factors in this study are mainly supports from organization, including organization learning culture, managerial effectiveness, learning content focus and collaborative learning. The personal factors are psychological empowerment and demographic characteristics.

By identifying if relationships exist among these factors, this study aims to provide education administrators and teachers themselves with a more in depth understanding of the individual and organizational factors that influence pursuit of lifelong learning. And better understanding of the way in which these factors are organized and managed in universities could draw a clearer picture for education managers to effectively support faculty members' lifelong learning in their professional development.

Based on the objective of the study, issues of this study to explore factors influencing university faculty members learning implementation are as follows:

RQ1: What are factors influencing university faculty members lifelong learning in professional development?

RQ2: What are relationships among influential factors and university faculty members' lifelong learning in professional development?

RQ3: How do university structures organize and manage faculty members' lifelong learning in professional development?

RQ4: How does management of university factors can contribute to the higher level of faculty members' lifelong learning in professional development?

RQ5: How can university factors be better organized and managed to enhance faculty members' lifelong learning in professional development?

1.6 Definitions of Key Terms

University environment: is defined as the contextual environment within university physical territory, rather than environment in the macro sense involving community relationships, school partnerships and domestic relations, etc. Sample universities in this study are all comprehensive institutions (master's level institutions), either private-owned or state-supported.

University faculty members: are identified in this study as full-time faculty members working in sample universities, including both those who are directly responsible for academic instructions, i.e. professional instructors (teaching-oriented), and those who are teaching and conducting scientific or educational researches, i.e. research-oriented faculties.

Lifelong learning: (LLL as abbr.) is the "lifelong, lifewide, voluntary, and self- motivated" pursuit of knowledge for either personal or professional reasons (National Staff Development Council, 2006). Lifelong learning is defined as: "the combination of processes whereby the whole person experiences ... social situations,

the perceived content of which is then transformed cognitively, emotively or practically ... and integrated into the individual person's biography resulting in a constantly changing (or more experienced) person "(Jarvis, 2006, p. 134).

Adult learning: is the process of knowledge acquirement and eventual expertise as experienced by adults (Knowles, Holton, & Swanson, 2005). Termed as "andragogy", it refers to the "art and science of assisting adults with the learning process" (Knowles, 1980, p.24).

Workplace learning: is defined as "a process of formally and informally communicating and transmitting an organization's technical knowledge, culture, norms, and procedures" (Reio & Wiswell, 2000, p.9), focusing on the individual learning associated with socialization processes in organizations.

P-O fit (Person-Organization Fit): is broadly defined as the compatibility between individuals and organizations (Kristof, 1996). Compatibility can be conceptualized in one of either form: supplementary fit or complementary fit.

Professional development: "The systematic maintenance, improvement, and broadening of knowledge and skills, the development of personal qualities necessary for the execution of professional duties throughout working life" (Haile & Trubitt, 2007, p. 45)

Organization Learning Culture (OLC): is one of organization factors, referring to faculty perceived institutional states in which professional supports, political approval and learning culture are provided from organization. It focuses on testing whether these organizational factors will support or influence faculty members' professional learning.

Managerial Effectiveness (ME): is one of organization factors, referring to faculty perceived managerial states in which supervisor managerial effectiveness is a crucial part that influences faculty members' professional development opportunities, activities and strategies provided by department supervisors. It focuses on testing managerial practices that share power with faculty members at all levels.

Learning Content Focus (LCF): is one of organization factors, being defined in a broad meaning of the learning content, including both teaching knowledge and teaching skills of subjects, which are described as "instructional content knowledge" and "pedagogical content knowledge" respectively.

Collaborative Learning (CL): is one of organization factors, describing learning occurs both in active learning as individual and collaborative participation as members in learning environment. It is to test faculty members' forms and opportunities spend in active learning and collaborative activities.

Psychological Empowerment (PE): is one of person factors, refers to psychological states in which individuals feel a sense of control in relation to their work (Spreitzer, 2007), including faculty members' meaning, self-efficacy, self-determination and impact. It focuses on testing how faculty members perceive and experience their work.

Pursuit of Lifelong Learning (LLL): is a dependent variable, including LLL Process and LLL Behaviors. LLL Process refers more to individual's attitude, self-appraisal and tendency in learning, whereas, LLL Behaviors refers to individual's learning hours, forms and frequencies, It focuses on faculty members' learning tendency and learning performance experienced along their professional development, with which to test its relationship with independent variables.

CHAPTER 2

LITERATURE REVIEW

Viewing each teacher as an individual learner, this study is framed by the perspectives of adult learning theory, and the concepts of self-directed learning, experiential learning and lifelong learning (LLL). Considering teachers as a professional role in social organization and universities as naturally integrated institution of learning and employing, P-O (Person-organization) fit theory, organizational learning and learning in the workplace are also reviewed to identify theories relating to organizational contexts. In management of university factors, the P-O-L-C framework (Planning, Organizing, Leading and Controlling) provided a guideline for management analyses, and management of professional development in universities were examined based on the university management structure.

2.1 Research on Lifelong Learning (LLL)

2.1.1 Definitions of LLL

Since the 20th century, the idea of LLL has been put to many uses and interpretations. At the outset, there seemed to be a consensus on the tautological definition of LLL as learning throughout the lifespan. However, there was no general consensus in the literature about what encompasses LLL: how or why it evolves across the lifespan; what types or modes of learning are most frequently encompassed; who is responsible for initiating it; and who should provide it.

The term LLL has been used interchangeably with an enlarging set of terms such as self-directed learning, lifelong education, adult education, lifetime education,

recurrent education, education permanent, further education, continuing education, and learning that lasts (Mentowski et al., 2000). Definitional confusion makes it difficult to elucidate the concept. Merriam (2005b) admitted that a definition of "adult learning can be at once deceptively simple, yet enormously complex" (p. 42).

Lifelong learning is a dynamic concept that continues to impact community college practices today. Various explications of lifelong learning were influenced by philosophical lenses (Aspin & Chapman, 2000, 2001; Edwards & Usher, 2001; Kang, 2007; Ostrom et al., 2008). Practical considerations related to the application of lifelong learning theories, such as how to define lifelong learning for professional activities, institutions, and programmatic scopes (Bagnall, 1990), were addressed in the professional literature, building on literature review of LLL, definitions evolving in line with different theoretical explications and practical needs are showed below, as in Table 2.1.

Table 2.1 Definitions of Lifelong Learning (LLL)

Author	Definition
Marsick (1998)	"The way in which individuals or groups acquire, interpret, reorganize, change or assimilate related information, skills and feelings" (p.190).
Boud & Garrick (1999)	"An important activity both for contributing to organizations and for contributing to the broader learning and development of individual workers/participants" (p. 3).
Fenwick (2001)	"Human change or growth that occurs primarily in activities and contexts of work" (p. 4).
Rylatt (2001)	"A sustained and high leverage development of people in line with organizational outcomes" (p.5-6).
Spencer (2001)	"The learning that takes place at work, learning that workers engage on a daily basis" (p. 32).
Wiesenberg & Peterson (2004)	"The acquisition of knowledge, skills and feelings which result in improved individual or collective adaptation to change in the workplace" (p.219-220).
Doornbos et al. (2004)	"An integrated process involving the interaction between worker and their environments and as an internal process of inquisition, elaboration, and construction leading to learning result (adopted from Illeris, 2002)" (p. 252).
Evans, Hodkinson, Rainbird, & Unwin(2006)	"A variety of different forms of learning which may or may not be formally structured, some of which take place spontaneously through social interactions of the workplace"(p.181)

(continued)

Jacobs & Park (2009)	“The process used by individuals when engaged in training programs, education and development courses, or some type of experiential learning activity for the purpose of acquiring the competence necessary to meet current and future work requirements” (p.134).
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However, while previous academic and theoretical debates framed lifelong learning as an emancipatory process (Bagnall, 2005), the political ramifications of LLL surfaced. More recent policy debates about the mission of higher education institutions, the main service providers for adult learners and adult education, stressed the importance of economic competitiveness in a global market place and ensuring employability in the workplace (Boshier, 1998;Aspin & Chapman, 2001). On the world scene, UNESCO and OECD took a radical departure by moving from a Utopian, humanistic approach to lifelong education toward a pragmatic, economic conceptualization of lifelong learning (Delors, 1996). This shift has been global with both UNESCO and OECD diverging from the Utopian humanistic and emancipatory approach to building a skilled and competitive workforce worldwide.

Lifelong learning of professionals appears to evolve despite the strong traditional models of the past (Jarvis, 2001). Only recently, both workplace based learning and one facilitated by professional associations started to support “flexible performers” (Jarvis 2006, p. 153), as whole persons that self-direct their learning.

2.1.2 Characteristics of LLL

Learning is defined as producing knowledge through the process of identifying, collecting, understanding, synthesizing and applying information to develop new cognitive capability (Kessels & Poell, 2004). The book titled *Learning: The treasure within*, published by the UNESCO (1996, p.37) indicates that lifelong education works as a key to enable people into the 21st century, that lifelong

education has become the core of the future society. The book also points out four basic learning, as four educational pillars, for people to deal with social changes: “Learning to know; Learning to do; Learning to live together; Learning to be”. A shift from traditional approaches to learning such as formal, classroom, and off the job, to an increased interest in workplace learning, creates the need to understand varying approaches and the individual and organizational contextual factors to learning (Zhu Xudong, 2011).

As the UK Government's Green Paper on Lifelong Learning says (2002): Lifelong learning literally means that learning should take place at all stages of life cycle (from the cradle to the grave) and, in more recent versions that it should be life-wide; that is embedded in all life contexts from the school to the workplace, the home and the community. Lindeman (1926) extended the concept of lifelong learning to everyday living experiences. “All formal, informal, job-related, and vocational education adults receive after they have left full-time, formal education – which may include full-time, formal education after a break in education” (Commissioned Papers Work Request) (U. S. Department of Education, NCES Lifelong Learning Task Force, 2004).

Personal Characteristics of Lifelong Learners is part of one's lifespan. The uniqueness of LLL is obvious in certain characteristics demonstrated by lifelong learners whose learning process is self-directed learning. Self-directed learning is a process “in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” (Knowles, 1975, p. 18). A quality of the

lifelong learner is characterized by interest and ability to choose and control learning and effectively organize resources to accomplish them (Cranton, 2006, p. 12). Self-directed learning is the act of seeking out and engaging in the learning process, setting clear goals, evaluating progress, and making adjustments to improve performance through increased knowledge and skill development (London & Smith, 1999). Self-directed learning assumes that individuals voluntarily engage in learning, possess confidence in abilities to learn, and possess the cognitive and emotional maturity to monitor and evaluate learning outcomes (Self-Directed Learning, 2008).

Furthermore, lifelong learning is a process of experiential learning, which is also whole-person learning rather than just learning in the cognitive domain or a skill (Jarvis, 2006). Learners take their experiential selves, scholastic abilities into learning organizations, workplaces, and learning contexts (Fullan, 1995). Experiential learning fits partly social constructivist theories. According to Jordi (2011), reflection is predominantly conceptualized as the rational analytical process through which human beings extract knowledge from their experience (p.181). Lifelong learning in the workplace fits into the experiential learning field, which is capable of helping to accommodate whole-person learning preferences in learning contexts that foster collaborations among practitioners (Lee, Poch, et.al 2012).

Another issue for LLL is the need for changes. According to Clarke and Hollingsworth (2002), teacher change as an expected outcome of professional development is best viewed as growth or learning and yet, many professional development programs have failed to adequately consider the process through which teacher change occurs.

This desire for socialization is also confirmed through the work of Knowles (1978). The concepts of collaboration and teamwork follow Knowles' (1978) precept that adults learn more productively when they share responsibility for the learning process by actively participating in the planning and operation of the experience. Knowles also found that adults who can relate their personal experiences to their studies have a stronger personal commitment to learning.

2.1.3 Adult Learning Theory

Adult learning theory provided the basis for understanding the way adults learn and the factors influencing adult learning process. Knowles' (1977) use of the term "andragogy", meaning to teach adults, was the genesis for contemporary research in adult learning. Adult learning in the workplace is far different from children learning in a classroom and therefore, requires a more in depth understanding of both adult learning antecedents and the learning process in the context of organizations. Adult learning is often socially interactive (Yorks & Marsick, 2000; Dirkx, 2006; Cranton, 2006), and groups can provide the necessary environment to facilitate the learning.

Pioneered by Malcolm Knowles over fifty years ago, andragogy serves as a knowledge base of adult learning (Merriam, 2001). Knowles acknowledges that andragogy serves as more of a model of adult learning than a theory because it is a set "of assumptions about learning or a conceptual framework that serves as a basis for emergent theory" (1984, p.112). Majority of educators considered andragogy as the best-known theory to adult learning and education (Merriam, Cafferella, & Baumgartner, 2007). Andragogy posits that learning acquisition is different for adults, where learners are the operators who immerse themselves in the learning experience.

Adult learning principles are based in part on the work of Eduard Lindeman (1926) and Malcolm Knowles (1978, 1984), who emphasized the roles of both experience and activity in learning. Dewey's (1938, p. 25) notions of education rest solidly on experience as a foundation of learning: "All genuine education comes about through experience". Lindeman (1926, pp. 6, 9) tied the meaning of adult education to experience: "The approach to adult education will be via the route of situations, not subjects because the resource of highest value is the learner's experience". Experience is first of all, doing something; second, doing something that makes a difference we enjoy experiences in proportion to the effectiveness of our actions (Lindeman, 1926, p. 87). For his part, Malcolm Knowles believed that adult learning was different from childhood learning, thus his introduction of the term "andragogy" in contrast to pedagogy.

Andragogy embodies the principles about adults as learners (Knowles, 1984, p.49):

(1) The need to know—Adult learners want to know the reason they need to learn something and how it will benefit them;

(2) Learners' self-concept—Adult learners move from dependent learners to independent learners who are self-directed and more apt to take responsibility for their own learning and the direction it takes;

(3) Integration of learners' experiences – Adult learners' varied life experiences serve as rich resources in the learning environment.

(4) Readiness to learn—Adults become ready to learn when the information is linked to coping with real-life situations and relates to the students' demands and future goals.

(5) Orientation to learning—Adults are life, task or problem-centered in their orientation to learning. They want to see how what they are learning will apply to their life, a task they must perform, or to solve a problem;

(6) Motivation—While adult learners may respond to external motivators, internal priorities are more important. Incentives such as increased job satisfaction, self-esteem and quality of life are important in giving adults a reason to learn. These characteristics of the adult learner are important in the development of lifelong learning. (Merriam et al., 2007, p. 421).

To date, there seems to be a dearth of studies on adult learner motivation, which presents an opportunity for continued research that attempts to provide a more in-depth understanding of the phenomenon of adult learning, orientation to learning, or problem solving. Prior learning experience embodies the sixth principle in andragogy (Knowles et al., 2005). This tenet suggests that more productive learning will ensue when the adult learner can convey the new knowledge to present-day phenomena. This means that adult learners are stimulated to solve practical issues, rather than the memorization of new information (Knowles et al., 2005; Smith, 2003). Darkenwald and Merriam (1982) concurred that adults are more inclined to “engage in education that will enhance occupational production or enhance adeptness or gratification in their family portrayals” (p. 180). Considering the integrative structure of andragogy and the nature of adult learning as stated above, the role of the instructor has been challenged to that of facilitator of learning rather than that of the customary governor of the learning process.

2.1.4 Factors Influencing LLL

Knowles (1975) referenced Whitehead, who observed the "time-span of major cultural change has become shorter than the life-span of the individual" (p.15). He postulated that the role of education should not be knowledge dissemination or cultural transmission, but should aim to develop the individual's competencies for performing various roles required in human life, including but not limited to, being a learner, friend, citizen, family member, worker, leisure-time user, and planner. The conditions that are conducive to the development of the individual's competencies and the abilities for continuing inquiry have been the subject of many researches. Researchers have conducted numerous empirical studies to explore the factors influencing the development of LLL orientations. They used various assessment instruments such as the Evaluating Lifelong Learning Inventory (ELLI), Characteristics of Lifelong Learners in the Professions (CLLP) to measure individual's learning dispositions, generic capabilities, and conditions conducive to LLL. The findings of some of these studies are described below:

2.1.4.1 Need for Cognition

The need for cognition "refers to an individual's tendency to engage in and enjoy effortful cognitive endeavors" (Cacioppo, Petty, & Kao, 1984, p. 306). In a 1982 study, the authors clarified that "the term 'need' is used in a statistical (i.e., likelihood or tendency) rather than biological (i.e. tissue deprivation sense)" (Cacioppo & Petty, 1982, p. 118). Therefore, the need for cognition is not a biological need, but a psychological need. It is an internal drive in the sense that to satisfy the need a person "does not necessarily have to do something in and to the environment" (Cohen as cited in Cacioppo & Petty, 1982, p. 117). People with high need for cognition tend to be motivated to think about issues they confront and enjoy delving

into complex topics. They tend to be reflective individuals who feel compelled to construct meaning from any given situation and to interconnect elements in any given context. People with low need for cognition were more likely to rely on others and on social comparisons for direction. The need for cognition was conceptualized as a plastic disposition that can be developed.

In their 1982 study, Cacioppo and Petty designed an instrument comprised of 45 opinion statements to assess people's tendency to "engage in and enjoy thinking" (Cacioppo & Petty, 1982, p. 116). The scale was administered to a random sample of university faculty and assembly-line workers. A 2 x 2 analysis of variance was performed and faculty members scored much higher ($M = 2.18$) than assembly-line workers ($M = .70$, $F(1, 80) = 47.28$, $p < .0001$). An examination of factor loadings and scree tests results revealed one dominant factor, the need for cognition (factor 1). Cacioppo et al. (1996) reviewed over 100 empirical studies that explored individual differences in need for cognition. Some studies explored the psychometric properties of the NCS, while others examined the relationship between NCS and individual differences. Others studied the relationship between the need for cognition and information-processing activities. All studies presented a coherent picture of the concept of need for cognition and supported the "existence of stable individual differences in people's tendency to engage in and enjoy effortful cognitive activity" (p. 247). People who scored high in need for cognition possessed high intrinsic motivation to engage in thinking and learning, while people who scored low in need for cognition tended to possess low intrinsic motivation to engage in effortful cognitive activity.

Using need for cognition as a conceptual proxy for life-long learning orientations, studies were consistent with previous findings by Kuk et al. (1997), Hayek and Kuh (1988, 1999), Gonyea et al. (2003), who used the Capacity for LLL Index (CLLL index), a subscale of the CSEQ (College Student Experiences Questionnaire), to show that college activities and environmental factors impacted the development of lifelong learning skills.

2.1.4.2 Effective LLL

Carr and Claxton (2002) shared Knowles' (1975) assumptions and agreed that the purpose of education was not about transmitting knowledge, but fostering learning dispositions conducive to lifelong learning. The authors asserted that lifelong learning educators should attend to two inter-related facets of learning, capabilities and dispositions. Capabilities refer to the able aspect, and dispositions point to volition. Dispositions associated with lifelong learning consisted of resilience, playfulness, and reciprocity.

Crick, Broadfoot, and Claxton (2004), building on the analysis of Carr and Claxton (2002), constructed an assessment instrument called the Evaluating Lifelong Learning Inventory (ELLI). It served to identify the components of LLL and to assess an individual's LLL orientation. The ELLI emerged from a factor analytic study with nearly two thousand learners, and research was conducted across systems and populations, from 122 institutions and 413 classrooms. The four assessment purposes of the ELLI incorporated self-reflection, self-direction, pedagogical adjustments, and learning style identification (Crick & Yu, 2008).

ELLI "demonstrated a significant degree of stability, reliability and internal consistency over time" (p.400) for two basic reasons. First, all seven ELLI scales had

good internal consistency whereby the Cronbach alpha coefficient associated with each scale ranged from 0.75 to 0.85 demonstrating that items in a given ELLI scale held together; and secondly, the scales remained reliable and stable over repeated administrations. Seven items were later added to the original 65 items (Crick et al., 2004) with the exploratory factor analysis showing that the resulting 16 components accounted for 49.1% of the variance substantiating a considerable degree of stability. Table 2.2 summarized its consisting seven scales and 72 items representing the dispositions for effective LLL:

Table 2.2 Effective LLL in Evaluating Lifelong Learning Inventory (ELLI)

Subscale	Dimension	Definition	Opposite Pole
Scale 1	Changing and Learning (4 items)	Effective learners have the energy to learn, they believe that through efforts, their mind can get stronger; they regard learning itself as learnable;	"being stuck and static"
Scale 2	Critical Curiosity (9 items)	Effective learners want to find out what is going on after the surface of things; they have a high degree of curiosity.	"passivity"
Scale 3	Meaning Making (7 items)	Effective learners attempt to make sense of new learning. They enjoy seeing how things fit together.	"data accumulation"
Scale 4	Dependence and Fragility (17 items)	Dependent and fragile learners easily give up when they get stuck. They are risk averse; they do not dare venture into uncharted terrain.	"resilience"
Scale 5	Creativity (10 items)	Effective learners are imaginative and are willing to entertain new possibilities, new directions. They look at things from different angles. They like to entertain new ideas, even when they are not certain where those thoughts will lead them.	"being rule-bound."
Scale 6	Learning Relationships (12 items)	Effective learners work interdependently; they maintain a balance between being independent and dependent in their learning. They make use of others as learning resources.	"isolation and dependence"
Scale 7	Strategic Awareness (13 items)	Effective learners are aware of their own learning. They look at their learning as an object rather than a subject. They are reflective at self-evaluation.	"being robotic"

Source: Crick, 2007; Crick, Broadfoot, & Claxton, 2004; Crick & Yu, 2008

Prior to Claxton, Livneh (1988) conducted an empirical investigation into lifelong learning. Building on Dubin's assertion that professionals would increasingly need to participate in lifelong learning, Livneh attempted to determine which factors differentiated professionals who engaged in lifelong learning from those who did not. Livneh operationalized lifelong learning as the number of hours per month that an individual spent in a variety of learning behaviors over a one, three and five year period. She developed a reliable survey instrument called the Characteristics of Lifelong Learners in the Professions (CLLP) which identified seven factors believed to impact willingness and ability to participate in LLL.

The following is a summary of the factors Livneh identified. The questions used for each factor can be found in Characteristics of Lifelong Learners in the Professions (Livneh, 1988).

#1. Professional Growth Through Learning

"Reflects degree of commitment to the profession and the demonstration of this commitment by remaining competent through learning in a variety of ways" (Livneh, 1988, p. 154).

#2. Self Motivated Achievement

"Includes items that reflect self-motivation and achievement orientations" (Livneh, 1988, p. 154).

#3. Educability

"The items that comprise this factor reflect the possession of appropriate learning skills and intelligences as well as the ability to utilize resources and facilities to enhance learning" (Livneh, 1988, p. 154).

#4. Readiness for Change

“Items that indicate a readiness for change, the ability to cope with change, and the ability to utilize change as a learning process” (Livneh, 1988, p. 155).

#5.Causation for Learning Participation

“Includes all of the learning orientations described by Houle’s typology of learning-goal oriented, learning oriented and activity oriented. A high score on this factor suggests a strong underlying attitude toward education” (Livneh, 1988, p. 155).

#6.Familial Educational Background

“Items that indicate parents’ participation in learning as well as their interest in their child’s education” (Livneh, 1988, p. 155).

#7.Future Orientation

“Items that reflect an individual’s tendency to view learning in terms of how it fits into future personal plans” (Livneh, 1988, p. 155).

Using the CLLP Livneh surveyed 195 human service workers all of whom met the criteria of being a professional (possession of licensing/certification, specialized training and a graduate degree or professional baccalaureate degree specific to the profession). Livneh found that high and low participants in LLL differed significantly on Educability and Future Orientation factors. Specifically, participants who had high scores on Educability (i.e., had an interest in reading, had appropriate learning skills, who were able to learn by themselves and who utilized educational resources and facilities) were likely to spend more time in learning activities. This was also true for people who had high scores on Future Orientation as measured by a desire to advance on the job, those who had long-term educational goals, viewed themselves as learners and possessing an inquisitive nature.

It is curious that although Livneh operationalized lifelong learning as time spent on a number of learning activities, she did not attempt to determine what variables might make it difficult or impossible to spend time on learning, regardless of an individual's willingness or ability to learn. Therefore, while it appeared that some professionals apparently were Lifelong Learners while others were not, it may simply be that some professionals have more time or resources to devote to learning than others.

2.1.5 Summary

Principles of Knowles' adult learning theory provide a basic theoretical foundation for understanding adult learning, regarding adults as active learners with their experiences. Adult learning process can be considered as a continuous spiral learning process with their pervasive experiential perceptions (Knowles, 1984). In this level, adult learning theory are consistent with core meaning studied in some researches. Jarvis' constructivist definition of LLL views learning as meaning construction process between prior experience and new environment. This definition reveals three integral elements of LLL: (1) the whole person experiences: learners do cognitive, emotive or practical transforming work and integrate into the individual person's biography; (2) social situations, that is external environment: the perceived content of which learners experience interaction with learning contexts; (3) resulting in a constantly changing (or more experienced) person, which indicates the outcome of LLL is definitely positive, leading individual development.

In concrete factors influencing LLL, items of two scales, the Evaluating Lifelong Learning Inventory (ELLI) and the Characteristics of Lifelong Learners in the Professions (CLLP), furnished evidence-based references. By observing ELLI,

seven subscales designed to identify components of LLL and to assess an individual's LLL orientation: Changing and Learning, Critical Curiosity, Meaning Making, Dependence and Fragility, Creativity, Learning Relationships and Strategic Awareness offered concrete items to test factors impacting willingness and ability to participate in LLL. Further, the psychological meaning of “need for cognition” is more suitable for testing learners’ learning tendency in this study. Therefore, the items in Pursuit of LLL in this study is defined to test learners’ LLL effectiveness both in external performance and dispositions in tendency, learnability, causation, resilience and autonomy during their learning experiences.

2.2 Research on Teachers’ Professional Development

2.2.1 Definitions of Teachers’ Professional Development

Professional development is “not a new phenomenon in the history of higher education” (Sorcinelli, Austin, Eddy, & Beach, 2006), in fact as early as 1976, Crow, Milton, Moomaw, and O’Connell defined it as faculty development, “the total development of the faculty member—as a person, as a professional and as a member of an academic community” (1976, p.25). Additionally, *the National Commission on Teaching and America’s Future* (1996) referred to professional development as the ongoing learning opportunities available to teachers through their school or school district. Steinert et al (2006) described faculty development as “a planned program, or set of programs, designed to prepare institutions and faculty members for their various roles, with the goal of improving instructor’s knowledge and skills in the areas of teaching, research and administration” (p.53).

In *My Pedagogic Creed*, Dewey (1897) wrote that the school was a social institution and must represent present life. A hundred years later, Aittola (1999) supports Dewey and asserts a growing interest in informal learning that occurs in varied places such as everyday life, workplaces, and by varied means. Teachers experience a wide variety of activities and interactions which can increase their knowledge and skills and improve their teaching practices, as well as contribute to their personal, social, and emotional growth as teachers. These experiences include formal, structured seminars given on in-service days, and more informal discussions with other teachers about instruction techniques, embedded in teachers' everyday work lives. Recognizing this, the current definition of professional development includes both formal activities delivered by outside experts and job-embedded activities that enhance teachers' knowledge and skills and alter their classroom practice in ways that support student achievement (Darling-Hammond et al., 2009). This perspective is new to teaching because for years the only form of professional development available to teachers was "staff development" or "in-service training", usually consisting of workshops, speakers, or short-term courses that would offer teachers new information on a particular aspect of their work (Bredeson, 2002; Clarke & Holingsworth, 2002). Researchers and practitioners have only recently come to view the professional development of teachers as "formal and informal learning opportunities that engage educators' creative and reflective capacities in ways that strengthen their practice" (Bredeson, 2002, p. 663).

Research efforts are moving from questions about what is happening, to why it is happening and how it can be changed. Researchers suggest that four organizational factors may be hindering efforts to provide U.S. public school teachers

the high-quality professional learning opportunities enjoyed by teachers in many other nations (Blank, de las Alas, & Smith, 2008; Darling-Hammond et al., 2009). First, universities and district culture are not yet characterized by norms of collaboration, collegiality, and experimentation “which are present in most high-performing countries and promote teachers’ continuous learning” (Darling-Hammond et al., 2009, p.25). Second, U.S. public school teachers are not as actively involved in selecting, designing, and supporting professional development activities as their international counterparts (Darling-Hammond et al., 2009). Third, U.S. public school teachers have significantly less time for professional learning and collaboration built into teachers’ work hours (Blank et al., 2008; Darling-Hammond et al., 2009). Fourth, U.S. public school teachers are not as involved in decisions regarding curriculum and instructional practices which “are important in building commitment to continuous learning and school improvement” (Darling-Hammond et al., 2009, p. 27).

This shift has been so dramatic that many have referred to it as “reform” teacher learning and a “new paradigm” of professional development (Blank & de las Alas, 2008; Darling-Hammond et al., 2009). This new thinking about professional development has several important characteristics. First, effective professional development today is based on constructivism rather than on a transmission-oriented model, and as a result teacher change is now seen as a complex process with teachers actively involved in their own growth and learning (Borko, 2004; Desimone, 2009). Second, researchers conceptualize professional development as a long-term process where school leaders provide a series of related experiences to facilitate teacher change (Baniflower, Heck, & Weiss, 2005; Firestone, Mangin, Martinez, & Polovsky, 2005). Third, effective professional development connects professional development

activities to the standards and goals of districts and schools, as well as the daily activities of teachers and learners (Desimone et al., 2002; Guskey & Sparks, 2004). Finally, effective professional learning is a collaborative process where discussions and reflections among teachers are important parts of promoting teacher learning and change (Fishman, Marx, Best, & Tal, 2003; Penuel, Fishman, Yamaguchi, & Gallagher, 2007).

2.2.2 Inefficiency of Traditional Professional Development

For many years the dominant form of professional development available to teachers was “in-service training” consisting of workshops, speakers, and short-term courses that offer teachers new information on a particular aspect of their work (Webster-Wright, 2009; Gulamhussein, 2013). Educational researchers have criticized such approaches for more than a decade. In her presidential address to the American Educational Research Association, Borko (2004) described these forms of professional development as “woefully inadequate” (p.2). Furthermore, “one-shot” approaches are not designed to account for what is known about how teachers learn (Putnam & Borko, 1997). Often called “one-shot” or “traditional” professional development, this in-service training is intended to impart information to teachers which will improve their ability to support and improve student achievement (Darling-Hammond & McLaughlin, 1995; Little, 1993). It is characterized by information transmission rather than information generation or information exchanges (Glaser, 2006). This in-service training is often conducted on compulsory training days managed by the district office, and there is seldom any follow-up (Borko, 2004; Darling-Hammond, 1995; Fraser, 2001).

Researchers have consistently demonstrated the ineffectiveness of these “one-shot” professional development approaches (Guskey, 1986; Ingvarson, Meiers, & Beavis, 2005; Supovitz & Turner, 2000), concluding that they are “intellectually superficial, fragmented, non-communicative and disconnected from deep issues of curriculum and learning” (Desimone, 2009 p.182). Sparks (2002) says it is “fragmented and incoherent, lacks intellectual rigor, fails to build on existing knowledge and skills, and does little to assist teachers with the day-to-day challenges of improving student learning” (p.85). Multiple studies have supported these criticisms, showing that traditional workshops, speakers, and short-term courses are ineffective in bringing about changes in classroom teaching and student learning (Burbank & Kauchak, 2003; Cohen & Ball, 1999; Garet et al., 2001; Little, 1993; Smylie, 1989; Supovitz & Turner, 2000; Yager, 2005; Loucks-Horsley, Stiles, Love, & Hewson, 2010). Furthermore, findings revealed three primary reasons why teachers reported traditional methods as ineffective: they focus on general teaching knowledge rather than knowledge and skills for specific disciplines, they provide few opportunities for active learning, and they are rarely connected to school goals. The researchers concluded that “traditional forms of professional development are ineffective because they do not provide teachers with the time, activities, and content necessary for increasing teachers’ knowledge and fostering meaningful changes in classroom practice” (Garet et al., 2001, p.920).

The clear ineffectiveness of traditional professional development methods to improve teacher knowledge, skills, and classroom practices, and enhance student learning, has provided the motivation for extensive research on what constitutes effective professional development. As Borko (2004) has emphasized, “because

teacher learning must be at the heart of any effort to improve education in our society, and because conventional professional development is sorely inadequate, we must focus our efforts on determining the characteristics of high quality professional development” (p.7). Research on the characteristics of effective professional development activities which impact teacher and student learning follows in the next section.

2.2.3 Characteristics of Effective Professional Development

“High quality” or “effective” professional development is defined as that which results in improvements in teachers’ knowledge and instruction, and enhanced student achievement (Whitcomb, Borko, & Liston, 2009; Gulamhussein, 2013). According to Guskey, (1986, 2002) when teachers engage in professional development, they confirm or challenge their beliefs. Guskey adds that staff development programs were a systematic attempt to bring about change - change in the classroom practices of teachers, change in their beliefs and attitudes, and change in the learning outcomes of students (Guskey, 1986).

Recent research reflects a consensus about the core characteristics of effective professional development: (a) coherence, (b) duration, (c) content focus, (d) active learning, and (e) collective participation (Darling-Hammond et al., 2009; Desimone, 2009; Guskey, 2003; Ingvarson, Meiers & Beavis, 2005). This section examines each of the five characteristics of effective professional development by discussing the most relevant studies in each area.

2.2.3.1 Coherence

The literature also finds that professional development is more effective when professional development activities are part of a coherent program of teacher

and school improvement (Hawley & Valli, 1999; Whitcomb et al., 2009). A coherent professional development program is one that “is connected to student needs, teacher needs, school goals, the curriculum of the school, and state standards” (Borko, Elliott & Uchiyama, 2001, p. 971). Professional development activities for teachers are frequently criticized for “being disconnected from one another and from school, district, and state reforms and policies” (Desimone, 2009, p.184). Researchers have demonstrated that professional development will have little impact when teachers see a disconnect between what they are guided to do in a professional development activity and what they must do according to school curriculum guides, texts, and assessment practices (Garet et al., 2001; Penuel et al., 2007).

Coherence was one of several professional development characteristics examined by Birman and her colleagues (2000) in their study of several professional development initiatives funded by the federal Eisenhower Professional Development Program. Over the course of a year, 250 science and mathematics teachers experienced collaborative study groups, seminars, and peer coaching. Teacher perceptions of the coherence of their professional development activities were assessed in three ways: the extent to which the activities built on what teachers already knew; the extent to which the content and pedagogy of the activities were aligned with local and state standards, curricula, and assessments; and the extent to which the activities supported teachers in developing sustained collaboration with colleagues working to make similar changes in their classroom teaching practices. Results indicated that “teachers reporting higher professional development activity coherence demonstrated greater changes in classroom teaching practices and reported

greater confidence in their ability to connect their teaching with school and state standards” (Birman et al., 2000, p.23).

2.2.3.2 Duration

A common criticism of professional development activities is that they are too short and offer limited opportunities for follow-up with teachers (Guskey, 2003; James & McCormick, 2009; Little, 1993). Researchers agree that to make the changes required by high quality education, teachers need professional development that extends over time and is linked with their classroom teaching, allowing for multiple cycles of practice, feedback, and reflection (Blank & de las Alas, 2008; Garet et al., 2001). Professional development that is of longer duration is more likely to contain the kinds of learning opportunities necessary for teachers to integrate new knowledge into practice (Yoon et al., 2007). In addition, activities that extend over time are more likely to cause teachers to try out new practices in the classroom and receive feedback on their teaching. Many studies confirm that intellectual and instructional change requires professional learning activities to be of long duration, including both the span of time over which the activity is spread and the number of hours spent in the activity (Baniflower et al., 2005; Bucynski & Hansen, 2009; Corcoran, McVay, & Riordan, 2003; Desimone et al., 2002; Garet et al., 2001; James & McCormick, 2009; Johnson & Marx, 2009; Posnanski, 2002; Supovitz & Turner, 2000; Yoon et al., 2007).

Several researchers examined the influence of sustained professional learning on teachers’ attitudes toward inquiry-based instruction and their use of this instruction in the classroom (Corcoran et al., 2003; Supovitz & Turner, 2000). Supovitz and Turner (2000) concluded that “effective professional development

opportunities that initiate change in teachers and student must be sustained over time to provide multiple opportunities for teachers to learn, practice, and interact” (p. 976).

Baniflower and his colleagues (2005) indicated that teachers who spent more hours in professional development scored significantly higher on measures of attitudes towards standards-based teaching, their own perceptions of pedagogical preparedness, and their perceptions of content preparedness. The researchers also found a positive relationship between teachers’ hours spent in professional development and the self-reported frequency of use of instructional materials in their classroom teaching.

2.2.3.3 Content Focus

Traditionally, designers of teacher professional development activities have emphasized improving general teaching practices, such as cooperative learning or classroom management, separate from distinct academic disciplines (Garet et al., 2001; Hawley & Valli, 1999). They have typically not addressed teachers’ knowledge of the subjects they teach or instructional strategies within particular subject areas. Shulman (1986) was one of the first to criticize this neglect, emphasizing that professional development should focus on helping teachers possess deep knowledge of the subjects they teach. He coined the term “pedagogical content knowledge” (Shulman, 1986) to describe the special kind of subject-matter understanding that enables teachers to best support the learning of their students. Teachers with high pedagogical content knowledge “anticipate common misconceptions held by students, know how to lead them into different conceptual understandings, help students see and understand relationships between and among ideas and concepts, and encourage students to apply and transfer knowledge” (Sparks, 2001, p.98).

Instead of abstract discussions of general teaching methods, researchers have emphasized that effective professional development is intently focused on deepening teachers' subject-area knowledge and developing teachers' pedagogical content knowledge (Blank & de las Alas, 2008; Posnanski, 2002). Saxe, Gearheart, and Nasir (2001) studied two types of support for teacher learning, and concluded that student achievement improved most when teachers were engaged in sustained professional development activities focused on deepening teachers' content knowledge and classroom practices. Several studies from a group of researchers (Birman et al., 2000; Desimone et al., 2002; Garet et al., 2001) assessed the effects of a three year, five state mathematics and science professional development initiative associated with the federally-funded Eisenhower program. The professional development activities involved over 4000 teachers and focused on developing teachers' content knowledge and pedagogical content knowledge. Through learning from discipline experts in special summer institutes, interviewing students about their misconceptions of key concepts, and discussing alternative teaching strategies with university professors and fellow teachers, teachers in all three studies used a greater variety of teaching approaches and problem solving strategies, as measured by self-report surveys and video observations, than teachers experiencing more traditional professional development activities. "The evidence accumulated over the past decade points to the strong link between activities that focus on subject matter content and how students best learn with increases in teacher knowledge, skills, improvements in practice, and student achievement" (Desimone, 2009, p. 184).

2.2.3.4 Active Learning

A core feature of effective professional development concerns the opportunities provided for teachers to become actively engaged in meaningful discussion, planning, and practice (Burbank & Kauchak, 2003; James & McCormick, 2009; Webster-Wright, 2009). Coenders, 2010, Opfer & Pedder (2013) argued that teachers shape their own professional growth through active learning, reflection, and participation in practice and professional development programs.

Active learning, as opposed to the passive learning typical with traditional workshops and speakers, can take at least four distinct forms. The elements of active learning is the opportunity for teachers to observe expert teachers, to be observed teaching in their own classroom, and to obtain feedback (Hiebert et al., 2002); to practice new approaches, to link the ideas introduced during professional learning experiences to the teaching context in which teachers work (Johnson, 2007); to examine and review student work with other teachers to better understand students' assumptions and reasoning (Jeanpierre et al., 2005; Johnson & Marx, 2009), and to do the developing presentations, leading discussions, and producing written work (Ingvarson et al., 2005).

Researchers have found that professional development is most useful and most effective when it actively engages teachers in learning and provides multiple opportunities for hands-on work that builds their understanding of academic content and how to best teach it to their students (Baniflower et al., 2005; Borko, 2004; Bredeson, 2002; Buczynski & Hansen, 2009; Penuel et al., 2007; Posnanski, 2002). Indeed, Desimone (2009) argued that “the most powerful professional learning experiences are active learning opportunities embedded in teachers' work where they experience for themselves the learning they want their students to do” (p.186). The

researchers concluded that “professional development is more effective when it engages teachers in opportunities to practice, receive feedback on, and experiment with new instructional techniques” (Cohen & Hill, p.12).

These experiences actively engaged teachers in “collaboratively examining student work, analyzing student misconceptions, designing and testing new lessons, and giving and receiving feedback on the effectiveness of instructional practices” (Ingvarson et al., 2005, p.15). Results based on data collected from surveys showed that compared with teachers not in the program, teachers experiencing these activities enhanced their content knowledge, and exhibited greater variety in their classroom practices and how they responded to student questions (Ingvarson et al., 2005, p.16).

2.2.3.5 Collective Participation

Early efforts at developing occasions for teacher collaboration were often ineffective in promoting teacher learning, as both teachers and educational leaders did not have clear images of how teachers could work and learn well together (Bredeson, 2002). Despite cultural norms of teacher isolation and frustrations associated with attempts at teacher collaboration, interest has been growing in professional development that is designed for groups of teachers from the same school, department, or grade level (Borko et al., 2001; Hiebert et al., 2002).

Researchers have identified four potential advantages of professional development designed for groups of teachers (Borko, 2004; Cohen & Ball, 1999; Darling-Hammond et al., 2009; James & McCormick, 2009). First, teachers who work together are more likely to discuss concepts, skills, and problems that arise during their professional development experiences. Second, teachers who are from the same school, department, or grade are likely to share common curricular materials, course

offerings, and assessments. Through engaging in collective professional learning, they will be better prepared to integrate what they learn with other aspects of their instructional environment. Third, teachers who share the same students can discuss students' needs across classes and grade levels. Finally, collaborative professional development may help create a shared professional culture, in which teachers in a school develop a common understanding of instructional goals, methods, problems, and solutions (James & McCormick, 2009).

Research on effective professional development emphasizes the importance of collaborative learning environments in schools. Darling-Hammond et al. (2009), Ng, W (2015) reported that teachers' increased collaborative activities can improve the information flow within the community of teachers, having developed a sense of community and trust among the faculty, and can also enhance teachers' job satisfaction and reduce staff turnover (Avalos, 2011; Cherkowski, S., & Schnellert, L. 2014). Studies have found that when schools create productive working relationships within academic departments, across them, or among teachers school-wide, the benefits can include improved classroom instruction, enhanced student learning, and transformed school cultures (Borko et al., 2001; Burbank & Kauchak, 2003; Darling-Hammond et al., 2009; Hollins, McIntyre, DeBose, & Towner, 2004; Ingvarson et al., 2005; James & McCormick, 2009).

Effective collaborative professional development can take many forms. In each of these forms, "teachers engage in group processes around a concrete enterprise that results in shared learning" (Darling-Hammond et al., 2009, p, 12). One form, called Critical Peer Groups, involves teachers providing feedback and assistance to one another to support teacher learning and student learning. A study relying on

observations and teacher interviews revealed significant changes in teacher practices (Dunne, Nave, & Lewis, 2000). Teachers also reported having more opportunities to learn and a greater desire to develop more effective teaching practices than teachers not participating in Critical Friends Groups (Dunne et al., 2000). A second form of collaborative professional development is the teacher study group. Multiple studies suggest that when teachers research together, analyze student work together, and plan lessons and units together, they support improved teaching practices, and ultimately enhanced student achievement (Chokshi & Fernandez, 2004; Hollins et al., 2004).

2.3 Supporting Lifelong Learning in Professional Development

2.3.1 Lifelong Learning in Professional Development

Common characteristics shared in adult lifelong learning and teachers' professional development incorporate that lifelong learning occurring in teachers' professional development falls into the category of workplace learning. According to Jarvis (2001, 2006, 2007), lifelong learning tends to be supported by modern organizations that sustain their employees' professional and personal advancement of knowledge through lifelong learning. The most commonly identified types of professional development-vocational, lifelong, and self-directed may exist concurrently in any organization. Systemic professional development appears to align teaching professionals with the current developments in their fields of expertise and with innovations and overall expanding of organization workforce improvement (Purdue, 2003).

Workplace learning is about individual learning in the environment of work and workplaces and involves deliberate and conscious learning activities to reflect on

actual workplace experiences (Marsick, 1987; Raelin, 2000). In addition, workplace learning could be characterized as developmental activities and educational efforts within the organization to help it establish a culture of organizational learning (Raelin, 2000).

Streumer and Kho (2006) summarized the characteristics of workplace learning as the notion of process, boundary, complexity, and evolution as follows: (1) workplace learning represents a set of processes that occur within specific organizational contexts and focus on acquiring and assimilating an integrated cluster of knowledge, skills, values, and feelings that result in individuals and teams refocusing and changing their behavior; (2) workplace learning incorporates within its boundaries the issues of individual and organizational learning, both formally and informally within organizations; (3) workplace learning discourse highlights the complex and context-specific nature of learning; and (4) the notion of learning as a concept has evolved significantly in terms of meaning, from just acquisition of skills to the development of cognitive processes in conjunction with skill acquisition.

Workplace learning contributes not only to improving individual and organizational performance, but also enhancing an integrated process involving interaction between people and their environment in the workplace (Doornbos, Bolhuis, & Denessen, 2004). This perspective of workplace learning emphasizes the workplace as a place of learning (Ashton, 2004a) and social context (Gherardi & Nicolini, 2001), reflecting the fact that learning becomes integrated into work practices, and work itself becomes a rich source of learning (Collin, 2002).

2.3.2 Person-Organization Fit Theory

The concept of person-organization (P-O) fit has been instructive as theoretical framework with regard to this study. According to this theory, the greatest variance in behavior and attitudes is due to the interaction between personal and situational variables (Muchinsky & Monahan, 1987).

Person-organization fit is broadly defined as the compatibility between individuals and organizations (Kristof, 1996). In essence “research on P-O fit concerns the antecedents and consequences of compatibility between people and the organizations in which they work” (Kristof, 1996, p.1). Kristof (1996) contends that compatibility can be conceptualized in a variety of ways. Compatibility may take one of either form. Supplementary fit occurs when a person “supplements, embellishes, possesses characteristics which are similar to other individuals” in an environment (Muchinsky & Monahan, 1987, p.269). This congruence can be differentiated from Complementary fit, which occurs when a person’s characteristics “make whole” the environment or add to it what is missing (Muchinsky & Monahan, 1987, p.271).

There is an important dimension of fit between the person and the organization at a surface level and in conscious and unconscious psychological processes. The P-O fit theory suggests that if people fit well with an organization, they are likely to exhibit more positive attitudes and behaviors (Amos & Weathington, 2008, Cohen *et al.*, 2011). Kristof (1996) implies that individuals will self-select into organizations that have demands compatible with what individual employees are willing to supply. In furtherance, Cable and Judge (1996) found out that P-O fit perceptions share a strong relationship with employees’ work attitudes after controlling for the direct effects of job characteristics.

Kristof organized a P-O model which encompasses characteristics, demands and supplies from organization part and person part respectively, marked their compatibility ways clearly Figure 1.1 represents the P-O model. In the model, supplementary fit (arrow “a”) is represented as the relationship between the fundamental characteristics of an organization and a person. Characteristics for organization include the culture, climate, values, goals, and norms. Person side characteristics are values, goals, personality, and attitudes. When similarity between an organization and a person on these characteristics occur, supplementary fit exists. In addition to these underlying characteristics, organizations and individuals can also be described by what they supply and demand in employment agreements. These demands and supplies are likely to be influenced by the underlying characteristics of both entities as is indicated by the dotted arrows; however, they represent distinct dimensions on which fit or misfit may occur. More specifically, organizations supply financial, physical, and psychological resources as well as the task-related, interpersonal, and growth opportunities that are demanded by employees. When these organizational supplies meet employees’ demands, needs-supplies fit is achieved (arrow “b”). Similarly, organizations demand contributions from their employees in terms of time, effort, commitment, knowledge, skills, and abilities. Demands-abilities fit is achieved when these employee supplies meet organizational demands (arrow “c”).

Although the very words “person-organization fit” seem to imply cross-levels research, this is not necessarily true. Measures of organizational variables that are perceptual require the aggregation of data based on the composite of lower-level (individual) scores. In P-O fit research, the organizational constructs of interest are

often values, goals, climates, or culture – variables that are most frequently measured by perceptions. Therefore, the aggregation of individual perceptions should be used in the measurement of actual P-O fit (Kristof, 1996).

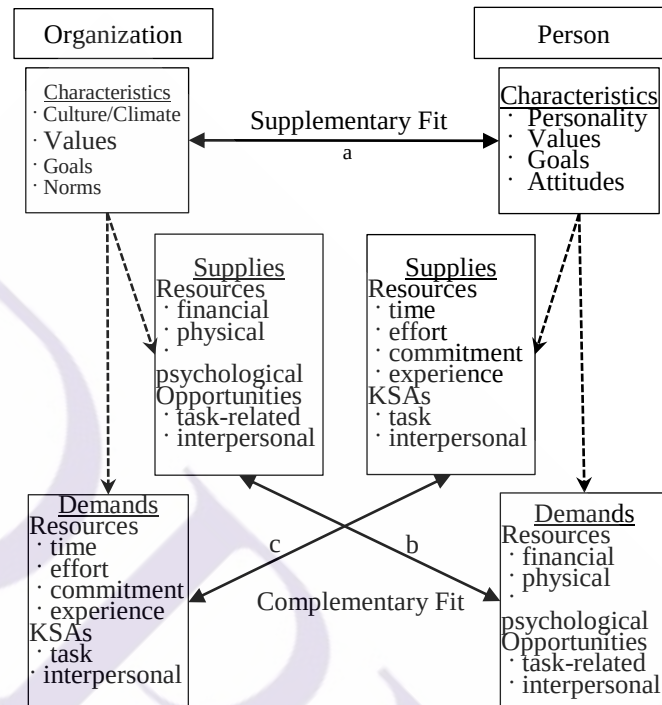


Figure 1.1 Various Conceptualizations of Person-Organization Fit. Kristof, A.L. (1996).
Source: Person-Organization Fit: An Integrative Review of Its Conceptualizations, Measurement and Implications. Personnel Psychology. Volume 49, 1 - 49.

2.3.3 Factors Influencing LLL in Professional Development

Several studies of workplace learning have focused on the dynamic relationship between individual learners and their participation in the organization (Blaka & Filstad, 2007; Brown & Duguid, 1991; Fuller, Hodkinson, Hodkinson, & Unwin, 2005). The understanding of workplace learning means recognizing its complexities and social processes (organizational socialization), and the personal and organizational contexts that affect this socialization (Boud & Garrick, 1999).

Diverse variables in work environments are likely to influence the learning of individuals, groups, and organizations. The environmental context may be crucial

as it creates both opportunities and expectations (Badley, 2008; Heinemann et al., 2013). For example, a corporate culture conducive to learning is one of the contextual factors affecting the probability that learning will occur in organizations (Fiol & Lyles, 1985) and has played a critical role in fostering inquiry, openness, and trust in the workplace (Friedman, Lipshits, & Overmeer, 2001). Dweck (1986) showed that individuals' goal preferences predict patterns of learning in practical settings. Learning tendency, a psychological concept for how individuals interpret and respond to achievement situations (Brett & VandeWalle, 1999), could impact employees' levels of motivation to participate to the degree to which knowledge and skills are transferred to the job setting (Button, Mathieu, & Zajac, 1996). Psychological empowerment is also related to learning in the workplace. According to Cyboran (2005), reflection through learning activities has enabled employees to maintain feelings of empowerment during difficult transitions in the organization. In addition, a manager's behavior has an influence on workplace learning. Learning through organizational projects takes place effectively and actively when managers provide more autonomy and less supervision (McGrath, 2001). Consequently, studies on workplace learning have explored diverse factors influencing workplace learning, as well as clarified the contributions and roles of workplace learning in organizations.

Drawing conclusions from current researches, this study referred to the influential factor impacting workplace learning as a socialization process. The major factor reflecting personal characteristics is psychological empowerment. The main factors reflecting contextual characteristics are categorized into organizational learning culture and managerial effectiveness.

2.3.3.1 Psychological Empowerment

Psychological empowerment in this study refers to the expression of the empowerment construct at the individual level (Leung, 2009; Mo & Coulson, 2010; Schneider, Von Krogh, & Jäger, 2013). It is described as “the connection between a sense of personal competence, a desire for, and a willingness to take action in the public domain” (Zimmerman & Rappaport, 1988, p. 725). Psychological empowerment focuses on how employees experience their work, based on the belief that employees have specific roles in the organization (Spreitzer, 2007).

In particular, Thomas and Velthouse (1990) emphasized psychological empowerment as intrinsic motivation, as illustrated in four cognitions, including impact, competence (self-efficacy), meaning, and self-determination. Based on the suggestion of Thomas and Velthouse (1990), Spreitzer (1995) analyzed these four dimensions of psychological empowerment. Table 2.3 summarizes the characteristics of the four dimensions that are related to each of the specified outcomes. Sometimes, one dimension has a stronger relationship to the outcomes than other dimensions. For example, meaning is more strongly related to job characteristics than competence in the service industry context (Linden, Wayne, & Sparrowe, 2000).

Table 2.3 Four Dimensions of Psychological Empowerment (Spreitzer, 1995, p. 1443)

Dimension	Description
Meaning	“The value of a work goal or purpose, judged in relation to an individual's own ideals or standards (Thomas & Velthouse, 1990); a fit between the requirements of a work role and beliefs, values, and behaviors (Brief & Nord, 1990; Hackman & Oldham, 1980)”
Competence (self-efficacy)	“An individual's belief in one's capability to perform activities with skill (Gist, 1987); agency beliefs, personal mastery, or effort-performance expectancy (Bandura, 1989)”
Self-determination	“An individual's sense of having choice in initiating and regulating actions (Deci, Connell, & Ryan, 1989); autonomy in the initiation and continuation of work behaviors and processes (e.g., making decisions about work methods, pace, and effort) (Bell & Staw, 1989; Spector, 1986)”
Impact	“The degree to which an individual can influence strategic, administrative, or operating outcomes at work (Ashforth, 1989); the converse of learned helplessness (Martinko & Gardner, 1985)”

As in Table 2.3, four dimensions of psychological empowerment are also related to learning-related activities in the workplace. First, meaning is closely linked with value fulfillment and satisfaction at work (Spreitzer, Kizilos, & Nason, 1997). Thus, meaning may influence engagement in a meaningful job in an organization and satisfaction with positive learning experiences on the job. Second, competence (self-efficacy) is related to intrinsic motivation (Harackiewicz, Sansone, & Manderlink, 1985). Gist and Mitchell (1992) found a positive relationship between self-efficacy and work-related performance measures, such as learning and adaptability. Third, self-determination also enhances individuals “motivation to learn and work (Locke & Schweiger, 1979). Employees with self-determination are more likely to feel capable when they take work-related actions and are able to respond to the demands of each unique situation (Linden et al., 2000). Fourth, impact is about the initiative to engage in behaviors to influence desired outcomes (Strecher, DeVellis, Becker, & Rosenstock, 1986). Individuals who believe that they can impact organizational outcomes will be more likely to try hard in their work (Ashforth, 1989). This point may imply that impact can influence learning occurring in the workplace when employees work hard.

2.3.3.2 Organizational Learning Culture

Organizational learning culture has been an influential contextual factor enhancing positive outcomes in the HRD field (Egan, Yang, & Bartlett, 2004; Marsick & Watkins, 2003). Organizational culture refers to a complex set of shared assumptions, values, behavioral norms, and symbols that define the way in which an organization conducts its business and achieves its goal (Barney, 1986) and differentiates one group from another (Zheng, Qu, & Yang, 2009).

A learning climate and a culture in an organization influence employees' learning as employees face, work through, and resolve problems and challenges (Bates & Khasawneh, 2005). This learning culture also contributes to creating a supportive environment for desired outcomes (Marsick & Watkins, 2003). A fundamental characteristic of a learning organization saw employees totally involved in a process of being collaboratively and collectively accountable for change that was directed towards shared values or principles (Kline & Saunders, 2002, p. 118). Thus, a learning organization can be defined as a place where people are continually learning to learn (Senge, 1990), an environment in which organizational learning creates a collective meaning and value (Confessore & Kops, 1998), and an organization skilled at leading behaviors to reflect new knowledge and insights (Garvin, 1993).

Watkins and Marsick (1993, 1997) suggested a framework for organizational learning culture through seven dimensions of the learning organization, which provides a theoretical base that integrates the seven dimensions based on their interdependent relationships, as well as the primary concepts and definitions of the learning organization culture (Egan et al., 2004). Table 2.4 summarizes the seven dimensions of the learning organization.

Table 2.4 Characteristics of a Learning Organization (Marsick & Watkins, 2003)

Dimension	Definition
Continuous Learning	"Learning is designed into work so that people can learn on the job; opportunities are provided for ongoing education and growth" (p.139).
Inquiry and Dialogue	"People gain productive reasoning skills to express their views and the capacity to listen and inquire into the views of others; the culture is changed to support questioning, feedback, and experimentation" (p.139).
Team Learning	"Work is designed to use groups to access different modes of thinking; groups are expected to learn together and work together; collaboration is valued by the culture and rewarded" (p.139).
Embedded System	"Both high-and low-technology systems to share learning are created and integrated with work; access is provided; systems are maintained" (p.139).

(continued)

Empowerment	“People are involved in setting, owning, and implementing a joint vision; responsibility is distributed close to decision making so that people are motivated to learn toward what they are held accountable to do” (p.139).
System Connection	“People are helped to see the effect of their work on the entire enterprise; people scan the environment and use information to adjust work practices; the organization is linked to its communities” (p.139).
Strategic Leadership	“Leaders model, champion, and support learning; leadership uses learning strategically for business results” (p.139).

Moreover, a corporate culture conducive to learning is one of the contextual factors affecting the probability that learning will occur in organizations (Fiol & Lyles, 1985). Critical elements to create organizational cultures impacting workplace learning include access to knowledge and information for learning, opportunities to practice skills for learning, the availability of support and feedback for learning, and the availability of rewards sustaining learning within the organizational structure (Ashton, 2004a). In addition, Skule (2004) emphasized a high degree of exposure to changes and demands, managerial responsibilities, extensive professional contacts, superior feedback, and management support for learning as organizational conditions and factors promoting learning at work.

2.3.3.3 Managerial Effectiveness

Managerial effectiveness refers to the degree to which a manager or leader fulfills work role expectations (Spreitzer, 1995). Effectiveness is a result of the extent to which the manager’s job behaviors are congruent with employees’ expectations, based on role theory (Tsui, 1984).

There is little doubt that school leaders can have a significant influence on teachers’ capacity to enact professional learning in their classrooms and it is essential that school leaders support, encourage, and recognize teachers when they take the initiative to engage in professional learning (Goldsmith, Doerr, & Lewis, 2014;

Lachance & Confrey, 2003). Leaders are described in Burns' book "Leadership" as a people who is able to inspire the enthusiasm of his followers, to better achieve the individual goals of leader and followers, and put forward the concept of transforming leadership (Burns, 2012). Burns (2012) believed transforming leadership was a process of enhancing maturity and motivating level between leaders and subordinates. It appears that there are two key areas in which school leaders might influence the professional growth of teachers. The first of these is their capacity to influence the Change Environment in which teachers work by providing opportunities to attend professional development and access to other professional resources and by supporting and encouraging teachers to experiment in their classrooms. The second sphere of influence is school leaders' capacity to provide input into the external practices, for example, through engaging in professional conversations with teachers, reflecting on practice with teachers, or by teaching model lessons.

In terms of a social approach, Cammock, Nilakant, and Dakin (1995) developed a lay model of managerial effectiveness. This model consists of two factors: the conceptual factor (the manager's role as direction setter, problem solver and decision maker) and the interpersonal factor (the manager's role as facilitator of the efforts of others). According to Cammock and his colleagues (1995), most effective managers maintain the big picture and a broad vision of the different areas of the organization, establish an appropriate balance and flexibility between all related areas, keep contact with other managers, and are concerned with the overall work effectiveness of employees. In short, a primary essence from these models of managerial effectiveness (Cammock et al, 1995; Hamlin, 2004; Quinn, 1984) is that

managerial effectiveness is closely linked with complex aspects of leaders and managers' roles.

Redmond et al. (1993) found that manager behaviors influence subordinate creativity, such as problem construction and feelings of self-efficacy, and managers influence subordinate behaviors through role modeling, goal definition, reward allocation, and resource distribution.

2.4 Summary

Three main researches are reviewed in this chapter: lifelong learning (LLL), teachers' professional development and workplace learning, whose definitions and characteristics provide fundamental common grounds for incorporating these three concepts in one study. This study built a theoretical framework based on Jarvis' (2006, 2007, 2008) constructivist perspective where learners construct meaning based on prior learning and can be classified as experiential learning. Thus, lifelong learning is defined as:

“the combination of processes whereby the whole person experiences ... social situations, the perceived content of which is then transformed cognitively, emotively or practically... and integrated into the individual person's biography resulting in a constantly changing (or more experienced) person” (Jarvis, 2006, p. 134).

University faculty members are all adults, working in institutional organizations, whose autonomous learning process in professional developments is expected to occur over the course of their careers. Research on supporting university

faculty members' LLL in professional development is done under workplace learning field for the following reasons:

(1) One shared perspective that may have potential as a model for adult learners is constructivism, which is consistent with three conceptions discussed above, considering adult learning as a continuously constructive process between individual perception and environmental impacts. Knowles' andragogy considers adult learners as more social individuals, whose learning process is an integrated process of self-directed learning, experiential learning and organizational learning, requiring individual experiences with social environments in both interpersonal and intrapersonal aspects, and in cognitive and practical ways. According to Jarvis (2001, 2006, 2007), LLL tends to be supported by modern organizations that sustain their employees' professional and personal advancement of knowledge through LLL.

(2) Person-organization fit theory emphasizes the interaction between personal and situational variables (Muchinsky & Monahan, 1987), concerning the antecedents and consequences of compatibility between people and the organizations in which they work" (Kristof, 1996, p. 1). Studies in workplace learning have focused on the dynamic relationship between individual learners and their participation in the organization (Blaka & Filstad, 2007; Fuller, Hodkinson, Hodkinson, & Unwin, 2005). The understanding of workplace learning means recognizing its complexities and social processes (organizational socialization), and the personal and organizational contexts that affect this socialization (Boud & Garrick, 1999).

(3) Teacher's natural learning experiences and learning activities are continuously reformed through all their career life. University faculty members' LLL and professional development are kept in an interactively sustainable relation.

Previous researches have raised that the necessity of identifying factors and processes that support and promote university faculty's professional development has extended beyond individual and organizational level to the whole society. Given the points that adults learn more productively when they share responsibility for the learning process by actively participating in the operation of the experience (Knowles, 1975), and teachers' experience is concurrent activity along their professional development, teachers' learning in professional development, therefore, is a typical workplace learning, meeting the key defining feature of workplace learning that participation in the workplace and learning are seen as inextricably linked within the same process because learning cannot be separated from working (Clarke, 2005; Eraut, Alderton, Cole, & Senker, 2002).

Key Constructs of Variables

Based on Person-Organization Fit Theory in its meaning, factors reviewed in this study, therefore, are firstly categorized into two dimensions: person dimension and organization dimension:

In person dimension, besides individual Demographic Characteristics, two major factors are included:

(1) Psychological empowerment serves as an important role in recognizing influence channels in the workplace, whose four dimensions conveys its critical elements for workplace learning. Sunyoung Park (2011) found that organizational learning culture, managerial effectiveness, and psychological empowerment were positively related to workplace learning. In particular, psychological empowerment and workplace learning had the strongest relationship, and organizational learning culture had more impact on psychological empowerment. In this study, Psychological

Empowerment is identified as a variable including faculty members' meaning, self-efficacy, self-determination and impact, focusing on testing psychological states in which individuals feel a sense of control in relation to their work (Spreitzer, 2007) and the personal beliefs that employees have about their roles in relation to the organization..

(2) Pursuit of LLL is designed as a dependent variable, aiming to test learners' LLL effectiveness both in external performance and dispositions in tendency, learnability, causation, resilience and autonomy during their learning experiences. Referring to items in Evaluating Lifelong Learning Inventory (ELLI) and Characteristics of Lifelong Learners in the Professions (CLLP), the concrete items in Pursuit of LLL are divided into two factors: LLL Process and LLL Behaviors. LLL Process refers more to individual's need for cognition, including attitude, self-appraisal and tendency in learning, while LLL Behaviors refers to individual's learning hours, forms and frequencies, focusing on explicit learning performance conducted along their professional development.

In organization dimension, concrete factors in organizational factors are classified in four parts:

(1) Organization Learning Culture

The working conditions within universities continue to surface in teachers' attrition and professional development literature. In this study, Organization Learning Culture refers to states in which professional supports in physical and psychological buildings, political approval and learning culture are provided from organizational level, which focuses on testing elements of institutional system like policy, culture and supports will promote or hinder faculty members' professional learning.

(2) Managerial Effectiveness

Administrative support and collegiality influence the overall perception teachers have towards their profession. Boyd, Grossman, Ing, Lankford, Loeb, and Wyckoff (2010) define administrative support as the extent to which principals and other school leaders make teachers' work easier and help them improve their teaching. In this study, Managerial Effectiveness refers to states managers influence faculty members' professional development opportunities, activities and strategies provided by department supervisors, focusing on testing effectiveness of managerial practices that share power with faculty members in the process of professional development.

(3) Learning Content Focus

Teachers with high pedagogical content knowledge “understand how to effectively match specific teaching approaches with the details of their academic discipline, understand common student misconceptions, and are able to connect the essential concepts of their discipline to the world of the learner” (Johnson & Marx, 2009). In this study, Learning Content Focus is defined in a broad meaning, including both teaching knowledge and teaching skills of subjects, which are described as “instructional content knowledge” and “pedagogical content knowledge” respectively.

(4) Collaborative Learning

University faculty members serve a role mixing both a single individual and membership in a social organization, which indicates that learning experience occurs both in active learning as individual and collaborative participation as members in learning environment. In this study, Collaborative Learning emphasizes on the importance of active learning as individual and collaborative learning

environments in school. It is to test faculty members' forms and opportunities spend in active learning and collaborative activities.

2.4 Hypothesis

According to Creswell (2005), the hypotheses pose predictions about the research findings. Hypotheses are proposed in this study to predict the relationships of the selected variables outlined in the proposed model. Figure 2.2 illustrates the hypotheses relevant to the research questions:

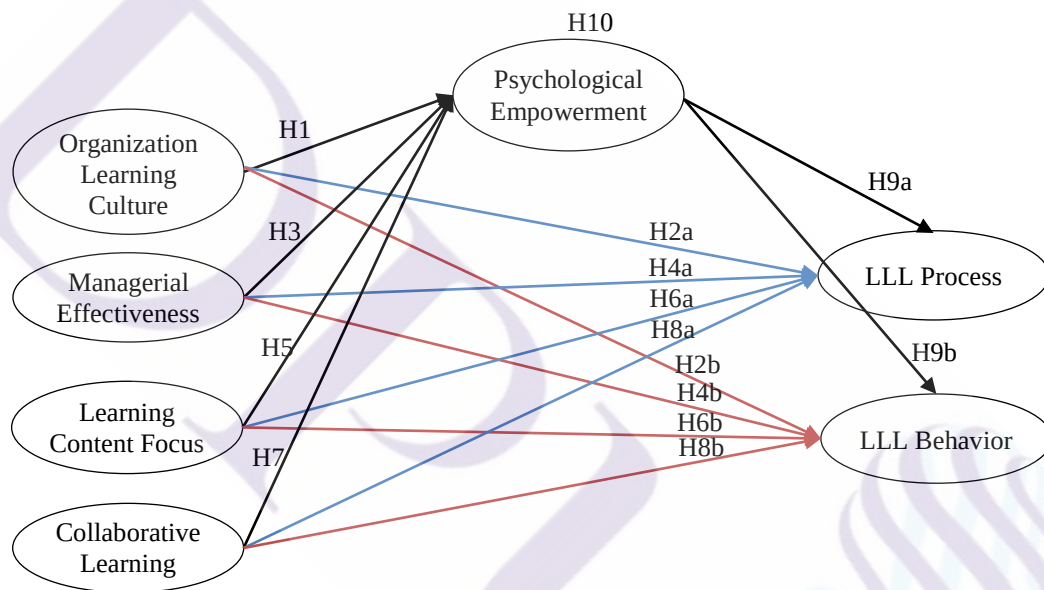


Figure 2.2 Research Structure

The P-O fit theory suggests that if people fit well with an organization, they are likely to exhibit more positive attitudes and behaviors (Cohen, 2010). As Kristof points out and other researchers (e.g. London, 1988, 1992, 1993) allude to, achieving high levels of P-O fit is often the key to retaining a workforce with the flexibility and organizational commitment necessary to meet the competitive challenges.

Expert panel interviewed in this study agreed with P-O fit theory that faculty members' learning could vary according to the fit degree between person and organization. It is expected that individual's characteristics and needs fit degrees with

organization's will be consistent with their experience on organization learning culture, provided supports; and individual's supplies fit degree will be positively correlated with their experiences on psychological empowerment and managerial effectiveness. Therefore, hypotheses of relationships between person and organization in this study are described as:

(1) In person and organization level, the impacts of organization factors on person Psychological Empowerment and Pursuit of LLL will be examined respectively.

The relationships between seven dimensions of the learning organization (Watkins & Marsick, 1997, 2003) reflecting the characteristics of organizational learning culture and psychological empowerment are positively related. These identified antecedents of psychological empowerment are consistent with the seven dimensions of learning organization reflecting organizational learning culture. Furthermore, learning culture factors influencing individual learning include teamwork, organic structure, communication/network systems, and resources (Chiles & Zorn, 1995; Conger & Kanungo, 1988; Randolph, 1995; Sparrowe, 1994; Spreitzer, 1995). Thus,

H1: Organization Learning Culture has a positive impact on Psychological Empowerment.

H2: Organization Learning Culture has a positive impact on Pursuit of LLL.

H2a: Organization Learning Culture has a positive impact on LLL Process.

H2b: Organization Learning Culture has a positive impact on LLL Behavior.

Managerial Effectiveness is positively related to subordinates' learning behaviors and information management which are a part of employees' learning (Leslie et al., 2002). Meanwhile, managers also need to facilitate employees' learning, motivate others to learn, and encourage effective communications (Ellinger, Watkins, & Bostrom, 1999). In continuous learning cultures, supervisors and employees feel comfortable providing and receiving feedback (Feldman & Ng, 2008). Consequently, employees in these feedback cultures are more motivated to seek out additional developmental opportunities (London & Smith, 1999) and mutual collaborative and participatory processes with coworkers (Zimmerman, 1995). Thus,

H3: Managerial Effectiveness has a positive impact on Psychological Empowerment.

H4: Managerial Effectiveness has a positive impact on Pursuit of LLL.

H4a: Managerial Effectiveness has a positive impact on LLL Process.

H4b: Managerial Effectiveness has a positive impact on LLL Behavior.

With regard to the relationship between Learning Content Focus and individual workplace learning, numerous studies have shown that effective professional development is intently related to deepening teachers' professional leaning content, including subject-area knowledge and developing teachers' pedagogical content knowledge. Multiple studies have found strong effects of professional development on teaching practices when it focused on developing deep understanding of subject content matter, enhancing teachers' knowledge of how to engage in specific pedagogical skills, and how to teach specific kinds of content to learners (Baniflower, Heck, & Weiss, 2005; Buczynski & Hansen, 2009; Blank & de

las Alas, 2008; Desimone et al., 2002; Garet et al., 2001; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Saxe, Gearheart, & Nasir, 2001). Thus,

H5: Learning Content Focus has a positive impact on Psychological Empowerment.

H6: Learning Content Focus has a positive impact on Pursuit of LLL.

H6a: Learning Content Focus has a positive impact on LLL Process.

H6b: Learning Content Focus has a positive impact on LLL Behavior.

Moreover, empirical researchers demonstrated the power of collaborative learning to impact teacher and student learning. Results based on data collected from surveys showed that teachers experiencing active learning training exhibited greater variety in their classroom practices and practice more self-directed leaning reflections (Cohen and Hill, 2001; Ingvarson et al., 2005; Desimone , 2009; Opfer & Pedder, 2013). Thus,

H7: Collaborative Learning has a positive impact on Psychological Empowerment.

H8: Collaborative Learning has a positive impact on Pursuit of LLL.

H8a: Collaborative Learning has a positive impact on LLL Process.

H8b: Collaborative Learning has a positive impact on LLL Behavior.

(2) In person level, the impact of Psychological Empowerment on Pursuit of LLL will be examined.

Psychological empowerment and workplace learning had a strong relationship (Sunyoung Park, 2011). Psychological empowerment plays an important role in recognizing influence channels in the workplace, increasing reliance on

horizontal structures and peer networks, and improving attachment between employees and organizations (Kanter, 1989; Koberg et al., 1999; Pfeffer, 1994). Thus,

H9: Psychological Empowerment has a positive impact on Pursuit of LLL.

H9a: Psychological Empowerment has a positive impact on LLL Process.

H9b: Psychological Empowerment has a positive impact on LLL Behavior.

(3) The mediating effect of Psychological Empowerment in the impacts of Organization Factors on Pursuit of LLL will be examined.

Except for the theory building of psychological empowerment, most studies focused on the mediating effects between psychological empowerment and other variables. Psychological Empowerment relates positively to affective states including job satisfaction (Cicolini, Comparcini, & Simonetti, 2014) and organizational commitment (Liden, Wayne, & Sparrowe, 2000) and is linked to lower rates of turnover intention (Koberg, Boss, Senjem, & Goodman, 1999; Spreitzer, 2007) and job-related strain (Spreitzer et al., 1997). Therefore, the mediating effects of psychological empowerment between the organizational factors and Pursuit of LLL are also included in this study. Thus

H10: Psychological Empowerment plays a mediating effect in the impacts of Organization Factors on Pursuit of LLL.

H10a: Psychological Empowerment plays a mediating effect in the impacts of Organization Learning Culture on Pursuit of LLL.

H10b: Psychological Empowerment plays a mediating effect in the impacts of Managerial Effectiveness on Pursuit of LLL.

H10c: Psychological Empowerment plays a mediating effect in the impacts of Learning Content Focus on Pursuit of LLL.

H10d: Psychological Empowerment plays a mediating effect in the impacts of Collaborative Learning on Pursuit of LLL.

2.5 Management of LLL in Professional Development

2.5.1 P-O-L-C Framework

A manager's primary challenge is to solve problems creatively. Principles of management have long been categorized into the four major functions of planning, organizing, leading, and controlling (the P-O-L-C framework). A manager is a leader who enables people to work most effectively together by performing primarily the work of planning, organizing, leading and controlling (Allen, 1968, p.1). Fayol (1949, as cited in Watson, 2006, 172–173) has classified five elements of management: planning, organizing, commanding, coordinating, and controlling. He constantly emphasized the point that the managerial functions of planning, organizing, commanding, coordinating and controlling were universal principles, applicable not only to business, but to military, political, religious and other organizations in society. This system of classification and the need for such organization grew in importance.

In 1964, Allen provided the divisions of planning, organizing, leading and controlling (P-O-L-C framework). Table 2.5 summarized classification and description of the management functions.

Planning is the function of management that involves setting objectives and determining a course of action for achieving those objectives. Planning requires that managers be aware of environmental conditions facing their organization and

forecast future conditions. It also requires that managers be good decision makers (Allen, 1964).

Organizing is the function of management that involves developing an organizational structure and allocating human resources to ensure the accomplishment of objectives. The structure is usually represented by an organization chart, which provides a graphic representation of the chain of command within an organization. Decisions made about the structure of an organization are generally referred to as organizational design decisions (Allen, 1964).

Leading involves the social and informal sources of influence that you use to inspire action taken by others. If managers are effective leaders, their subordinates will be enthusiastic about exerting effort to attain organizational objectives (Allen, 1964).

Controlling involves ensuring that performance does not deviate from standards. Controlling consists of three steps, which include (1) establishing performance standards, (2) comparing actual performance against standards, and (3) taking corrective action when necessary. Performance standards are often stated in monetary terms such as revenue, costs, or profits but may also be stated in other terms, such as units produced, number of defective products, or levels of quality or customer service (Allen, 1964).

Table 2.5 Activities in P-O-L-C Framework

Function	Definition of function	Activities	Description of activities
Planning	The work a manager performs to predetermine a course of action	Forecasting	Estimate the future
		Establishing objectives	Determine the end results to be accomplished
		Programming	Establishing the sequence and priority of action steps followed in reaching objectives
		Scheduling	Establishing a time sequence for program steps
		Budgeting	Allocating resources necessary to accomplish objectives

(continued)

		Establishing procedures Developing policies	Developing and applying standardized methods of performing specified work Developing and interpreting standing decisions applying to repetitive questions and problems of significance
Organizing	The work a manager performs to arrange and relate the work to be done so that it may be performed most effectively by people	Developing organization structure Delegating Establishing relationships Responsibility Authority Accountability	Identifying and grouping the work to be performed Entrusting responsibility and authority to others and creating accountability for results Creating the conditions necessary for mutually cooperative efforts of people Assigning work to a position Assigning the sum of powers and rights to a position Obligating responsibility and authority in accomplishing established performance standards
Leading	The work a manager performs to cause people to take effective action	Management decision making Management communicating Motivating Selecting people Developing people	Arriving at conclusions and judgements Creating understanding Inspiring, encouraging, and impelling people to take required action Choosing people for position in the organization Helping people improve their knowledge, attitudes, and skills
Controlling	The work a manager performs to assess and regulate work in progress and completed	Establishing performance standards Performance measuring Performance evaluating Performance correcting	Established the criteria by which methods and results will be evaluated Recording and reporting work in progress and completed Appraising work in progress and results secured Regulating and improving methods and results

Source: Louis A. Allen's Management Functions (Allen, 1964)

It is important to note that this framework is not without criticism. However, the general conclusion seems to be that the P-O-L-C functions of management are widely considered to be the best means of describing the manager's job, as well as a very useful way of classifying the activities managers engage in as they attempt to achieve organizational goals (Lamond, 2004).

2.5.2 Management of Professional Development at Universities

There is significant research and literature examining competency-based approaches for employers to model and to identify the skills and competencies that are expected for positions, as well as what it will take for individuals to grow and be

promoted to the next performance level. Competency-building strategies can help organizations narrow the performance and skills gap of employees and improve on organizational effectiveness and ultimately retain current leaders while developing new leaders with potential (Butterfield, 2006, 2008;). According to Butterfield (2008), some higher education institutions have already responded by developing a talent management approach. The talent management approach is one that is action-oriented and based on developing competencies of multiple individuals rather than a single individual (Butterfield, 2008). Another collaborative partnership model considers teachers as learners in a constructivist environment. Drago-Severson and Pinto (2006) claimed that the contribution of the collaborative partnership model has made teachers' professional development practice effective. One crucial factor that has made the collaborative partnership model successful is the collaboration of teachers' partnerships: the collaboration among the teachers instead of the traditional mentor assessor role of the teacher. Moreover, another crucial factor is the model provided the teachers' professional development activity in an authentic school setting. The model is based on cooperative discussions together with planning teaching practices in the classroom. Other key factors were the continuing action reflection process of the model as evident in the partnership activities along with the opportunities for participants and their partners to be in a position to link the theory into practice.

Concerned that staff development functions do little to contribute to institutional goals and priorities, Blackwell and Blackmore (2003) explore the possibilities of strategic human resource development. They suggest that through aligning staff development closely to organizational strategy, strategic staff development concentrates on creating an organizational learning culture. Perhaps such

alignment could be achieved by using a continuing professional development framework as suggested by Bamber (2009) that links the role and needs of the individual with the strategic objectives of the department and the university. In order to be successful, professional development must be career-linked, with close alignment between reward mechanisms, organizational strategic priorities and the aspirations of staff.

Baume (1995) advocate for the evaluation of academic development to “comprise a systematic description of the staff development object, followed by a systematic assessment of its merit, value [and] cost-effectiveness” (p.190). The purpose of the evaluation should be clear, and the appropriate method of evaluation planned and carried out only by those with the necessary skills. Evaluation of academic development can serve three functions, as identified by Baume and Baume (1995). First, it can serve to improve the process of staff development. Second, it can serve to provide accountability – informing future resourcing decisions, the selection of staff developers, and the choice of staff development activity. Finally, evaluation can serve a socio-political function to garner support for staff development and to make a case for more resources.

2.6 Conceptual Framework

The framework of this study was briefly derived from model of “Various Conceptualizations of Person-Organization Fit” (Kristof, 1996), which stated that the greatest variance in behavior and attitudes is due to the interaction between personal and situational variables (Robbins and Judge, 2009). Thus, influential factors included in survey were divided into two major dimensions: organization and person factors .

In this study, the objective was to analyze faculty members' lifelong learning during professional development under the contextual environment of universities. University environment was defined as the contextual environment within its physical territory, rather than its environment in the macro sense involving community relationships, school partnerships and domestic relations, etc. Management of university factors to support lifelong learning of faculty members adopts configurations that are congruent with their environment and that are internally consistent, emphasizing power distribution in university components and its procedures and processes together to achieve management of factors in supporting faculty members' lifelong learning.

Combining strategies of teachers' professional development and influential factors, management of university factors to support lifelong learning of faculty members was designed as in Allen's P-O-L-C framework: Planning, Organizing, Leading and Controlling.

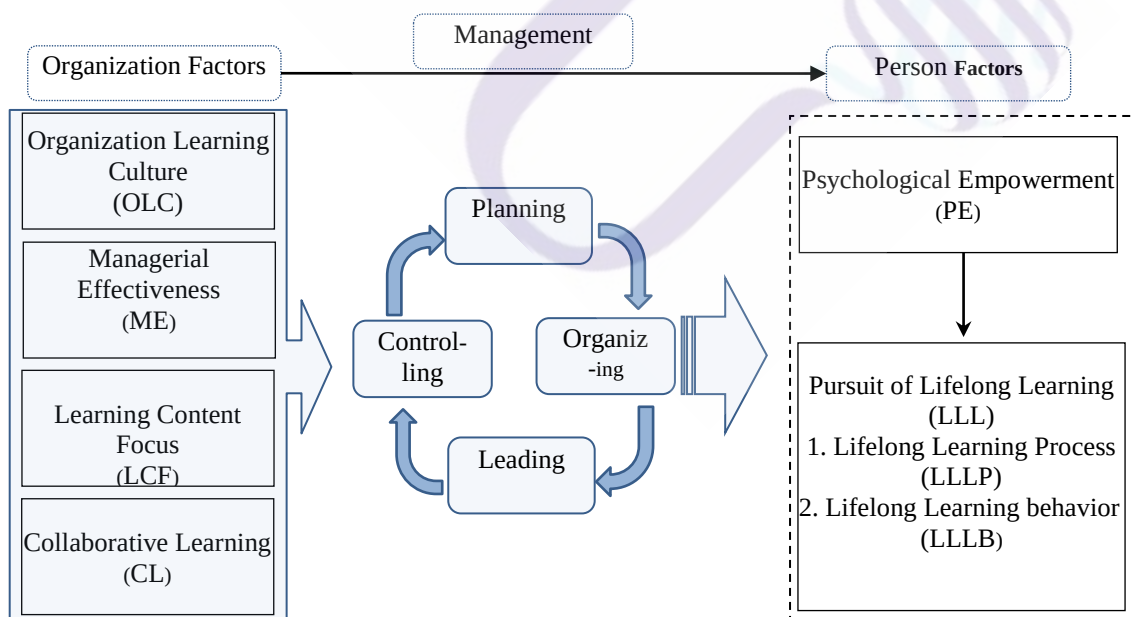


Figure 2.3 Conceptual Framework

CHAPTER 3

METHODOLOGY

In this section, the researcher presented a clear description of the method that was utilized in this proposed study. The research design, criteria for selecting the research participants, research instrument development, data collection methods, data analysis techniques were described. The researcher ensured that all data collection methods and data analysis techniques proposed in this study were appropriate for the research questions. Further, the content and salient sections of this chapter were articulated in the summary section.

3.1 Research Design

The nature of the research questions for the study under review directed the research design toward a quantitative approach plus a qualitative one. A quantitative study permitted the researcher to investigate and obtain an in-depth understanding of how the Demographics, Psychological Empowerment, organizational factors (Organization Learning Culture (OLC), Managerial Effectiveness (ME), Learning Content Focus (LCF) and Collaborative Learning (CL)) impact the effectiveness of individual Pursuit of LLL. The study begins with the formulation of research questions that direct the planning of the design, measurement, sampling, data collection, and analysis. And a qualitative approach was introduced to achieve further understanding of the range of ways that faculty members' lifelong learning in professional development. Qualitative studies were tended to be inductive in nature, more focused on participant's perspectives, and allowed a hypothesis to guide the

study while a specific focus emerged, and the ability to purposefully select the participants (Gay et al., 2012). Research designing of both quantitative, followed by qualitative approach provides a more complete picture of the phenomenon being studied, utilizing both outcomes and process. It was hoped the information provided in the expert interviews interpreted the information provided in data analyses.

3.2 Methods in quantitative approach

3.2.1 Population and Sample

The target population for this study are identified as full-time faculty members working in universities located in Shandong, China, who (1) are directly responsible for academic curriculum teaching, i.e. academic instructors (teaching-oriented), and who (2) are teaching and conducting scientific or educational researches, i.e. research-oriented faculties, the number of whom was 107,748 (in 2016), with an increase of 3,470 over the previous year in Shandong Province Education Department annual report (Shandong Province Education Career Development Statistical Bulletin, 2017).

As Creswell (2005) stated, "In non-probability sampling, the researcher selects individuals because they are available, convenient, and represent some characteristic the investigator seeks to study" (p. 149), this study adopts non-probability convenience sampling, soliciting prospective participants working in sample undergraduate universities located in Shandong province, China, because of the author's physical and social convenience. Seven universities are finally selected after personal contacts, from which sample data are collected. Table 3.1 lists categories of sample universities. In order to achieve a wider range of data for

interpretive analysis, sample universities in this study include three private-owned universities and four state-supported universities, embracing comprehensive universities and universities in different professional attributes (Polytechnic, Teaching and Finance), all of which are categorized into one same level, comprehensive institutions (master's level institutions).

Table 3.1 Sample Universities and Sample Size

University	Category	Sample size (Retrieval Ratio %)
Shandong XXX University	Private-owned (Comprehensive)	76 (63.3)
Yantai XXX University	Private-owned (Comprehensive)	67 (77.0)
Qilu Institute of XXX	Private-owned (Polytechnic)	55 (68.7)
Shandong XXX University	State-supported (Teaching)	80 (66.6)
XXX University	State-supported (Comprehensive)	64 (63.3)
Shandong University of XXX	State-supported (Finance)	63 (63.0)
Qilu XXX University	State-supported (Teaching)	43 (71.6)
Total		448 (74.6)

Two-Stage Sampling is used for this study. Hair, Black, et al. (2006) claimed that sample size should be more than 100, and the number for Confirmatory Factors Analysis (CFA) should be five to ten times the number of observed variables. In the first stage, 158 sample teachers were collected for pilot survey (with total retrieval ratio being 95.5%), analyzing its factor validity and reliability; and 448 sample teachers are for post survey (with total retrieval ratio being 74.6%), monitoring its relation model and the validity of model consistency.

Surveys were conducted among sample participants including professional instructors who are responsible for academic curriculum teaching, and research-oriented teachers who are teaching and conducting scientific or educational researches.

Teachers with no hierarchical position but, could participate in the study in order to include a wide sample and obtain rich data for interpretive analysis, including professors, associate professors or lecturers who are teaching public and academic subjects. Researcher focuses only on fulltime faculty members whose learning process is in the interest of the administrators to prioritize compared to adjunct ones.

3.2.2 Instrument Development

3.2.2.1 Description of Instrument

The measurement phase of the research involves the development of a researcher-generated survey instrument consisting of seven sections that include each of the variables in the study. The instrument designed for this study was a two-part questionnaire called the *Influential Factors of University Faculty Members Lifelong Learning in Professional Development* (as in Appendix C). Section I of the survey collected 9 items of demographic information about participants. The aim of this section was to collect information that would help provide valuable insights into the characteristics of the population under study and clarify potential connections between specific demographic variables and current pursuit of LLL during their professional development.

Section II of the survey consisted of 48 questions with a five-point Likert-type scale. The ordinal scale consisted of the following: 1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree, and 5. Strongly agree. I developed questions to address the specific research questions of this study, and drew upon common themes identified in literature review of lifelong learning, professional development and workplace learning to develop specific survey items. Kristof's P-O fit theory provided a basis for category selection. The two major categories identified in Kristof's (1996)

Various Conceptualizations of Person-Organization Fit were person and organization. Involving factors in adult LLL in professional development, therefore, are categorized into individual parts (person) and organizational parts (organization). More specifically, Pursuit of LLL and Psychological Empowerment are factors reflecting individual learning perception. Other factors collected information about the organization are classified into four factors: Organization Learning Culture, Managerial Effectiveness, and Learning Content Focus, and Collaborative Learning.

Demographic Variables

The demographic variables used to describe the sample for the purpose of identifying whether differences exist between individuals include gender, age, marriage, educational level, working years, professional level, salary, teaching hours (per week), professional planning and learning hours.

Personal Factors

Survey questions relating to individual psychological empowerment were measured by the twelve items that Spreitzer (1995) integrated into separate scales adapted from Tymon (1988), Jones's (1986) self-efficacy scale, Hackman and Oldham's (1980) autonomy scale, and Ashforth's (1989) helplessness scale. The twelve items consist of four subscales: Meaning (3 items), Self-efficacy (3 items), Self-determination (3 items), and Impact (3 items). Coefficient alphas for the four subscales ranged from .81 to .88 (Spreitzer, 1995). In this study, the mediator effect of psychological empowerment is examined as one construct, whose four dimensions used to explain its characteristics are analyzed as single one construct when statistical techniques were applied.

As for questions relating to individual Pursuit of LLL, items of instrument used in Crick, Broadfoot, and Claxton's ELLI Project (2004): the Evaluating Lifelong Learning Inventory (ELLI) furnished evidence-based references. ELLI served to identify the components of lifelong learning and to assess an individual's lifelong learning orientation. The ELLI was administered to a large sample of 10,496 individuals ranging in age from 5-19 from 122 institutions and 413 classrooms. ELLI "demonstrated a significant degree of stability, reliability and internal consistency over time" (Crick & Yu, 2008) for two basic reasons, with the Cronbach alpha coefficient associated with each scale ranging from 0.75 to 0.85 demonstrating that items in a given ELLI scale held together, and remaining reliable and stable over repeated administrations. This study used the seven items representing each of the seven sub-scales to test effectiveness of individual LLL process. Together with items in Characteristics of Lifelong Learners in the Professions (CLLP) developed by Livneh to test factors impacting professional's willingness and ability to participate in LLL, shared conceptions were selected to test explicit learning performance as in LLL behaviors.

Organizational Factors

Survey questions relating to organizational factors were adapted from Yang's (2004) instrument Dimensions of Learning Organization Questionnaire (DLOQ). Yang and his colleagues' (2004) shortened version has 21 items focusing on seven dimensions, including continuous learning, dialogue and inquiry, team learning, empowerment, embedded system, system connection, and strategic leadership. Coefficient alphas for the seven dimensions with 21 items ranged from .68 to .83 (Yang et al., 2004). With regard to validity, the results of the confirmatory factor

analysis (CFA) showed that the seven factor structure fit the data reasonably well (RMSEA < .08; CFI > .90) (Ellinger, Ellinger, Yang, & Howton, 2002). Several studies have explored the validity of the DLOQ in different cultural contexts, including the United States, China, Colombia, South Korea, and Taiwan (Ellinger et al., 2002; Hernandez, 2000; Lien, Hung, Yang, & Li, 2006; Song et al., 2009; Yang et al., 2004; Zhang, Zhang, & Yang, 2004). The results of these studies have provided sufficient evidence of DLOQ as a reliable instrument to measure the dimension of learning organization culture, including internal consistency of each construct's reliability (coefficient alphas range from .71 to .91) (Song et al., 2009). This study adopted the essential items from each of the seven sub-constructs because organizational factors are regarded as one subdimension with external influences in this study.

A managerial effectiveness instrument, developed by Denison and his colleagues (1995), was used to assess the effectiveness of managerial leaders in terms of subordinates' perspectives. Based on Quinn's (1984) model of leadership roles, effectiveness items measure performance standards, comparison to peers, performance as a role model, overall success, and effectiveness as a manager. Managerial effectiveness has five items, for which coefficient alphas in previous studies ranged from .83 to .93 (Denison et al., 1995; Spreitzer, 1995).

In combination with characteristic of teachers' professional development, Learning Content Focus and Collaborative Learning were adapted from John's (2010) *Independent School Teacher Development Inventory* (ISTDI). Items described in ISTDI include questions being used to collect information about the content focus of professional learning opportunities, the active learning emphasis of professional

development activities, the coherence and duration of professional learning activities and the extent to which professional development activities included opportunities for collective participation (John, 2010). Some other items used in organizational factors were also pulled from the illustrations in *Developing Teachers: The Challenge of Lifelong Learning* (Day, 1999), whose central questions “How, when and under what conditions do teachers learn?” are of supreme importance.

Based on the previous research achievements and instruments, a customized online survey consisting of seven sections was used in this study. Besides Section I , identifying participants’ Demographic Characteristics, Section II is served as Mediator, Psychological Empowerment (Me), Section III contains the dependent variable Pursuit of LLL (DV). Sections of IV, V, VI, and VII of the survey contain the independent variables respectively: Organization Learning Culture (IV1), Managerial Effectiveness (IV2), Learning Content Focus (IV3) and Collaborative Learning (IV4). Table 3.2 summarizes the information of components of research instrument.

Table 3.2 Structure of Indicator System of Instrument Questionnaire

Person-Organization	Section	Construct	Items	Connotations
Person Factors	I	Demographic Characteristics	1-10	age, gender and marriage, years of teaching, educational level, profession level, profession planning and learning hours
	II (Me)	Psychological Empowerment	11-22	Psychological states in which individuals feel a sense of control in relation to their work (Spreitzer, 2007), including Meaning, Self-efficacy, Self-determination and Impact.
	III (DV)	Pursuit of LLL	23-35	A dependent variable including LLL Process and LLL Behaviors, focusing on both individual internal need for cognition and explicit learning performance.

(continued)

Organization Factors	IV (IV1)	Organization Learning Culture	36-40	Institutional culture states, in which professional supports, political approval and learning culture are provided from organization.
	V (IV2)	Managerial Effectiveness	41-46	Managerial states in which supervisor managerial effectiveness is a crucial part that influences professional development opportunities, activities and strategies provided by department supervisors.
	VI (IV3)	Learning Content Focus	47-52	Content in teachers' professional learning, including learning focus from two main aspects: instructional knowledge and pedagogical knowledge in help students learning.
	VII (IV4)	Collaborative Learning	53-58	Learning forms and opportunities spend in active learning and collaborative activities, describing learning occurs both in active learning as individual and collaborative participation as members in learning environment.

3.2.2.2 Translation

The interview structure guide and questionnaire instrument for this study is translated into Chinese by the translation and back-translation procedure (as in Appendix B, Appendix D). In compiling organizational factors, the Chinese version of DLOQ is mainly used in Taiwan, considering certain differences between language habits of Taiwan and the mainland, especially in the north, therefore, adjustments and re-translation are done to familiarize the northern staff with language environment. At the same time, to check the original quantity, appropriate combinations and omissions are made in a place where the meaning is cumbersome and the content is repeated.

This procedure is conducted as follows. First, I translated the instruments into Chinese. Second, the Chinese version was reviewed by five Chinese scholars and university professors in the field of adult learning and learning organization management for content/face validity. Third, the Chinese version was revised based on their suggestions for improving the clarity, accuracy, and appropriateness for the Chinese culture. Fourth, the revised Chinese version was translated into English by

one Chinese professor who is bilingual in English and Chinese. Next, the back-translated English version was compared with the original English version. Any discrepancies were addressed and the instrument modified, as necessary to assure translation accuracy.

3.2.2.3 Questionnaire Validity and Reliability

Content Validity

To ensure appropriateness of item content, two steps were conducted, providing evidence that survey results can be interpreted with an acceptable level of validity. Firstly, a panel of experts was invited to establish content and face validity for the survey instrument prior to the initial use for data collection. Expert judgment and feedback related to the design of the instrument is an essential part of establishing content validity (Marsick, 1987). The panel is consisted of seven distinguished scholars and experts, all of them having experience working in researches or management in fields of adult education or professional development. The seven educators included university President, Vice-Presidents, Dean Directors for Continuous Education, and two division heads taking charge of national key research projects. The original questionnaire was sent electronically to the panel two weeks earlier to expert panel meeting, and the panel were asked to provide feedback on the quality of survey items.

Documenting item appropriateness followed revisions made in response to expert researcher comments. After interviewing with experts one by one, all of the seven educators provided feedback that acceptable level of validity could be achieved. Experts interviewed championed vigorously lifelong learning and teachers' professional development and agreed that both individual and organizational factors

played indispensable parts in this questionnaire. Besides reviewing on the survey format for readability regarding improvement on how questions and statements were written, changes were made to the organizational factors, resulting in six questions being generated, four questions being omitted and three questions being revised to improve clarity.

As a method of detecting errors in the survey's form and presentation, pilot testing is conducted after revisions. Pilot testing is an effective way of detecting errors of content, form, and clarity by giving the survey to respondents similar to ones who will be included in the actual study. The pilot participants were selected randomly by Human Resource Department (HRD) in sample universities. With the assistance of HRD, 180 questionnaires were sent randomly to conference participants and completed on the scene, ensuring 172 were retrieved (156 were valid and 16 were invalid respondents).

Construct Validity

The quantitative approach will begin with an exploratory factor analysis (EFA) which is conducted to determine whether the data break out according to the five sections. Although the variables included in the research instrument have been adapted from previously confirmed scales, a formed scale for testing lifelong learning in professional development has not yet been developed rendering this research stream preliminary. It is anticipated that some of the questions included in this study will need to be modified or discarded.

Items of six sections which comprised the research instrument were analyzed separately by EFA and reliability. The correlation matrix of all questions was examined to determine the factorability of results. There were forty-nine

correlations of .32+ (10% of variance) and consequently the matrix was deemed factorable. This conclusion is supported by the use of Kaiser's measure of sampling adequacy. Values of .60 and above are required for good Factor Analysis (FA) (Tabachnick & Fidell, p. 664) and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) for this data set was well above the recommended requirement. In organization factors, the Kaiser-Meyer-Olkin measure was .916 which indicated that data were appropriate for factor analysis, and Bartlett's test of sphericity was significant, $\chi^2(156) = 3113.231$, $p < .001$, indicating that the sample and correlation matrix were suitable for factor analysis. And Kaiser-Meyer-Olkin measure of Pursuit of LLL was .937 and Bartlett's test of sphericity was significant, $\chi^2(156) = 1666.785$, $p < .001$, indicating that data, the sample and correlation matrix were suitable for factor analysis.

Nine of the original fifty-eight questions of the research instrument (questions #14, #18, #24, #25, #39, #41, #49, #57 and #63) were deleted in the process of evaluating the variables and possible solutions, for they did not correlate with any other item and significantly lowered the reliability of the subscale as indicated by Cronbach's alpha. Factor loadings in EFA indicated two questions in Organizational Learning Culture needed to be redistributed into Learning Content Focus (LCF) and Collaborative Learning (CL). In addition, item of LLL14 in Lifelong Learning Behavior: "14. I spend some time everyday engaging in learning. (1 for none; 2 for 1 hour; 3 for 2 hours; 4 for 3 hours; 5 for 4 hours or more)", which is an indispensable measurement in explicit learning behavior (Livneh, 1988), shared only .129 in rotated extraction Matrix and factor loading in CFA is .35, and therefore, was included in Demographics. Consequently the remaining 48 items were included in the Maximum

Likelihood factor analysis with varimax rotation which resulted in the final solution presented in this section.

Four factors were extracted in organizational factors as in Table 3.3.

Table 3.3 Rotated Factor Matrix a (in organization factors) (N=156)

Organizational Factors		
Construct	Items	Factor Loadings
Managerial Effectiveness(ME)		Variance= 20.861%
	ME 6	.876
	ME 4	.865
	ME 5	.856
	ME 1	.823
	ME 3	.796
	ME 2	.789
Collaborative Learning (CL)		Cumulative Variance= 42.481%
	CL 3	.816
	CL 2	.789
	CL 4	.783
	CL 5	.719
	CL 1	.595
	OLC 6	.555
Learning Content Focus (LCF)		Cumulative Variance= 57.574%
	LCF 1	.833
	LCF 2	.800
	LCF 3	.765
	LCF 4	.585
	OLC 1	.549
	LCF 5	.505
Organization Learning Culture (OLC)		Cumulative Total Variance= 71.664%
	OLC 2	.804
	OLC 4	.773
	OLC 7	.669
	OLC 3	.603
	OLC 5	.444

Extraction Method: Maximum Likelihood.
Rotation Method: Varimax with Kaiser Normalization
a. Rotation converged in 6 iterations.

Two factors were extracted in Pursuit of LLL as in Table 3.4.

Table 3.4 Rotated Factor Matrix a (in Pursuit of LLL) (N=156)

Construct	Items	Factor Loadings
Lifelong Learning Process (LLLP)		Variance=43.571%
	LLL5	.863
	LLL4	.794
	LLL6	.775
	LLL9	.773
	LLL7	.747
	LLL8	.714
	LLL1	.630

(continued)

Lifelong Learning Behavior (LLLB)	Cumulative Total Variance=76.511%
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LLL11	.866
LLL2	.777
LLL10	.743
LLL12	.736
LLL3	.640
LLL13	.594

Extraction Method: Maximum Likelihood.
Rotation Method: Varimax with Kaiser Normalization
a. Rotation converged in 3 iterations.

Four factors were extracted in Psychological Empowerment as in Table 3.5.

Table 3.5 Rotated Factor Matrix a (in Psychological Empowerment) (N=156)

Construct	Items	Factor Loadings
Psychological Empowerment (PE)		Variance=79.687%
	PE1	.833
	PE10	.833
	PE11	.827
	PE12	.742
	PE13	.611
	PE2	.810
	PE3	.827
	PE4	.869
	PE5	.729
	PE6	.725
	PE8	.753
	PE9	.558

Extraction Method: Maximum Likelihood.
Rotation Method: Varimax with Kaiser Normalization
a. Rotation converged in 8 iterations.

As a precursor to structural equation modeling (SEM), the measurement model is specified to define relationships between latent variables and observed variables (Schumacker & Lomax, 2010). Through confirmatory factor analysis (CFA), separate measurement model testing of seven latent variables were examined through presenting factor loadings and overall model fit indices. Commonly recommended model-fit indices were calculated to assess the model's overall goodness of fit (Bollen, 1989): the ratio of Chi-square (χ^2) to degrees of freedom (df), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Normalized Fit Index (NFI), Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA). The results of assessing

measurement model of seven constructs represented acceptable fits to the data ($\chi^2/df=2.962$ to 5.661 ; GFI=.913 to .972; AGFI=.848 to .932; NFI=.931 to .974; CFI=.944 to .979; SRMR=.017 to .028; RMSEA=.030 to .067).

Beyond using the factor analysis with varimax rotation, confirmatory factor analysis (CFA) was used to estimate the construct validity through presenting factor loadings, composite reliability (CR) and average variance extract (AVE) that measures the internal consistency within and across the constructs (Bollen, 1989). In the measurement model, results in Table 3.6 showed that composite reliability was above 0.80 and exhibited a variance in that indicator which was not accounted for by measurement error. The average variances extracted (AVE) were all higher than the 0.50 level recommended by Fornell and Larcker (1981), which means that the variance observed in the items was accounted for by their hypothesized factors.

And all the factor loadings illustrated in Table 3.6 were strong (greater than 0.70) and reached significant level ($p<0.01$), supporting the items as indicators of the underlying constructs they were designed to measure.

Constructs	Items	Factor Loading	CR	AVE
Organizational Learning Culture (OLC)	OLC1	.74***	.890	.619
	OLC2	.83***		
	OLC3	.76***		
	OLC4	.79***		
	OLC5	.81***		
Managerial Effectiveness (ME)	ME1	.93***	.965	.822
	ME2	.91***		
	ME3	.91***		
	ME4	.90***		
	ME5	.89***		
	ME6	.90***		
Learning Content Focus (LCF)	LCF1	.77***	.922	.664
	LCF2	.84***		
	LCF3	.82***		
	LCF4	.88***		
	LCF5	.84***		
	LCF6	.73***	(continued)	

Collaborative Learning (CL)	CL1	.76***	.936	.711
	CL2	.80***		
	CL3	.84***		
	CL4	.88***		
	CL5	.89***		
	CL6	.88***		
Psychological Empowerment (PE)	PE1	.84***	.959	.662
	PE2	.84***		
	PE3	.82***		
	PE4	.86***		
	PE5	.87***		
	PE6	.75***		
	PE7	.80***		
	PE8	.73***		
	PE9	.84***		
	PE10	.81***		
	PE11	.79***		
	PE12	.80***		
Lifelong Learning Process (LLP)	LLP1	.74***	.937	.681
	LLP2	.83***		
	LLP3	.80***		
	LLP4	.87***		
	LLP5	.83***		
	LLP6	.84***		
	LLP7	.86***		
Lifelong Learning Behavior (LLB)	LLB1	.83***	.927	.678
	LLB2	.82***		
	LLB3	.84***		
	LLB4	.84***		
	LLB5	.81***		
	LLB6	.80***		

***p<.001

Reliability

Reliability refers to the extent to which scores from an instrument are repeatable and consistent (Fowler, 1993). Cronbach's alpha measures the internal consistency reliability, the extent to which survey items are related to one another, and is often used by researchers collecting survey data with Likert-type scales (Shannon & Davenport, 2001). Alpha coefficients range in value from 0 to 1, with higher scores indicating greater reliability. Researchers (Jacobs & Razivieh; Santos, 1999) generally regard reliability coefficients above 0.7 to be acceptable. All

Cronbach's alpha coefficients presented in Table 3.7 exceed the minimum requirement of .70 and are acceptable in reliability of all instruments in this study.

Table 3.7 Reliability of constructs

Constructs	α coefficient
1. OLC	.880
2. ME	.951
3. LCF	.878
4. CL	.896
5. PE	.907
6. LLLP	.914
7. LLLB	.915

3.3 Methods in qualitative approach

3.3.1 Description of Interviewees

The expert panel is consisted of six distinguished scholars and experts, all of them are all senior managers in universities, having their role and experience working in researches or management of adult education or professional development. The six interviewees were university President, Vice President Research, Staff Training Officer (HR), Staff Development Officer (HR), Director for Continuous Education, Director of Quality. This cohort represented those with responsibility for university strategy, training, quality and research. Table 3.8 listed the profiles of interviewees (only surnames were given to safeguard their confidentiality).

Table 3.8 Profile of Interviewees

Participants	University	Surname	Profile
Expert 1	A	XIA	President
Expert 2	B	SHUAI	Vice President (Research)
Expert 3	C	ZHU	Director for Continuous Education
Expert 4	D	ZHANG	Staff Development Officer (HR)
Expert 5	E	MA	Staff Training Officer (HR)
Expert 6	F	YANG	Director of Quality

All interviewees consented to having their interview recorded and transcribed. The technique used to collect data from the sources was the semi-structured interview, which "is the main road to multiple realities" (Stake, 1995, p.

64), will capture participants' perspectives. Also, the semi-structured interview technique helped the researcher to learn terminology, judgment, and capture the complexities of individual perceptions and experiences (Shank, 2006). The communication's precedence to contact the sample was in descending order: face-to-face, telephone, and email. All interviews, with one exception, were conducted on a face-to-face basis. Due to availability and scheduling, one interview was conducted by phone. All interviews were conducted in line with good practice (as outlined for example by Anderson 2009; Bryman and Bell 2011; and Jepsen and Rodwell 2008).

Some probing questions were asked during the interview to ensure that the interpretations were correct. It took between 30 minutes to 1 hour for the participants to cover the guiding questions. All the participants in the interviews were Chinese and all the questions were asked in Chinese (Appendix B). After transcribing the entire verbal interview, the transcribed text was ready for analysis.

3.3.2 Description of Interview Instrument

An interview guide was drawn up in advance (Appendix A). The interview questions were derived from the central research questions of RQ3, RQ4 and RQ5. The interview focused on gathering information from experts regarding on the management of organizational structures function in place to support the delivery of lifelong learning in professional development for faculty members. Questions listed in Table 3.9 were mainly designed from three management aspects: professional development, influential factors identified in this study, and the way in which professional development contributes to lifelong learning. And further relative suggestion on improvements was also referred. Detailed questions were generally led

in a framework as how policy-makings were done, how structures in place functioned and the way organizational resources are managed and delivered.

Table 3.9 Interview Questions in Interview Guide

Question 1	How is the professional development of faculty members organized? (Who has overall responsibility for professional development of academic staff?)
	How are structures in place to support the professional development programs managed?)
Question 2	How are influential factors on faculty members' learning in professional development managed, including Organization Learning Culture (OLC), Managerial Effectiveness (ME), Learning Content Focus (LCF), Collaborative Learning (CL)?
	Why is it organized in this way?
Question 3	In what way does the professional development provided make a contribution to the faculty members' lifelong learning?
Question 4	Would you have any suggestions or recommendations on how the institutional approach to faculty members' lifelong learning could be improved?
Question 5	Anything else to add?

The interview guide was designed to bring structure to the interviews and to ensure that the interview process was replicable as necessary. The semi-structured approach ensures the comparable coverage that is fundamental to the analysis phase, yet it allows sufficient flexibility for the interview to flow in a fluid and open manner, to gather additional data where the opportunity arises, and to omit questions that become irrelevant in the process of the conversation (Yin 2009). Thus, in data collection processes, provisions for adding information and probing the particular information followed. Where new relevant lines of enquiry were identified during the interview, additional questions linked to the research area were raised.

In this study, probing questions has been asked the most frequently included “What factors did cause the less commitment of management in practicing strategic planning?” (answering the reasons “why the management of professional development was less effective”), “Could you explain about your university budget planning in faculty members' professional development in details?”, “And what about

the quality responses or learning performances”(answering the questions “manager showed more concerns on budget allocations and its performances”), “Do you think the managers’ leadership has lived up to the standards or requirement?”, “What are the requirements for managers in your university?”(answering the questions on “the effectiveness of managers leadership”) , “In designing professional development, have your university implemented the idea of lifelong learning?” ,“What are the possible reasons for that?” (answering the questions on “the effectiveness of managers leadership”) and so on.

3.3.3 Interview Validity and Reliability

When qualitative methods are employed, the essential criteria for quality are credibility, neutrality or confirmability, consistency or dependability, and applicability or transferability (Onwuegbuzie and Leech 2007). To meet these criteria the research must have fidelity to real life, it must be specific regarding context and situation, and be authentic and honest (Cohen et al. 2011). Onwuegbuzie and Leech (2007) developed a comprehensive Qualitative Legitimation Model, in which several strategies were employed to mitigate threats to the validity and reliability of this case study. The use of multiple data sources and theories to inform the qualitative study allowed for triangulation. Triangulation is a common safeguard employed in qualitative research as it reduces the possibility of threat due to biases of specific methods and allows greater confidence in interpretations.

Reactivity of participants, whereby participants may exaggerate or withhold information due to rivalry with other institutions, was another threat to be avoided in this study. To mitigate against this threat the purpose of the study was made clear to all interviewees and the value in providing accurate and honest

responses was explained. Furthermore all participants engaged in the research on a voluntary basis, they were guaranteed anonymity and given the option to withdraw at any point. The interview guide was e-mailed to each expert interviewees ahead of two weeks for their approval. Ethical considerations were borne in mind at all times.

A common threat to qualitative research is the inappropriate generalization of findings. Throughout this research project, the processes of member checking and peer debriefing were employed. The research supervisors were frequently debriefed and asked for feedback at regular intervals. Additionally a critical peer, who is a professor majoring in HR (Human Resources), was engaged to take the role of critiquing the research. He worked as quality checker member to ensure the accurate understanding in terminologies and information filtering. This strategy is considered as highly effective in eliminating the possibility of misrepresentation and misinterpretation as it serves to minimize the potential threats to internal and external credibility of the research (Onwuegbuzie and Leech 2007).

The interview data is complemented with analysis of internal university documents as a secondary data source and to enable triangulation. Documentary evidence is a particularly important source of evidence in research related to business, management, HR, and education issues (Anderson 2009; Bryman and Bell 2011; Cohen *et al.* 2011). Documents can provide specific details about relevant activities and can be usefully employed to corroborate and augment evidence from the interviews. Documents collected and analyzed for this study include the university's strategic plan, strategic plans of relevant units within the university, quality review reports of relevant units, and relevant published material relating to provision of development opportunities. Where available, the strategic plans of units, relevant

quality review reports that typically provide professional development opportunities, like human resources, the centre for teaching and learning, and information services units were examined to uncover the extent to which professional development is linked to the indicators as presented in the university strategic plan.

3.3.4 Presentation of Themes

The interview data analysis was guided by the phases of thematic analysis, adapted from Braun and Clarke, (2006), as shown in Table 3.10. Some manipulation of the guidelines was done to suit the research needs of the researcher. For example, the actual codes were not assigned but open coding was part of the process. Not all phases were utilized for this study. During the analysis, the researcher focused mainly on familiarizing the data, searching for themes, reviewing themes, and defining and naming themes.

The data analysis stage is the search for explanation and understanding and so the analysis began during the data collection phase and was undertaken as an iterative process. The first stage in the process was the reduction of data into

Table 3.10 Phases of Thematic Analysis

Phase	Description of the Process
1. Familiarizing yourself with data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme
4. Reviewing themes	Checking in the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2) generating thematic 'map' of the analysis
5. Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tell; generating clear definition and names for each theme
6. Producing the report	

Adapted from Braun and Clarke, (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), p (86) with permission.

proportions using thematic analysis. The broad themes or codes used in this stage were derived from the theoretical framework that guided the data collection stage. Four themes raised were paralleled with P-O-L-C framework: Planning (P), Organizing (O), Leading (L) and Controlling (C). These codes incorporated interview questions: management of professional development, management of influential factors, and management of lifelong learning (LLL). Sub-coding was the next stage of analysis where analytical codes, core codes and axial codes were used to further reduce the data. Analytical codes identified broad themes, topics, concepts and ideas. Key themes emerged under each of themes. Core codes were used to categorize, synthesize, and organize most important or frequent initial. And axial codes were used to identify relationships and connections within categories and sub-categories of data. In this study, these codes were divided into Management of professional development (coding as 0) and Management of promoting lifelong learning (coding as 1) at each theme (as in Table 3.11). To help the process of sense-making, data were displayed and interpreted using lists, typologies, matrices, and logic models. Although many of these were not used in the eventual presentation of the findings they were very helpful to the investigator in interpreting the data, in deepening the understanding of emerging themes, and for identifying relationships and cause and effect patterns.

Table 3.11 Coding Information of Thematic Analysis

Theme	Axial codes	Core codes	Analytical codes
Planning (P)	Management of professional development (0)	Strategy Policy (1)	Prioritized (1)
			Lack practical commitment (2)
			Not a cohesive exercise (3)
			Under-developed idea (4)
			Not clear in allocation of responsibility (5)
			Learning culture building (6)

(continued)

Organizing (O)	Management of promoting lifelong learning (1)	Budgeting (2)	Budget planning annually (1) Little awareness of costs involved (2) Not clear about budget allocation (3)
		Strategy Policy (1)	Little consciousness of lifelong learning (1) Significance of promoting lifelong learning No strategic planning or practical reference (3)
		Structure (1)	In a fragmented way (1) limited power of single HR (2) Departmentalization (3) Staff development center (4)
	Management of professional development (0)	Organizational learning culture (2)	Traditional culture (1) Lack of learning culture (2)
		Learning content focus (3)	Duty of academic departments (1)
		Structure (1)	Little consideration in achieving lifelong Lack of systematic supportive units (2)
	Management of promoting lifelong learning (1)	Learning contents (2)	Learning contents targeted with academic needs (1)
		Learning opportunities (3)	Learning opportunities in academic departments (1)
		Motivating (1)	Motivating system (1)
	Management of professional development (0)	Management communication (2)	Lack effective communications (1) Collaborative learning opportunities (2)
		Leadership of middle-level managers (3)	Its prime position (1) Prioritized (2) Little effectiveness in training (3)
		Organizational needs and individual needs (1)	university and individual goals (1)
	Management of promoting lifelong learning (1)	Initiative of professional development (2)	Self-initiated (1)
		Qualitative measurement (3)	Individual growth (1)
		More time for learning (4)	Most prominent barrier (1)
		Learning opportunities (5)	Its positive impacts (1) Lack of awareness of learning process (2)
Controlling (C)	Management of professional development (0)	Conducting assessment (1)	Current quantified data files (1) Leadership effectiveness evaluation (2) The need for specialized unit (3)
		Controlling of low quality learning (2)	Less-targeted professional development Not coherent with organizational objectives The impacts of absence of collaboration (3)

(continued)

Management of promoting lifelong learning (1)	Effective lifelong learning (1)	Cohesively embedded in professional development (1)
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3.4 Data Collection Methods

In order to ensure the reliability and validity of survey instruments, the quantitative data were achieved through pilot test and post test for EFA and CFA. The whole process would be conducted online. The questionnaires were delivered through online services, clicking a web-site link to finish items and submission. Surveys administered over the web reduce implementation time, and increase efficiencies in developing, reproducing, and administering the survey (Dillman, 2007). Using the Mikecrm, survey questionnaire was edited online, and distributed through www.mikecrm.com. An IP address can only be accessed once and all the items have to be fully completed before it can be submitted, which ensured the effectiveness and inrepeatability of retrieved questionnaires.

Before conducting the survey, this study would seek the approval from Institutional Review Board or Faculty Development Center at universities. As researcher's request, HR managers or the researcher' contact agents signed the research support consent form after understanding the information about this study. Based on the approval and the agreement to participate in the study from universities, potential participants in each organization received the information about the researcher and the study purposes, procedures, benefits, and risks. Informed consent were provided via email to those who agree to participate in the study, and then email invitations were sent to take part in questionnaire survey and give their consent by completing the survey and submitting it to their HR manager.

As for qualitative data, six individual interviews were conducted and one semi-structured interview guide was provided to interviewees. To guard the validity and reliability of the interview data, the same interview protocol was used for each interview as suggested by Sobh and Perry (2006). The same level of formality was maintained with all interviewees throughout the process. Additionally, interviews were recorded and transcribed to preserve the chain of evidence as advised by Yin (2009). The researcher made available transcripts for each face-to-face interview respondent. The respondent was asked to confirm the accuracy of the transcript and to revise or supplement their responses if they chose to do so.

The interview data is complemented with analysis of internal university documents as a secondary data source and to enable triangulation. The relative documents delivered officially were checked on their homepage or electronic office platforms of universities, many of which were hung within specific departments in chronological order.

3.5 Anticipated Ethical Issues

Prior to the data collection, the researcher sought the approval of the Institutional Review Board (IRB) concerning the use and the content of the interview protocol that was used in the data collection. This process ensured that all ethical considerations that this proposed study would be addressed prior to the commencement of the data collection stage. And then an invitation letter was sent to potential respondents in the Shandong university system possessing the attributes necessary to participate in the study. In the letter of invitation, the participants were informed of their rights particularly concerning their decisions to withdraw their

participation. The participants were informed that they are required to submit a letter informing the researcher of their intention to withdraw.

The issues or experiences associated with this study were not considered controversial or sensitive in nature. Further, no unanticipated ethical issues arose in the course of the study regarding the nature of qualitative research. The primary ethical issues that demanded attention were that of right to informed decisions, confidentiality, and privacy of the survey participants (Merriam, 2009). In regards to the confidentiality and anonymity ethical issues, all participants were asked to sign an informed consent form to ensure that they agreed to participate in this study. Confidentiality of information was achieved by using pseudonyms or fictitious names of people and institutions, and the implementation of a participants' coding system. All these information will be kept in a secured file that is only accessible to the researcher. No identifiable information was utilized throughout the study. Moreover, data gathered from this study will be kept in a password-protected computer and in a locked cabinet. Only the researcher will have access to the data gathered in this study. All data will be deleted and destroyed five years after the completion of the study.

3.6 Data Analysis Techniques

Descriptive Statistics and Correlation Matrix

Means and standard deviations were determined for each item in the instrument. A correlation matrix is provided, and tests are run to determine if multicollinearity exists. Generally, a correlation between .20 and .35 is a weak positive relationship, a correlation between .35 and .65 is a moderate positive

relationship, a correlation between .65 and .85 is a good positive relationship, and .85 and above shows a high positive relationship (Cohen & Manion, 1994).

Structural Equation Modeling (SEM)

Structural equation modeling (SEM) is a multivariate statistical approach to test theories about hypothesized causal relationships among variables (Gall, Gall, & Borg, 2005) and represents a melding of factor analysis and path analysis into one comprehensive statistical methodology (Kaplan, 2008). The AMOS 21.0 program was used to conduct the SEM. Generally, SEM consists of two parts: the measurement model and the structural model (Kaplan, 2008). The measurement model indicates the relation of the observed variables to the latent variables; latent variables are formed from observed variables. The structural model specifies the causal relations of the constructs to one another based on the hypotheses (Barnette & Williams, 2005). The best structural model was selected based on the results of the overall goodness-of-fit indices. Following Bollen's (1989) and Schumacker and Lomax's (2010) recommendation, this study will employ five goodness-of-fit indices, including chi-square (χ^2), root mean square error of approximation (RMSEA), non-normed fit index (NNFI), comparative fit index (CFI), and standardized root mean square residual (SRMR).

In the next step, three indexes of ICCs (ICC (1), ICC (2)) and r_{wg} were calculated to test Group Internal Consistency, which were used to validate data aggregation of the individual level is reliable for producing organizational level structure analysis.

CHAPTER 4

QUANTITATIVE DATA ANALYSIS

This chapter presents the results of data analysis and consists of three parts: assessing the measurement model; descriptive statistics analyses of current status of university faculty members' lifelong learning and their perception of influential factors; and examination of the structural model for hypotheses testing.

4.1 Assessing the Measurement Model

After achieving the approval of human resource managers and the agreement to participate in the study, 600 agreement letters from seven sample universities were achieved, and 448 valid responses were collected. Using the data collected in formal survey, basic assumptions of reliability and validity issues were examined by inter-variable correlation coefficient estimates, Cronbach's alpha coefficient and factor loadings of a confirmatory factor analysis (CFA) in order to test whether the hypothesized latent variables could be identified empirically and to assess the construct validity of the measures.

4.1.1 Normality Distribution

As for the assessment of normality of overall whole model, if the absolute value of skewness coefficient of observed variables in the SEM analysis is greater than 3.00, and kurtosis coefficient is greater than 8.00, the sample data may deviate from the normal distribution, especially severe when the kurtosis coefficient is greater than 20.00 (Kline, 2005). The absolute value of Skew showed in Assessment of Normality was less than 2.00 (the highest value is -1.559) and Kurtosis was less than

3.00 (the highest value was 1.890). Furthermore, the Mardia coefficients of Multivariate normal distribution was 61.928, being far less than the Multivariate decision value (2400). All the values were within the demanding levels, indicating the normality distribution of sample data in overall measurement model.

4.1.2 Assessing Measurement Model

The assessment of the measurement model of all the seven variables presented the standardized estimates for the measurement model of these seven variables. Factor loadings ranged from .63to .89. And this measurement model represents a good fit to the data ($\chi^2=3053.754$; $df=1059$; $\chi^2/df=2.884$; $GFI=.926$; $AGFI=.907$; $NFI=.914$; $CFI=.906$; $SRMR=.030$; $RMSEA=.065$).

Assessing measurement model of Organizational learning culture(OLC)

The first measurement model has five items, representing sub-dimensions of OLC. Figure 4.1 presents the standardized estimates for the measurement model of OLC. Factor loadings ranged from .75 to .82. This measurement model represents a good fit to the data ($\chi^2=23.711$; $df=6$; $\chi^2 /df =3.952$; $GFI=.972$; $AGFI=.917$; $NFI=.973$; $CFI=.977$; $SRMR=.019$; $RMSEA=.030$).

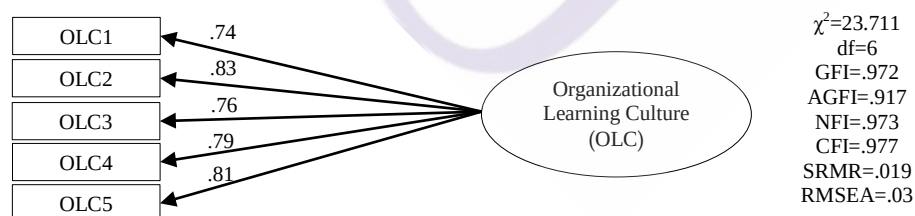


Figure 4.1 Measurement Model of Organizational Learning Culture (OLC)

Assessing measurement model of Managerial Effectiveness (ME)

The second measurement model has six items, representing sub-dimensions of ME. Figure4.2 presents the standardized estimates for the measurement model of ME. Factor loadings ranged from .73 to .89. This measurement model represents an

acceptable fit to the data ($\chi^2=50.949$; $df=9$; $\chi^2/df = 5.661$; GFI=.928; AGFI=.932; NFI=.970; CFI=.973; SRMR=.020; RMSEA=.049).

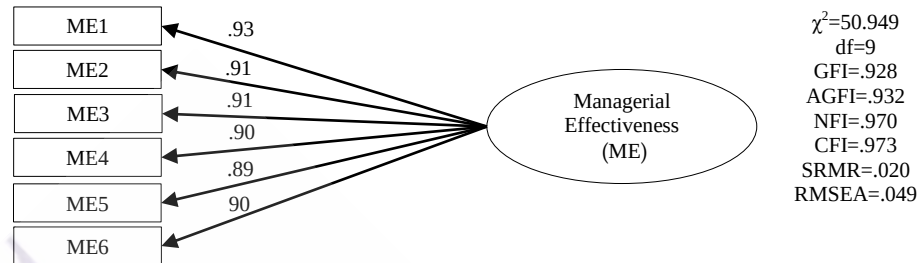


Figure 4.2 Measurement Model of Managerial Effectiveness (ME)

Assessing measurement model of Learning Content Focus (LCF)

The third measurement model has six items, representing sub-dimensions of LCF. Figure 4.3 presents the standardized estimates for the measurement model of LCF. Factor loadings ranged from .75 to .88. This measurement model represents an acceptable fit to the data ($\chi^2=47.970$; $df=9$; $\chi^2/df= 5.33$; GFI=.968; AGFI=.926; NFI=.974; CFI=.979; SRMR=.018; RMSEA=.030).

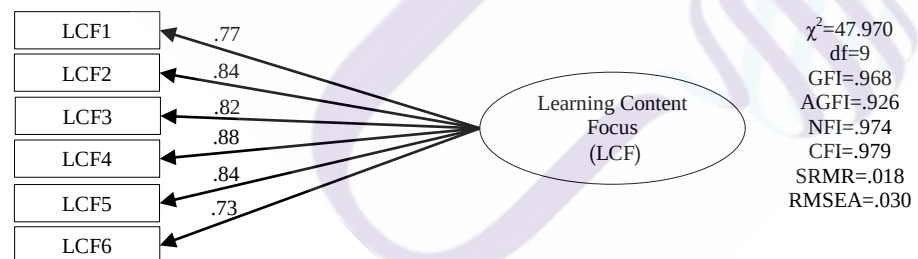


Figure 4.3 Measurement Model of Learning Content Focus (LCF)

Assessing measurement model of Collaborative Learning (CL)

The fourth measurement model has six items, representing sub-dimensions of CL. Figure 4.4 presents the standardized estimates for the measurement model of CL. Factor loadings ranged from .77 to .89. This measurement model represents an acceptable fit to the data ($\chi^2=85.908$; $df=29$; $\chi^2/df= 2.962$; GFI=.935; AGFI=.848; NFI=.962; CFI=.966; SRMR=.017; RMSEA=.048).

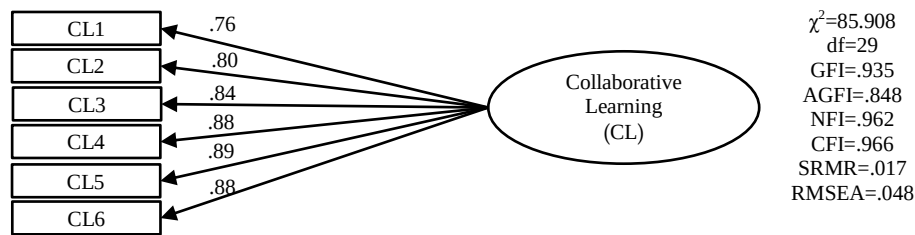


Figure 4.4 Measurement Model of Learning Content Focus (LCF)

Assessing measurement model of Psychological Empowerment (PE)

The fifth measurement model has twelve items, representing sub-dimensions of PE. Figure 4.5 presents the standardized estimates for the measurement model of PE. Factor loadings ranged from .72 to .87. This measurement model represents an acceptable fit to the data ($\chi^2 = 208.662$; $df=48$; $\chi^2/df=4.347$; $GFI=.913$; $AGFI=.858$; $NFI=.931$; $CFI=.944$; $SRMR=.028$; $RMSEA=.067$).

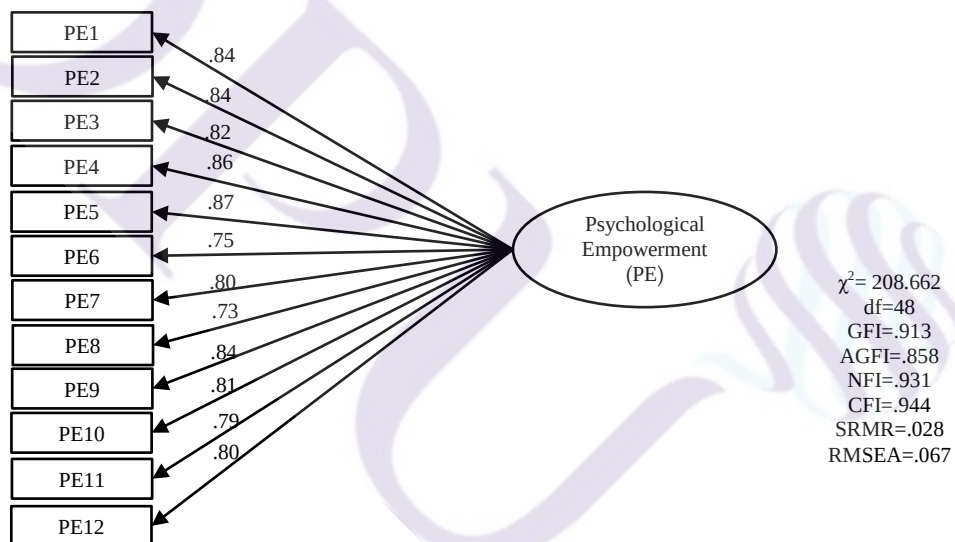


Figure 4.5 Measurement Model of Psychological Empowerment (PE)

Assessing measurement model of Lifelong Learning Process (LLLP)

The sixth measurement model was for Lifelong Learning Process (LLLP), one dimension of pursuit of Lifelong Learning. Figure 4.6 presents the standardized estimates for the measurement model of LLLP with seven items. Factor loadings ranged from .73 to .87. This measurement model represents an acceptable fit to the

data ($\chi^2=68.063$; $df=18$; $\chi^2/df=3.781$; $GFI=.956$; $AGFI=.912$; $NFI=.971$; $CFI=.977$; $SRMR=.017$; $RMSEA=.053$).

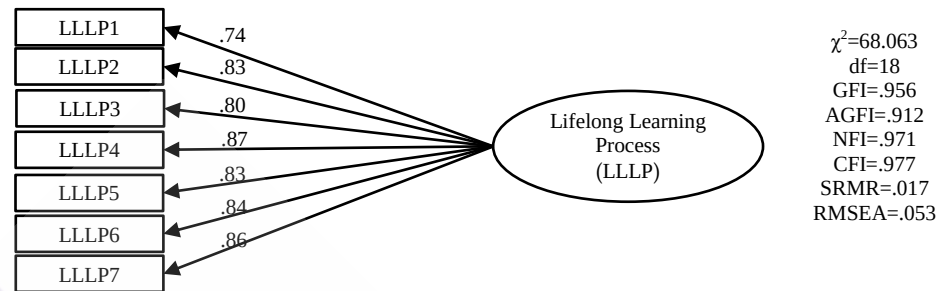


Figure 4.6 Measurement model of Lifelong Learning Process (LLLP)

Assessing measurement model of Lifelong Learning Behavior (LLLB)

The seventh measurement model was for Lifelong Learning Behavior (LLLB), another dimension of pursuit of Lifelong Learning. Figure 4.7 presents the standardized estimates for the measurement model of LLLB with six items. Factor loadings ranged from .79 to .84. This measurement model represents an acceptable fit to the data ($\chi^2= 63.300$; $df=16$; $\chi^2/df=3.956$; $GFI=.948$; $AGFI=.879$; $NFI=.957$; $CFI=.961$; $SRMR=.020$; $RMSEA=.038$).

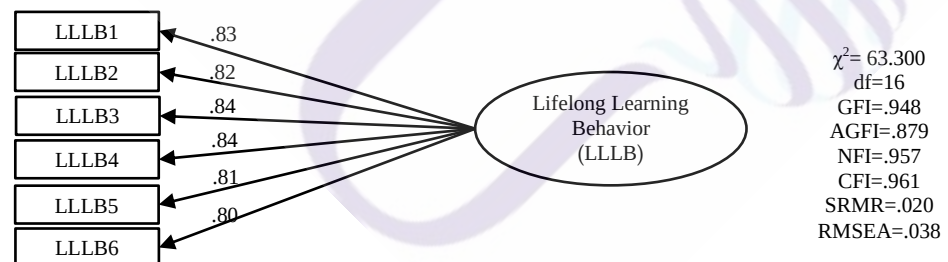


Figure 4.7 Measurement Model of Lifelong Learning Behavior (LLLB)

Besides factor loadings, in the measurement model, results showed that composite reliability (CR) was above 0.80 and all the factor loadings was strong enough (from .63 to .89), and reached significant levels ($p<0.01$), supporting the items as indicators of the latent variables they were designed to measure.

Table 4.1 Factor loading of Items (N=448)

Constructs	Items	Factor Loading	CR
Organizational Learning Culture (OLC)	OLC1	.75***	.891
	OLC2	.82***	
	OLC3	.77***	
	OLC4	.79***	
	OLC5	.81***	
Managerial Effectiveness (ME)	ME1	.73***	.918
	ME2	.81***	
	ME3	.81***	
	ME4	.80***	
	ME5	.79***	
	ME6	.89***	
Learning Content Focus (LCF)	LCF1	.77***	.922
	LCF2	.83***	
	LCF3	.82***	
	LCF4	.88***	
	LCF5	.75***	
	LCF6	.83***	
Collaborative Learning (CL)	CL1	.77***	.938
	CL2	.81***	
	CL3	.84***	
	CL4	.88***	
	CL5	.89***	
	CL6	.88***	
Psychological Empowerment (PE)	PE1	.83***	.957
	PE2	.82***	
	PE3	.80***	
	PE4	.87***	
	PE5	.87***	
	PE6	.74***	
	PE7	.79***	
	PE8	.72***	
	PE9	.84***	
	PE10	.80***	
	PE11	.78***	
	PE12	.79***	
Lifelong Learning Process (LLLP)	LLLP1	.73***	.935
	LLLP2	.83***	
	LLLP3	.81***	
	LLLP4	.87***	
	LLLP5	.82***	
	LLLP6	.83***	
	LLLP7	.85***	
Lifelong Learning Behavior (LLLB)	LLLB1	.84***	.928
	LLLB2	.83***	
	LLLB3	.83***	
	LLLB4	.84***	
	LLLB5	.82***	
	LLLB6	.79***	

The figures in Table 4.2 showed that the average variances extracted (AVE) were all higher than the 0.60 level, which means that the variance observed in the

items was accounted for by their hypothesized factors. And comparison between AVE and square values of correlations among constructs indicated that the discriminant validity existed among constructs.

Table 4.2 The correlation matrix of AVE and inter-construct correlations (N=448)

Constructs	1	2	3	4	5	6	7
1. OLC	.622						
2. ME	.433	.650					
3. LCF	.365	.299	.663				
4. CL	.430	.248	.323	.716			
5. PE	.450	.171	.130	.114	.649		
6. LLLP	.153	.231	.483	.404	.362	.674	
7. LLLB	.316	.168	.334	.329	.245	.596	.681

Notes: Bolded diagonal elements are the values of average variance extracted (AVE). These values should exceed the squared values of inter-construct correlations (off-diagonal elements) for adequate discriminant validity.

4.2 Correlations

Table 4.3 shows inter-construct correlations and descriptive analysis results. The correlation coefficients estimated in CFA showed that constructs kept in significant correlations.

Table 4.3 Descriptive Statistics and Correlations Matrix (N=448)

Constructs	Mean	SD	1	2	3	4	5	6
1. OLC	3.767	.715	-					
2. ME	3.842	.925	.658**	-				
3. LCF	3.904	.746	.604**	.547**	-			
4. CL	3.941	.719	.656**	.498**	.568**	-		
5. PE	3.840	.649	.671***	.414***	.361***	.337***	-	
6. LLLP	4.092	.720	.391***	.481**	.695***	.636***	.602***	-
7. LLLB	3.956	.715	.562***	.414**	.578***	.574***	.495***	.772***

** $p < .01$ *** $p < .001$

As expected, significant relationships occurred between organizational factors and personal factors. Four dimensions of organizational factors (Organizational Learning Culture (OLC), Managerial Effectiveness (ME), Learning Content Focus (LCF) and Collaborative Learning (CL)) are significantly correlated with personal Psychological Empowerment (PE) and Pursuit of Lifelong Learning (LLL). As for PE, the highest level of correlations existed between it and OLC

($r=.671$, $P<.01$). In LLL, LCF, and CL shared higher levels of correlations. In LLLP, the correlation between it and LCF was $r=.695$ ($P<.01$) and CL was $r=.636$ ($P<.01$); and in LLLB, correlations existed between it and LCF and CL were $r=.578$ ($P<.01$), $r=.574$ ($P<.01$) respectively.

Within organizational factors, these four constructs shared mutually significant correlations, among which ME showed higher correlation levels with OLC ($r=.658$, $P<.01$) and LCF ($r=.547$, $P<.01$), and correlation level between LCF and CL was $.568$ ($P<.01$).

In personal level, PE was significantly correlated with LLLP ($r=.602$, $P<.01$) and LLLB ($r=.495$, $P<.01$). And in LLL, the LLLP significantly correlated with LLLB ($r=.772$, $P<.01$).

4.3 Assessing Structural Model

Research designing of this study involves both personal level and organization level, and data were collected by individuals as members within the organization, therefore, the information provided by the individuals needs being aggregated as to present the data of organization on the average. Then by SEM analysis, the hypothesized model suggested was examined, and further validate hypotheses testing was established, along with their prediction impacts on dependent variables. Lastly, mediating effects of psychological empowerment were finally assessed.

4.3.1 Analysis of Group Internal Consistency

In order to validate data aggregation of the individual level is reliable for producing organizational level structure for subsequent analysis, tests were carried on

to ensure Intra group consistency and inter group variability. Therefore, the three indexes of ICCs (ICC (1), ICC (2)) and r_{wg} were calculated.

Intraclass correlation coefficient (ICC)

Since samples were clustered within 7 universities, there was a concern that relationships among variables of perception are not the same across different universities. If there is a dependency among measures and it is not controlled for, statistical conclusions based on regression analysis may be invalid; that is, if condition of independence is not satisfied, significance of predictors may be overestimated due to reduced standard error of regression coefficients (Kleinbaum, Kupper, Muller, Nizam, 1998). Cohen (2003) indicated that for any variable in a clustered data set one can calculate an Intraclass Correlation Coefficient (ICC) to measure the degree of correlation or nonindependence among scores within clusters. ICC of '0' indicates complete independence meaning that scores from different groups are not more discrepant from one another than scores within groups; whereas an ICC of '1' indicates complete dependence meaning that scores within each group are similar but scores across groups are different (Thomas & Heck, 2001).

This study examines Intraclass Correlation Coefficient (ICC) to test whether significant differences are within groups of variables. "ICC (1) indicates the extent of agreement among ratings from members of the same team. And ICC (2) indicates whether teams can be differentiated on the variables of interest" (Barrick et al., 1998, p.140). In this study, the ICC (1) of all variables as in Table 4.4, were .21-.40, and ICC (2) were .40-.48, and therefore, interdependence does not pose a problem for further regression analysis.

Table 4.4 Intraclass Correlation Coefficient of Constructs

Constructs	ICC1	ICC2
Psychological Empowerment (PE)	.40	.48
Pursuit of Lifelong Learning (LLL)	.33	.41
Organizational factors	.21	.40

Within-group Inter-rater Reliability Coefficient; RWG

The agreement index that was used to measure group-level agreement is the r_{wg} statistic developed by James, Demaree, & Wolf (1984, 1993). r_{wg} is widely accepted as an appropriate measure of within-group agreement (James, Demaree, & Wolf, 1993; Kozlowski & Hattrup, 1992). This study examined r_{wg} as to test whether there is a homogeneity within a group (Klein & Kozlowski, 2000), the average r_{wg} greater than 0.7 is acceptable level for the evaluators enough consistency. In this study, the average r_{wg} s in each structure are greater than 0.82, higher than the acceptable standard 0.7, as in Table 4.5, showed the group internal consistency is good, and therefore, it was available that individual data aggregated as the organization information and the information was still reliable.

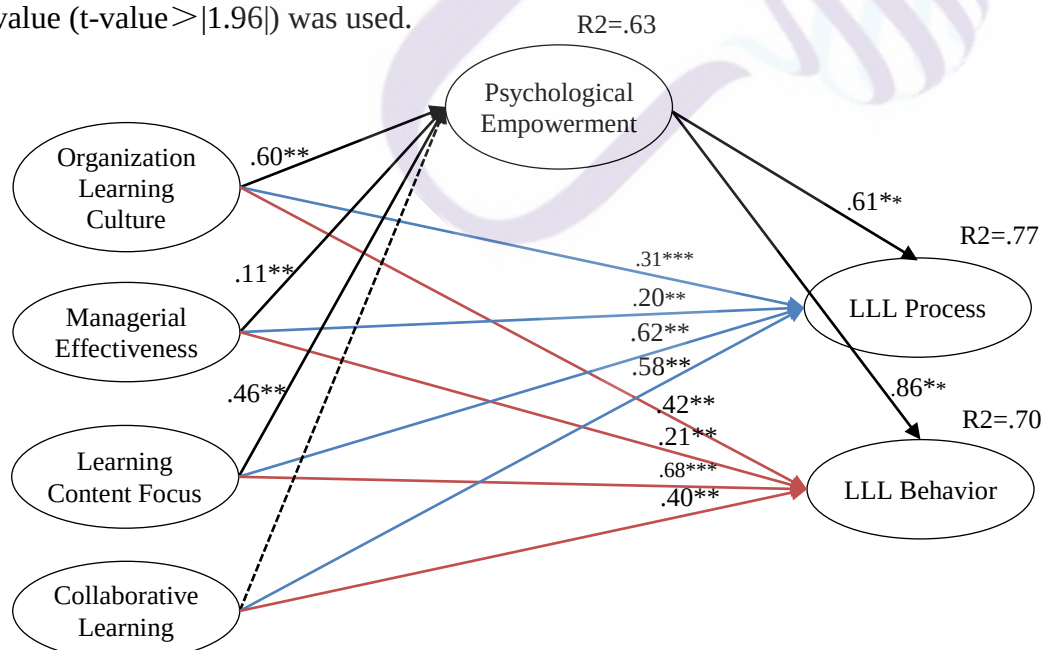
Table 4.5 Within-group Inter-rater Reliability Coefficient of Constructs

Constructs	RWG max	RWG mix	RWG average
Psychological Empowerment (PE)	1.00	.95	.97
Pursuit of Lifelong Learning (LLL)	.98	.67	.93
Organizational factors- Organizational Learning Culture (OLC)	.99	.88	.92
Organizational factors- Managerial Effectiveness (ME)	.96	.58	.90
Organizational factors- Learning Content Focus (LCF)	.97	.66	.91
Organizational factors- Collaborative Learning (CL)	.98	.79	.93

4.3.2 Hypothesis Testing

The structural equation modeling (SEM) was based on nine hypotheses that assume direct and indirect relationships between organizational/individual variables and university faculty members' pursuit of lifelong learning. All the model-fit indices exceeded common acceptance levels suggested by previous research, thus demonstrating that the structure model provided an adequate fit to the data: $\chi^2=912.619$; $df=368$; $\chi^2/df= 2.480$; $GFI=.971$; $AGFI=.920$; $NFI=.963$; $CFI=.921$; $SRMR=.042$, $RMSEA=.050$.

As a follow-up step, path models were fitted to the data to test the proposed model. Collective associations among the variables that are exogenous and endogenous, path coefficient estimates for all relations and standardized path coefficient estimates were considered to find out the influential effect sizes of each relation. All path coefficients were illustrated in Figure 4.8. As the standard determinant for the statistical significance of standardized path coefficients, the cut-off t-value ($t\text{-value} > |1.96|$) was used.



Based on the results from the SEM, the nine hypotheses were investigated through the path coefficients and the total effect sizes of the constructs. The higher the gamma (γ), the stronger the relationship. To be statistically significant ($p < .05$), the t -value should be greater than $|1.96|$. Table 4.6 summarizes the results of testing the hypotheses.

Table 4.6 Hypothesis Testing: Effects of Path Estimates

	Hypothesis	Direct Effects (t value)	Results
H1	Organization Learning Culture has a positive impact on Psychological Empowerment.	.60*** (6.507)	Supported
H2	Organization Learning Culture has a positive impact on Pursuit of LLL.		Supported
	H2a: Organization Learning Culture has a positive impact on LLL Process.	.31*** (4.235)	Supported
	H2b: Organization Learning Culture has a positive impact on LLL Behavior.	.42*** (4.102)	Supported
H3	Managerial Effectiveness has a positive impact on Psychological Empowerment.	.11** (3.415)	Supported
H4	Managerial Effectiveness has a positive impact on Pursuit of LLL.		Supported
	H4a: Managerial Effectiveness has a positive impact on LLL Process.	.20** (3.437)	Supported
	H4b: Managerial Effectiveness has a positive impact on LLL Behavior.	.21** (2.517)	Supported
H5	Learning Content Focus has a positive impact on Psychological Empowerment.	.46** (3.953)	Supported
H6	Learning Content Focus has a positive impact on Pursuit of LLL.		Supported
	H6a: Learning Content Focus has a positive impact on LLL Process.	.62*** (3.438)	Supported
	H6b: Learning Content Focus has a positive impact on LLL Behavior.	.68*** (3.553)	Supported
H7	Collaborative Learning has a positive impact on Psychological Empowerment.	-.02 (.207)	Not supported
H8	Collaborative Learning has a positive impact on Pursuit of LLL.		Supported
	H8a: Collaborative Learning has a positive impact on LLL Process.	.58*** (3.480)	Supported
	H8b: Collaborative Learning has a positive impact on LLL Behavior.	.40** (2.952)	Supported
H9	Psychological Empowerment has a positive impact on Pursuit of LLL.		Supported
	H9a: Psychological Empowerment has a positive impact on LLL Process.	.61*** (6.281)	Supported
	H9b: Psychological Empowerment has a positive impact on LLL Behavior.	.86*** (6.315)	Supported

Notes: *** $p < .001$ ** $p < .01$ ($t > 1.96$) t -values are in parentheses

The patterns of direct effects of the exogenous variable revealed by the path model provide evidence to support hypotheses. Based on H2a, H4a, H6a, H8a,

significantly positive relationships between OLC, ME, LCF, CL and LLLP were hypothesized. Results from path model supported that significant positive relationship existed between OLC ($\gamma=.31$, $t=4.235$), ME ($\gamma=.20$, $t=3.437$), LCF ($\gamma=.62$, $t=3.438$), CL ($\gamma=.58$, $t=3.480$) and LLLP. In a university, higher levels of organizational factors in learning culture, managerial effectiveness, learning content and collaborative learning activities will appeal to their faculty members' higher learning intention and proposition.

Based on H2b, H4b, H6b, H8b, significantly positive relationships between OLC, ME, LCF, CL and LLLB were hypothesized. Results from path model showed that significant positive relationship existed between OLC ($\gamma=.42$, $t=4.102$), ME ($\gamma=.21$, $t=2.517$), LCF ($\gamma=.68$, $t=3.553$), CL ($\gamma=.40$, $t=2.952$) and LLLB. By improving learning culture, learning content focus and collaborative learning activities, university faculty members will participate in learning behaviors more frequently and in higher level.

As for the relationships between organizational factors and individual psychological empowerment, the hypothesized positive impact of CL and PE, in H7, were not supported, with no significant relationship between them. In H1, H3 and H5, significant positive relationships between OLC ($\gamma=.60$, $t=6.507$), ME ($\gamma=.11$, $t=3.415$), LCF and PE ($\gamma=.46$, $t=3.953$).

Within personal factors, PE was hypothesized a significant positive relationship with LLL (H9a, H9b). The result from the path model strongly supported this hypothesis, with the path coefficient being $\beta=.61$ ($t=6.281$) and $\beta=.86$ ($t=6.315$). Generally speaking, empowered employees will see themselves as more capable and

will be able to influence their job and organizations in meaningful ways, leading to a high degree of commitment to their learning.

In addition, as for the proportion of the total response variance explained by the model, squared multiple correlation (SMC) showed that the overall model accounted for 77 percent of variance in faculty members' LLLP ($R^2=.77$), 70 percent in LLLB ($R^2=.70$) and 63 percent in PE ($R^2=.63$).

4.3.3 Assessing Mediating Effect of Psychological Empowerment

In addition to direct effects between variables, the indirect and total effects of the proposed constructs were also examined to further understand the magnitude of the prediction among all constructs. Except for the CL, the result of Table 4.7 validating the mediating role of PE between OLC, ME, LCF and LLL (LLL and LLLB). In both LLL and LLLB, LCF made a greater impact when compared with other factors in terms of the total effect. And PE, the primary influencer of personal pursuit of lifelong learning, made the greatest impact in LLLB directly, and OLC impacted personal PE mostly.

Table 4.7 Mediating Models of PE between Organizational Factors and LLL

Variables	Direct Effects	Indirect Effects	Total Effects
PE← Organizational factors			
PE ← OLC	.60	--	.60
PE ← ME	.11	--	.11
PE ← LCF	.46	--	.46
PE ← CL	--	--	--
LLL←PE			
LLL ← PE	.61	--	.61
LLL← Organizational factors			
LLL ← OLC	.11	.20	.31
LLL ← ME	.30	.14	.44
LLL ← LCF	.62	.12	.74
LLL ← CL	.58	.03	.61

(continued)

LLLBP←PE			
LLLBP ← PE	.86	--	.86
LLLBP← Organizational factors			
LLLBP ← OLC	.42	.25	.67
LLLBP ← ME	.21	.15	.36
LLLBP ← LCF	.68	.13	.81
LLLBP ← CL	.40	.02	.42

Notes: PE=psychological empowerment, OLC=organization learning culture, ME=managerial effectiveness, LCF= learning content focus, CL=collaborative learning, LLP= lifelong learning process, LLLB= lifelong learning behavior

Furthermore, the mediation was also tested by using the Sobel (1982) test to examine the reduction of the effect of the independent variable on the dependent variable, after accounting for the mediating variables. The Sobel (1982) test conservatively tests this reduction by dividing the effect of the mediator by its standard error and then comparing this term to a standard normal distribution to test for significance (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Significant levels in Sobel test confirmed the effect of Psychological Empowerment (PE) as a mediator between organization learning culture (OLC), managerial effectiveness (ME), learning content focus (LCF) and individual pursuit of lifelong learning (LLL).

Table 4.8 Sobel Test of PE between OLC, ME, LCF and LLP, LLLB

Variables	Relationships	Test Statistic
PE	LLP ← OLC	6.763 ***
	LLB ← OLC	5.551 ***
	LLP ← ME	3.846 ***
	LLB ← ME	5.748 ***
	LLP ← LCF	7.393 ***
	LLB ← LCF	5.829 ***

Notes: PE=psychological empowerment, OLC=organization learning culture, ME=managerial effectiveness, LCF= learning content focus, LLP= lifelong learning process, LLLB= lifelong learning behavior

And Table 4.9 summarized the hypothesis testing of H10, supporting Psychological Empowerment (PE)’s role as mediator between organizational factors and individual pursuit of lifelong learning (LLL).

Table 4.9 Hypothesis Testing: Mediating Effects of Psychological Empowerment (PE)

	Hypothesis	Results
H10	H10a: Psychological Empowerment plays a mediating effect in the impacts of Organization Learning Culture on Pursuit of LLL.	Supported
	H10b: Psychological Empowerment plays a mediating effect in the impacts of Managerial Effectiveness on Pursuit of LLL.	Supported
	H10c: Psychological Empowerment plays a mediating effect in the impacts of Learning Content Focus on Pursuit of LLL.	Supported
	H10d: Psychological Empowerment plays a mediating effect in the impacts of Collaborative Learning on Pursuit of LLL.	Not supported

4.3.4 Summary

The three indexes of ICC1, ICC2 and RWG ensured the group internal consistency and availed the individual data aggregation as the organization information for data analysis. And the model fit of hypothesized SEM reached acceptable level for hypothesis testing.

In answering “RQ1: What are factors influencing university faculty members lifelong learning in professional development?”, findings in quantitative data provides valid evidences for influential factors. In pursuit of lifelong learning (LLL), hypotheses of H2(H2a, H2b), H4(H4a, H4b), H6(H6a, H6b), H8(H8a, H8b), H9(H9a, H9b) were all supported, indicating that all the constructs identified from literature review (OLC, ME, LCF, CL and PE) significantly impacted individual lifelong learning process(LLLP) and behavior(LLLB). Thus, Organization Learning Culture (OLC), Managerial Effectiveness (ME), Learning Content Focus (LCF), Collaborative Learning (CL) and Psychological Empowerment (PE) can be served as factors influencing university faculty members lifelong learning in professional development.

In answering “RQ2: What are relationships among influential factors and university faculty members’ lifelong learning in professional development?”, results of impact coefficient showed all the influential factors kept in positive relationships with dependent variable of pursuit of lifelong learning (LLL), verifying prediction that higher perception levels in perceiving OLC, ME, LCF and CL lead to higher level in pursuit of lifelong learning (LLL), and higher level in PE also leads to higher level in pursuit of lifelong learning (LLL), and to improve faculty members’ PE level, higher levels in perceiving OLC, ME and LCF have to be ensured.

In Psychological Empowerment (PE), hypothesis of H7 was not supported, indicating university faculty members’ perception of CL had no significant relationship with their level of PE. But hypotheses of H1, H3, H5 were supported, providing the impacts of OLC, ME, LCF on PE. Therefore, hypothesized of H10 were mostly supported, with an exception for “H10d: Psychological Empowerment plays a mediating effect in the impacts of Collaborative Learning on Pursuit of LLL.” being not supported. Thus, PE was found mediating between OLC, ME, LCF and faculty members’ LLL.

Furthermore, in terms of impact power on LLL, the direct influencer PE provided the highest impact power in LLLP ($\beta=.61$, $t=6.281$) and LLLB ($\beta=.86$, $t=6.315$); Among organizational factors, LCF showed a higher impacts than others in LLLP ($\gamma=.62$, $t=3.438$) and LLLB ($\gamma=.68$, $t=3.553$); whereas, as for PE, OLC impacted its level mostly ($\gamma=.60$, $t=6.507$).

CHAPTER 5

QUALITATIVE DATA ANALYSIS

This chapter focused on introduction of qualitative data collection and its analysis and interpretations. This chapter showed an appreciation of the qualitative approach to realize research objectives and outlined in detail the approach that was taken for this study. The presentation of data results analysis and interpretation helped to understand problems of the recognition of university managers with influential factors of faculty members' lifelong learning and the ways how these factors are organized and managed in university environment.

5.1 Introduction

This study aimed to provide findings on how managers can channel the on-going university faculty members' development more directly and effectively into improving their lifelong learning. The primary audience for the findings are the university management teams and those responsible for developing and delivering learning cultures and professional development opportunities for faculty members. The interview method proved very effective in fulfilling the objectives of this study. It facilitated the development of a clear understanding of the organizational structures in place, to support the delivery of professional development opportunities. The interviews were also useful for gathering information about the strengths and limitations of institutional approaches to professional development provision. Moreover, the interviews revealed interviewees perceptions on the ways in which the

existing provision of professional development could and should be optimized to enhance the faculty members' lifelong learning.

An interview guide was drawn up in advance of the interviews. The interview questions were derived from three central questions:

“RQ3: How do university structures organize and manage faculty members' lifelong learning in professional development?

RQ4: How does management of university factors can contribute to the higher level of faculty members' lifelong learning in professional development?

RQ5: How can university factors be better organized and managed to enhance faculty members' lifelong learning in professional development? ”

5.2 Qualitative Analysis

With this understanding of the outline of interview questions, presentation of themes, respondent roles, analysis focused on administrative practices as defined by Allen's four elements of management (P-O-L-C framework).

5.2.1 Planning

Planning means “the work a manager performs to predetermine a course of action” (Allen, 1964). It was appropriate that planning was the first element of management, in that foresight is essential and covers a wide range of activities. In this study, responses to questions generated results that provided clues to management practice and levels of influence.

Strategic policy

Faculty members' professional development is prioritized as one indispensable component of university policy. Conversations with interviewees

described “*university has an overall planning for teachers' professional development* (Interviewee 1-P-0-1-1)” and “*stratified requirements were documented for different professional stages* (Interviewee 3-P-0-1-1)”.

Professional development programs in universities normally use a combination of teachers' professional development models to facilitate change in the teaching practice (Fullan, 2000). Very few colleges and universities have an understanding of professional development or even have the appropriate strategies in place to adapt to a rapidly changing environment (Fugazzotto, 2009; Partington & Stainton, 2003). Despite the fact that universities included in the strategic priority themes that the university supports and encourages faculty members “*to equip themselves with the skills, knowledge and confidence to work...to deliver the university's mission and to realize their own potential* (Interviewee 3-P-0-1-1)”, the perception among interviewees was that the university lacks a genuine commitment to achieving this goal.

Managers interviewed indicated that while the university recognizes the potential of professional development, it doesn't extend to managing it effectively.

“I would say that it is an espoused priority but it is not a managed priority. Of course it is a priority, everybody will say it's a priority, nobody will say it's not, but when you look at the evidence in terms of activity across the university ... activities that we all espouse and support are very often the ones that we neglect” (Interviewee 6-P-0-1-2)

The policy influences on faculty members mainly remained when it is delivered from up-to-down, “*teachers' talent training scheme is put forward clearly to*

the heads of the departments and offices at every beginning of new year (Interviewee 1-P-0-1-1)”. Several interviewees suggested that, to date, sufficient importance has not been given to faculty development by university management. It was acknowledged that faculty development in that sense is down the line of priorities and that *“little or no thought has been given to faculty development as a coherent exercise* (Interviewee 4-P-0-1-3)”.

Further discussions on PD management revealed that *“Professional development is a very under-developed idea”* and *“no integrated concept of staff development* (Interviewee 6-P-0-1-4)”. Faculty members’ professional development was regarded as synonym of “professional rank promotion”, more focus being placed in ranking promotion assessment. University teachers' professional title promotion system is provided to guarantee high-level teaching staff construction and stimulate university teachers' professional development (Zhang, Kuang, 2017).

“University policy is more focused on the work of teacher's rank-title promotion assessment. It seems that the beautiful data in the school files is our top priority”. (Interviewee 6-P-0-1-4)

It was evident from comments of interviewees that those providing professional development are not always clear about what they should be doing to meet the university’s expectations or objectives. They are meeting demands from all quarters and some would welcome guidance on where they should focus their direction. The extent to which professional development provision is embedded in the objectives of the strategic plan is limited by the confidence of the professional development providers in the strategic planning process. It was suggested that the

university strategic plan should serve as the compass to guide the units that are providing professional development.

“Things come from the bottom-up and the top-down and sometimes there is, you know, we need a compass more in there and of course that’s supposed to be the strategic plan which is meant to be the roadmap to guide us.” (Interviewee 4-P-0-1-5)

And in building organizational learning culture, it is supported by interviewees that organizational learning culture building serves as one important factor in organization culture, many of whom attached much weight to learning culture construction as institutional policy. The necessity and significance of learning culture acts in university professional development was acknowledged because they believe themselves as learning organizations and professional characteristics.

“Our university is supportive for the faculty, especially the teachers continuous learning, because of the need of their professional knowledge, the continuous learning of teachers becomes more and more important. Schools have also instituted incentives to encourage faculty and staff to learn.” (Interviewee 2-P-0-1-6)

“I think the university itself is a learning organization, because the teacher itself is a knowledge-based profession, being characterized by its professionalism, persistence and sustainability.” (Interviewee 3-P-0-1-6)

“I’m not sure how to define the learning organization, but our university is committed to building the environment of continuous learning,

encourage teachers to learn, of course, to improve their vocational skills and general competence.” (Interviewee 4-P-0-1-6)

Budgeting

The issue of budgeting is certainly one core element in planning. It is widely indicated that a university’s success is predicated on its ability to generate sufficient funding, and to being budgetary disciplined in getting the best value out of the resources deployed to support the teaching and research mission (Balderston 1995; Shattock 2003; Walsh 2011). However, there was little awareness among interviewees about the cost of professional development provision to the university, because *“little clear budget allocation were identified as for staff professional development (Interviewee 1-P-0-2-3)”*. Senior managers recalled *“the budgeting planning discussed every beginning of academic year”* (Interviewee 2-P-0-2-1), but *“was not familiar with the costs involved”* (Interviewee 2-P-0-2-2). The necessity to provide financial awareness training for heads of departments is recognized (Shattock 2003).

“last year, the number that I listed funding for researching was 200 thousands, to support faculty members researching programs, maybe making up the 15 percent in institutional budgeting.... ...”
(Interviewee 2-P-0-2-1)

“I remembered, last year, more than 200 thousands was for researches, 100 thousands for academic development, more than 500 thousands was allocated in Human Resource..... I have little idea on what these numbers was spent.....The detailed usage was designed by individual departments. ” (Interviewee 6-P-0-2-2)

Brew (1995) recognizes that there are problems in deciding on the appropriate balance of resources for a central staff development unit, and for academic departments and support units, as managers may lack appropriate criteria for such decisions. More detailed information revealed from HR offices and Director for Continuous Education indicated that *“the overall development budget was proportionately divided into three parts: funding for administrative offices, supportive units and academic departments”* (Interviewee 4-P-0-2-1)

However, much concern was conveyed by managers that they desire a clear map of relationship of output and input in supporting professional development, because *“I have little idea on where these numbers was spent...”* (Interviewee 5-P-0-2-3) and *“we are not clear about the outcomes of professional development.....”* (Interviewee 3-P-0-2-3). And managers showed their bewilderment that *“although we need money to support initiatives, we cared more on where the money spent and the extent to which it contribute to professional development.”* (Interviewee 4-P-0-2-3). Brew (1995) highlights the frequent mismatch between what managers expect staff development units to provide and the resources they are allocated.

“..... However, It’s not clear where the money comes from for initiatives we have to carry out. So, nobody quite has a handle on it. Nobody is able to say, ‘this is the amount of money we have, therefore this is how it is going to be spent.’” (Interviewee 4-P-0-2-3)

5.2.2 Organizing

Organizing means “The work a manager performs to arrange and relate the work to be done so that it may be performed most effectively by people” (Allen, 1964). In this study, activities identified in organizing were analyzed at the level of the organization involves deciding how best to departmentalize, or cluster, jobs into departments to coordinate effort effectively.

Organizing in Professional Development

The first area for review under the organizing umbrella dealt with responsibility issues. Assessing who was primarily responsible for determining operating goals for the organization would suggest an indication of influence and management practice. In practice, staff professional development in universities is distributed in a fragmented way, among various outlets, including Senior Management Team, University registries, HR, the Centre for Teaching and Learning, Library, IT Services, Quality Promotion Unit, Office of the Dean of Graduate Studies, the Research Office, Language Centre, Careers Office, as well as each academic departments (Allan et al. 2003; Blackwell and Blackmore 2003; Brew 1995; Clegg 2003).

When asked who is accountable to ensure the coherent operation in staff development, it emerged that little thought had been given to such questions previously in the university.

“There isn’t a structural system in place to actually propagate, support, encourage, enhance staff professional development.” (Interviewee 2-O-0-1-1)

“I do see the value in having a person or persons who have overall

overarching responsibility and a concept of staff development...no such person exists in this institution.” (Interviewee 6-O-0-1-1)

Strategic development approaches can hardly be achieved without considerable collaboration (Allan et al., 2003), and professional development providers need to form implicit and explicit alliances with the human resources management function and with department heads (Blackwell and Blackmore, 2003). Interviewees echoed that it would be inappropriate for Human Resource (HR) alone to lead professional development. Some suggested that HR is “too bureaucratic”, others suggested that HR would use a “training model” that would be inappropriate for staff development. The HR unit is well aware of the caution with which its involvement in professional development in academic domains is held.

“Administrative offices like human resource/ finance/ library/ information center, etc. then become service sectors, lacking a holistic overall planning and macro-control role. Thus, the administrative department hardly functioned effectively in its management. (Interviewee 4-O-0-1-2)”

It is suggested that faculty members’ professional development can not be guaranteed by single department of Human Resources. Centralized management on HR is challenged by academic differences in professional requirements, the lack of personnel, etc., so every secondary department would be a more direct channel to fulfill. Researches have agreed that departmentalization has played a dominant role in the evolution of higher education (McHenry and Associates, 1977, p.1), acting as the major bodies in executing management and achieving organizational objectives

(Bransford, 1977, p.9). The cohesion and cooperation between academic departments are crucial for professional development.

“There is always an anxiety like for HR to get more stuck in there, it is never really helpful, when it comes to academic development So you could say should we be there at all, I don’t know, that is a much bigger question. Some would argue that staff development shouldn’t be a HR unit at all, whether it is for academic or the rest of the staff categories.”(Interviewee 4-O-0-1-2)

“The centrally managed initiatives are not getting through because it is just hitting the wall of noise ... quite innocently I might not be aware of the right things, but you know, not hearing it through the right channel. One more direct channel is a departmental one.” (Interviewee 4-O-0-1-3)

The fragmented nature of management of PD is perceived as suboptimal when asked about the structures that are in place in organization.

“It’s far from optimum... I think the organization of it is quite haphazard and ad hoc I’d have to say. I think there is a lot of scope for improvement...” (Interviewee 5-O-0-1-1)

“They don’t really interact... the Research Office does its own thing... HR have gone their own way, do their own thing, they just decide what they are going to do and the teaching and learning people, more or less, go their own way...” (Interviewee 4-O-0-1-1)

One contributing factor to the current fragmented structure in professional development management is the organic nature of its development over time in a

traditional university cultural environment. In China, the concept of university teacher's professional development is backward and lacks spiritual conviction (Du, Fang, 2013).

“I think it’s just through how the organization has developed and evolved organically... I mean we are a very traditional organization in the sense that it’s grounded in history... and I think that’s part of what contributes to the way we are at the moment for sure. I mean organizational development is only kind of a role that was added to HR, you know, about three or four years ago ... as a concept it’s not one that has kind of really evolved at all...” (Interviewee 1-O-0-2-1)

Staff Development Center

It was acknowledged that there is merit of one person or persons committing to faculty members’ professional development provision. The notion of having one person with designated responsibility to ensure coordinate all the professional development offerings and to ensure coherence was supported by a number of interviewees.

“If there was some kind of overarching figure ... in the one area so that we lined up correctly ... it is almost taken or assumed that there is a basis of professional development happening ... if there was some entity to pull this together better as opposed to us all tending to do our own bits of the jigsaw.” (Interviewee 2-O-0-1-4)

The post of Staff Development Center in university B and E were established, as one separate branch office of HR, with the objective of increasing staff

productivity and establishing a system of professional development. Since 2012, "promote the establishment of Staff Development Centers in colleges and universities" was proposed the Ministry of Education of China issued Several Opinions On Comprehensively Improving Quality of Higher Education (the Ministry of Education, cited from the Proposals for Higher Education, 2012 (04)), which initiated the construction of staff development centers for higher educators in China. It designs and delivers a range of policy or compliance based professional development including sessions and trainings. It was indicated that influencing the HR agenda for academic faculty member development lies within the remit of this role. It emerged that the addition of a staff development function to the remit of HR is a relatively recent feature.

"Historically staff development has hardly featured at all on the HR agenda....staff development has essentially been very marginal in this institution up until three or four years ago" (Interviewee 3-O-0-1-4)

"I think this center is useful, designing a diversity of offerings so that one doesn't get channeled into some kind of straightjacketed staff development that is a model that suits one group...but you need somebody who is looking, overseeing those groupings." (Interviewee 5-O-0-1-4)

One difficulty with it is that the Chair of this center at any given time assumes a different level of authority. Consequently the various providers of professional development don't feel answerable to this center.

Organizing in Organizational Learning Culture (OLC)

School organizational limitations and differing school cultural practices can act to constrain teachers' professional learning (Kershner, Pedder & Doddington, 2013). It was suggested that each of the learning culture builders work fairly independently. As each caters for “very discrete areas” and there is no overlap or duplication of effort among the providers. Each unit manages their own budget, and each make independent decisions on what provision to offer. This independent way of operating was cited as “one of the key big problems”. This notion of problematic fragmentation was highlighted by others also.

“I am not even sure how well joined up we are. We are kind of aware of each other’s offerings and we are kind of offering different things ... it is a bit haphazard when it comes to faculty members to be honest”

(Interviewee 3-O-0-2-1)

Furthermore, there appears to be a culture of resistance to change. The current set up, with more than ten units involving in building learning culture has created complex silo structures. Each unit is concerned with protecting their own role and they are not willing to relinquish to any other provider.

“It is just complex, so we have committees and units ... there is delivery happening through any number of different medium ... there is a certain amount of kind of empire building or empire protecting and people just saying you know, we do what we do and we are not for changing.”

(Interviewee 6-O-0-2-2)

Organizing in Learning Content Focus (LCF)

In learning content focus, the leaning content was decentralized to secondary academic departments, the administrative managers like Teaching Affairs

Office and Teacher Development Center work as auditors to deliver policy planning, quota distribution and collect files, but have no hands in its fixing.

“The secondary colleges were empowered to make learning content according to their development needs and teacher learning inclination; In other words, the university has no direct involvement in the content of the teacher's learning.” (Interviewee 2-O-0-3-1)

“The summary of the last year training lecture, the ones on specific skills account for 14%, 30% about teaching methods, 25% about study of policy, and 19% about the professional theoretical knowledge system and 12% on other aspects.” (Interviewee 6-O-0-3-1)

All the formal learning activities and training organized by academic departments have to be applied for approval, and collective documents have to be submitted to management office (HR or Staff Development Center, etc.) for filing and recording.

“Many are on teaching methods, such as flipped classroom lectures, business English reform, etc. many are on policy studies, such as university reform trends in the era of big data.....” (Interviewee 4-O-0-3-1)

5.2.3 Leading

Leading means “The work a manager performs to cause people to take effective action” (Allen, 1964). In this study, leading activities mainly fell into motivating and management communicating. Studies of motivation provide important information about the ways in which workers can be energized to put forth productive

effort, and studies of communication provide direction as to how managers can effectively and persuasively communicate.

Motivating

In order to motivate faculty members to engage more in learning, the construction involves both spiritual immersion and material incentives, besides the up-to-down policy guidance, role-model demonstration sharing, meeting conference, the direct stimulus of salary levels or awards was provided.

“.....Therefore, our school pays special attention to the construction of learning culture, which is reflected not only in the policy literature, but also in awaking learning consciousness and spiritual level of teachers.”

(Interviewee 3-L-0-1-1)

“Every year, at the all faculty opening conference, the principal will declare clearly the holistic policies, spirit, and middle-level cadres meetings are hold for specific discussions.” (Interviewee 1-L-0-1-1)

“For example, in addition to the school's policy incentives, the direct stimulus of salary levels involved.” (Interviewee 3-L-0-1-1)

“..... activities include network autonomous learning and outschool short-term training and visiting, etc., and time/economic supports were provided. Learning sharing activities were also given, hoping to positively impact other teachers self-directed learning” (interviewee 4-L-0-1-1).

Management communication

Leading with faculty members professional development includes communicating with faculties and providing development opportunities in their

desired learning content and collaborative learning. Communications with supporting units and faculty members were all relevant in this category for effective leading. It was revealed that *“managers lack effective communications with subordinates, understanding little their personalities, values, attitudes, or emotions of their subordinates”* (Interviewee 5-L-0-2-1).

All providers of professional development have a role to play in communicating what they have on offer and in encouraging academics to avail of their services as appropriate. Interviewees revealed that the use of the office platform and instant message tools as the primary communicator, the page to which this interviewee refers when seeking development opportunities, is not effective. It strongly emerged that more should be done to clearly communicate the full range of professional development opportunities that are available throughout the year and that it would be beneficial if staff were more directly targeted to attend as relevant.

Interviewees suggested that they saw the supports university paid on collaborative learning, *“Teamwork is encouraged, which is regarded conducive to professional development”* (Interviewee 1-L-0-2-2). Faculty members would welcome the university taking more formal and informal approaches to assist faculty members in collaborative events because *“Faculties would definitely benefit from more assistance with shaping of career.”*(Interviewee 3-L-0-2-2)

“Faculty members expressed, by and large, that they get more valuable advice regarding their career progression informally from peers and from people that they regard as mentors, than from formal development opportunities.” (Interviewee 4-L-0-2-2)

“Meetings, networking, sharing ideas and collective preparation for peer review are all considered important forms of academic development.”

(Interviewee 5-L-0-2-2)

Some interviewees suggested that attending sessions offered by centers or HR might be a stretch of collaborative leaning in professional development. It emerged that many interviewees noticed that despite of faculty members’ passive attitude towards attending sessions offered by centers or HR, they acknowledged that their professional performance benefited from the sessions that bring people together to talk about their experience.

“Professional development for faculty members has limited value is what I’m saying...I think the most positive experiences I’ve had have been on the learning and teaching side where people are coming and talking about their experiences of learning and teaching, sometimes in domains quite different from my own you know, I find something like that is really useful.” (Interviewee 2-L-0-2-2)

Leadership of middle-level managers

In addition, one factor was mentioned more frequently than any other, the effective leadership of middle-level managers. The responsibility for leading faculty members falls primarily with academic department leaders.

The challenge of getting heads of departments to “*operate the schools from the university’s point of view*” was identified. They are in the prime position for supporting or undermining institutional policy (Bransford, 1977, p.9). There is an expectation that the professional development being provided to middle management levels will enhance their guidance for subordinates’ learning performance. This will

be achieved when the middle management levels are developed to the extent that they understand their role as one that prioritizes the university needs above the needs of their individual academic unit.

“My expectation is...the core leadership we have in the academic area, which are five deans and sixteen Heads of Departments, that they come to see their primary role as helping this university to improve its overall learning culture and minimize the historic role they have seen themselves as representing their staff to the university.” (Interviewee 4-L-0-3-1)

“.....Moreover, I hope every leader can consider faculty professional development in a holistic strategic level.” (Interviewee 5-L-0-3-1)

Due to the extent of this challenge, in recent years HR has prioritized the development needs of Heads of Universities, focusing on the area of leadership. The leadership development program is operated using mentoring and coaching programs. The objective is primarily to equip Heads of School with the skills to do the job that they have already been appointed into, in other words to address the skills deficits that have been identified.

“University introduced some leadership training programs, mainly aimed at the strategies and management of middle-level cadres, leadership awareness and comprehensive quality improvement;” (Interviewee 5-L-0-3-2)

The approach then is one of remediation, but there is no obligation for Heads to engage in the program, and some are resistant to engage. Some leaders had attended some professional development sessions on leadership provided by HR, but

they had not considered them as professional development events. The reason they participated in the event was that the reason they participated in the event was that *“I got a specific, personal invitation to attend”*. They expressed that *“individuals are more likely to attend a professional development session when they are personally invited or when a colleague that has attended recommends it”* (Interviewee 1-L-0-3-3).

5.2.4 Controlling

Controlling means “The work a manager performs to assess and regulate work in progress and completed” (Allen, 1964). Controlling of management does not imply that managers should attempt to control or to manipulate the personalities, values, attitudes, or emotions of their subordinates, instead, it concerns the manager’s role in taking necessary actions to ensure that the work-related activities of subordinates are consistent with and contributing toward the accomplishment of organizational and departmental objectives.

Conducting assessment

The major task conceived by interviewees of management is to conduct assessment, which provides a series of criteria and standards to check performance and control operating process. Before one better approach being provided, they are determined to applying the current quantified data files.

“The assessment of teacher development will be quantified at the end of semester/year. Each task will be assigned corresponding values, which are, in line of completion status, the main basis for individual and departmental assessment.” (Interviewee 2-C-0-1-1)

It was suggested that although more diversified forms are included in staff

assessment, quantified data focus too much on results rather than process, which is considered as “*a hidden danger in providing efficient PD for staff*”. It was suggested that the purpose of the evaluation should be clear, and the appropriate method of evaluation be planned to “comprise a systematic description of the staff development object, followed by a systematic assessment of its merit, value [and] cost-effectiveness” (Baume, 1995, p.190).

“..... I preferred more discussion on teachers’ development process, the part of quality, instead of their numbers on articles published, projects charged, or even meeting participated. I think, you know, what they have got during this process counts more” (Interviewee 5-C-0-1-1)

In measuring managerial effectiveness, it is obvious that universities leadership effectiveness evaluation was a tricky task to achieve. Interviewees confessed their consciousness of low efficiency in current quantified standards, and “no better alternatives”. Three aspects comprise the main body of evaluation: the completion status of annual targets, the online assessment system scores, and some personal interviews as auxiliary means.

“The effectiveness assessment of the leadership is mainly adopted in two aspects: first, the value index, and the completion status of the department annual target, mainly including the proportion of rank promotion, the implementation of teacher development training and the distribution of funds, etc. The second is the scores of the online assessment system as management effect of the leaders.” (Interviewee 2-C-0-1-2)

“Direct data can be achieved by a staff evaluation system (online), including subordinates’ evaluation of superiors, and peer evaluation;” (Interviewee 1-C-0-1-2)

Furthermore, the evaluations of leadership effectiveness under the perspective of organization and staff are nonuniform. The role of leaders in offices and academic departments as linkage between organization and individual is crucial. However, some interviewees described the discrepancy between data results and position performance. Some leaders either failed in role model to subordinates, poor managing performance in justice and equity or unfit for professional guidance.

“.....however, problems like misallocation of funds, few effective activities and unfair opportunities still existed, teachers’ learning enthusiasm was blew.” (Interviewee 4-C-0-1-2)

“.....tend to see the world from the point of view of the individuals involved... they operate more or less as if it is a private institution...they have no concept of what the university’s requirements are...in the context of a higher education system which has been publicly funded”.” (Interviewee 6-C-0-1-2)

The close cooperation of the centrally managed professional development initiatives with the Heads of Departments was postulated as a good model. However, a strong theme emerged that one champion needs to be appointed to have oversight, and responsibility for ensuring that the range of professional development opportunities on offer is coherent, and that it is adequately serving the needs of staff and of the university.

Controlling of low quality in learning

The learning activities currently on offer by the university was perceived as *“not tailored enough to faculty members so that they can meet the university’s expectations”* (Interviewee 2-C-0-2-1). Interviewees thought professional development initiatives available in their universities were not clearly linked with career shaping. It is perceived as random, both in timing and in topics. *“It doesn’t look like somebody sits down and says ‘actually we need this menu of things’”* (Interviewee 4-C-0-2-1).

Reflected by a Director of Quality, many faculty members were fully aware of the range of professional development provision on offer and made active efforts to engage with it; however *“the available provision does not meet their skills development needs”* (interviewee 6-C-0-2-1). Supovitz and Turner (2000) concluded that *“professional development opportunities that initiate change require multiple opportunities to learn, practice, and collaborate, and one-shot workshops and seminars do not address the needs of teachers looking for new strategies and instructional methods”*(p. 977). It was suggested that the university should put in place more focused, both formal and informal learning opportunities and that there should be an expectation for different-leveled faculty members to engage. This would provide the incentive to attend and would help faculty members achieve their own learning goals and to meet those of the university.

“... more than one teacher expressed disappointment with her experience of the professional development provision in the university. They started with a wish list of what I would like....the skills they would like to develop and the things that they would like to sort of broaden knowledge of for

the period of the contract, but they do find that they have to engage with those opportunities as they come along and they don't always come along and sometimes when they do, they are full or they are a one-off or whatever ...there are things that they would like to do that they can't do and they don't have the skills to do that.” (Interviewee 4-C-0-2-1)

Furthermore, the available professional development provision has many identified strengths, but by and large it is perceived that it is not focused on helping faculty to deliver the university's strategic objectives. “Teachers shape their own professional growth through active learning, reflection, and participation in practice” (Coenders, 2010; Opfer & Pedder, 2013) and active learning opportunities cause teachers to transform their teaching, rather than simply combine new strategies with old ones (Cohen, Hill, 2000). Some thought that some training such as the use of new software packages would not really constitute professional development.

“We are good at the delivery of the training and development which is what I would call more skills based than anything else. You know, how to use virtual instruction, how to use Cochrane's evidence base in medicine, how to use Endnote. And it is less attuned if you like to let's say the strategic plan that we have at the moment.” (Interviewee 3-C-0-2-2)

On collaborative learning, interviewees showed their concerns they do not reach the designated position, although cooperation in scientific research and teaching were encouraged, "go out" and "introducing" were provided, intercollegiate cooperation were strengthened, some collective learning lectures or seminars were

introduced, little effect happened on triggering teachers' interest and learning consciousness.

Furthermore, they have to consider the long-term impacts of less collaborative culture. Faculty members have no sense of security, no sense of cooperation, no trust, which will affect their professional loyalty and organizational loyalty.

“In a year when there’s a promotion scheme going on you feel you’re competing against your colleagues instead of working with them and the whole thing is really a mess”(Interviewee 6-C-0-2-3)

5.2.5 Promoting Lifelong Learning in Professional Development

Being organized in P-O-L-C framework, the ideas and approaches identified from managers provide a clearer structure on how to promote lifelong learning embedded in their professional development.

Planning

When asking about the way in which professional development contributed to individual lifelong learning, participants firstly expressed their bewilderment in thoughtlessness, for they had no systemic consideration in this topic, which indicated the reason, in some way, for the low effects of staff professional development. Some leaders confessed the idealism in this concept, believing it could be hardly achieved in recent times, because they lack of awareness and tangible practical operation references, and thus no strategic planning on lifelong learning was included as policy or the like.

“To be honest, until this morning you talked to me, I didn't think about this idea... But we haven't been able to do that yet, some of our leaders have not even aware of it.....” (Interviewee 6-P-1-1-1)

“.....But in the actual operation process, no one pay attention to this, ... they don't know how to achieve this, you know, if no ready-made implementation pattern for reference to study, the university is reluctant to invest a lot of time and energy to try.” (Interviewee 3-P-1-1-3)

However, interviewees agreed the significance of achieving lifelong learning in university faculty members' professional development, and forecasted this new perspective will surely bring higher efficiency and quality ensurance for both individual and organizational development. It was commonly believed that necessity of mingling professional development with lifelong learning.

“If the teachers' professional development and lifelong learning can promote each other, this will surely, greatly improve teachers' teaching quality, career quality, as well as the teachers' overall mentality and their loyalty to work and organization.” (Interviewee 6-P-1-1-2)

“Lifelong learning is the inevitable requirement of university teachers, especially in this quickly - update knowledge era, teachers' professional development is throughout their entire career.” (Interviewee 1-P-1-1-2)

Organizing

Although common awareness that faculty members' lifelong learning could be expected to mingle with their professional development, few supportive units were considering its concrete management into enhancing faculty members' lifelong

learning. The lack of consensus in responses infers that this subject is not one that has been given much attention at senior management levels.

It was suggested that organizing to enhance lifelong learning mean far more than the responsibility of one certain departments, the systematic supportive units was necessary. The overall objectives are required, as it leads supportive units to a clearer on how to develop organization structure and to allocate responsibility, authority and accountability.

“I think, in an organization, it definitely involves more than one offices to finish this mission, like the professional development, many supportive units have the relation to it.....in this way, cooperation among offices becomes important then,” (Interviewee 6-O-1-1-2)

One potential consensus revealed from conversations that faculty members’ lifelong learning would be highly related with learning contents and opportunities they got within academic departments.

“..... learning involves more individual behavior, attitudes and learning habits, administrative offices could provide some supports, but the learning behavior could be more effective and persistence if they received good learning content to facilitate their actual needs, in teaching, academic growth.....”(Interviewee 2-O-1-2-1)

“the whole organizational learning culture is important to awake or inspire their learning awareness, and the concrete learning opportunities they received may make bigger impact on their continuous learning and learning effectiveness..... this is the business with learning activities designed in academic department ...”(Interviewee 5-O-1-3-1)

Leading

It was confessed that little direct leading strategies in enhancing lifelong learning, but some suggestions could be given to promote faculty members lifelong learning during professional development management.

Way 1: Balancing between Organizational Needs and Individual Needs

Interviewees strongly felt that the university and individual goals should be aligned. It was suggested that faculty perception of learning opportunities is very much individually focused and less organizationally focused and that it would benefit the university if something were done to bridge that understanding. The provision of professional development for faculty members serves a two-fold objective, the professional development of the individual and their improved performance which enhances the university's objectives. The organization should identify the areas of weakness and where development of staff will help to achieve better learning performance.

“What the organization needs and what the individual needs might kind of dovetail. I don't think they would be too different ... the university can shine light into areas that are maybe a little bit weaker or maybe need development ... yeah I think professional development that is good for the university probably should be good for the individual as well.”

(Interviewee 4-L-1-1-1)

In identifying relationship between professional development and lifelong learning, the fundamental differences were between their driven factors. The faculty professional development is more influenced by external factors such as policy

orientation, rank-title evaluation, salary incentive, employment crisis, development opportunity, etc. whereas, lifelong learning are more personal. Therefore,

“One ideal state is when teachers' learning interest and learning content is consistent with teachers' professional development direction, they are mutually supportive, in this way, the professional development process is the process of lifelong learning.” (Interviewee 1-L-1-1-1)

Way 2: Developing Initiative in Professional Development

From the perspective of one of the professional development providers, the voluntary nature of engagement is preferable. Conversations revealed that proactive professional attitude helps teachers build positive learning inclination. It is defined as the tacit learning that happens from the everyday experience of doing their work.

“Many young teachers' professional development is self-initiated,”
(Interviewee 2-L-1-2-1)

“.....The main thing is teachers' own initiative of career development and love of work.” (Interviewee 3-L-1-2-1)

“It changes completely the tenor of it if people are here because they have to be and not because they want to be ... the dilemma is compulsion has often the opposite effect ... you would get much more likelihood that the culture would become resentful” (Interviewee 4-L-1-2-1)

Way 3: Fostering Qualitative Measurement

Throughout the process of interviewing it emerged that there is one common concern among interviewees regarding the influences of its measurement. Interviewees described the measurement of professional development overemphasize

the tangible measurable outcomes instead of growth individual perceived in the process.

It was argued that the standards of successful professional development should also be linked to enhancing faculty members learning awareness and behavior and less quantifiable metrics. Professional development should be judged in terms of their impact on practice as opposed to the numbers of participants in their programs (Boud, 1995). For instance it was indicated that the impact of the professional development programs on teaching and learning could be determined using pre and post evaluations of attitudes and practice. This would show what changes have taken place over time as a result of participation in professional development initiatives.

“We are always driven to talk about the things that we can measure ... I think there is a kind of mysterious dimension to all of this which is, some of it comes from gut and instinct that it has worked ... in some ways the success for me would be something to do with the ethos of the place and the quality of that particular ethos.” (Interviewee 6-L-1-3-1)

Way 4: Providing More Time for Learning

A number of barriers to engagement with professional development were identified during the interviews. The most prominent of these was time. Some individual don't engage with professional development courses because they believe that such events are for those who have *“too much time on their hands”* (Interviewee 3-L-1-4-1).

It was widely expressed that the additional administrative responsibilities in recent years are particularly time consuming and inhibit the faculty members from achieving higher level university goals. It was argued that the role of the faculty

members is becoming increasingly complex and demanding and that with the current levels of pressure to manage their day to day workload, the expectation that they should devote more time learning for the department is unrealistic.

Heads of colleges receive no extra remuneration for their three year tenure in the role and they are expected to take on a substantial increase in workload. It was acknowledged that this can lead to an absence of motivation to engage with the targeted development sessions organized by HR. No incentive is given to them to engage and the heavier workload means that time is a big issue for them.

“Time in general I think is under constant pressure. There’s always more stuff and it seems to be, there are always new things, there are new initiatives and new things being asked and you know, well time isn’t infinite, it has to come from somewhere so time is a real problem.”

(Interviewee 5-L-1-4-1)

Way 5: Offering More Learning Opportunities

To further explore the link between professional development and lifelong learning, it was suggested that when staff engage with professional development opportunities it has a positive impact on their learning performance. One great barrier to faculty members engaging with the available development opportunities is lack of awareness of learning process. It was suggested that engagement with committees, the experiences of teaching, of being a reflective practitioner, and of reading relevant publications were also cited as forms of learning activities, because they *“involved a lot of preparation in terms of reading documentation and this contributed to professional development”* (Interviewee 3-L-1-5-2).

“Preparing for meetings, networking, sharing of ideas, and engaging in

peer reviews were all deemed as important forms of learning opportunities.” (Interviewee 3-L-1-5-2)

The impact is a subtle incremental change in the approach to teaching, learning experience:

“Feedback from people saying that they have changed something in learning behavior and it worked better. My mind was more inspired and my teaching performed better. It was more pleasurable for themselves, they enjoyed it better ... there are many examples of that sort of feedback over the years and sometimes for a staff member, a light does go on, you know. Often it is just a little as I say, drip feed, but if a light does go on, that is definitely helping the performance of my learning.” (Interviewee 4-L-1-5-1)

When faculties engage with professional development, they should learn to critique their own practice, to improve their course design, to constructively align their module learning outcomes with program learning outcomes and with assessment. This in turn impacts on individual learning process and learning performance.

Controlling

Effective controlling requires the existence of plans, since planning provides the necessary performance standards or objectives. Controlling also requires a clear understanding of where responsibility for deviations from standards lies. It was considered that a good way individual lifelong learning is promoted during their professional development, because

“controlling of lifelong learning is a tacit, recessive process, hard indicators work less effective in measuring....” (Interviewee 6-C-1-1-1)

“although many problems existed, standards designed for professional development controlling means a lot for individual development, including their learning,.....”(Interviewee 1-C-1-1-1)

5.3 Summary

The common findings of interviews were relevant to the objective that to better understand the management of faculty members' lifelong learning in professional development at universities.

In answering “RQ3: How do university structures organize and manage faculty members' lifelong learning in professional development? ”, findings from interviews revealed the current status of university professional development in enhancing lifelong learning, and some problems needing further considering were concluded as the following six gaps:

Gap1: Consciousness of lifelong learning VS Insufficient practical commitment

In planning, universities generally prioritized policies or objective for teachers' professional development. However, practical management was insufficient, lacking a genuine commitment to achieving this goal. Managers reviewed more on the policy documents and forecasted the tendency of sustainable development of lifelong learning and professional development, but more confusion on measurements and strategies to achieve it was delivered, because they lack of awareness and tangible practical operation references.

Gap 2: Desire for organizational performance VS Low efficiency in professional development

One interesting finding from budgeting planning is that compared with funding resources, funding allocation deserves more concerns for better understanding management efficiency and organizational performance. Managers' focus shift to "where the money was spent" and "its impact on organizational performance" revealed their desire to seek strategies to improving organizational performance through efficient professional development.

Gap 3: Needs for cohesive management system VS Fragmented management structure

In organizing, the management was organized in a fragment structure, little thought having been given as a coherent exercise. One systematic structure in which supportive units function coordinately was impending to ensure a well-perceived organizational learning culture (Pilbeam 2009). One tricky problem in management process confirmed in this study, that management units are resistant to change, workers are unwilling to try new things or relinquish to any other provider. The perceived lack of cohesive delivery of learning culture emerged as a considerable weakness, which diminishes individual positive recognition on organization.

Gap 4: Low managerial effectiveness VS Needs for high-quality professional development

In leading, managers showed their worries on less effectiveness of leadership. It was suggested that there is no shortage of demand for the professional development. There was an increasing tendency that university teachers had higher expectations regarding what university can do for them and to approach HR for specific training. The managers' leadership was expected to be effective in their role modeling, conveying organizational spirit, implementing learning opportunities and

guiding to subordinates. In such cultures they are more likely to be challenged, and committed to being professional to their highest potential.

Gap 5: Personal engagement in activities VS Little impacts on individuals

In controlling low quality of learning, the extent to which the lifelong learning performance will actually benefit from professional development is closely related to the extent to which the programs are tailored with individual needs. Few participants in development sessions reflected their positive responses, because the content is less targeted, and they attend it for a personal invitation or organizational requirements.

Gap 6: Lifelong learning system VS Professional title ranking system

Managers believed staff engagement with professional development has a positive impact on their learning performance, which is a subtle incremental change in the approach to teaching, learning experience. However, another barrier to university teachers is the lack of awareness of learning process. In China, conceptions on faculty professional development was generally considered as synonym of “professional title ranking promotion”, whose over-emphasis on quantitative indicators is unfavorable for young faculty members' learning awareness.

In answering “RQ4: How does management of university factors can contribute to the higher level of faculty members’ lifelong learning in professional development?”, the influences of lifelong learning to their professional development were mainly interpreted from manager's expectations and suggestions, given that universities lack practical commitment at present.

Teachers’ professional development, an important symbol of the realization of teachers’ value, runs throughout their whole career life. Integrating lifelong

learning with university teachers' professional development is beneficial to achieve the balance between the desire for organizational performance and personal development goal. It was revealed that much formal professional development was ineffective from faculty members' perspective and much academic development was acquired informally, tacitly through social encounters and through experience of learning in the job. This finding was consistent with the literature that acknowledges the value of development which takes place on a day to day experience (Robbins and Judge, 2009). These informal learning activities embody the process of lifelong learning, which should not be ignored by the university and indeed they should be acknowledged and incorporated into professional development policies, models, and practice.

Therefore, it can be argued that there was evidence of a strong perception that professional development can be more efficient when it is synchronized with individual lifelong learning. The correlation between professional development and university performance is complex but is possible to achieve. Yet, the role of faculty members' professional development in contributing to lifelong learning is given little attention by management or by the professional development providers.

Managers believed teachers' engagement with professional development has a positive impact on their learning performance. However, in China, conceptions on teachers' professional development was generally considered as the synonym of "professional title ranking promotion", whose over-emphasis on quantitative indicators is unfavorable for young teachers' learning awareness.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

This study identified factors that influence university faculty members' lifelong learning during their professional development and tested relationships among independent and dependent variables. Expert interview was conducted to further understand the current status of university lifelong learning building in professional development, and the ways of lifelong learning contribute to professional development. The sample data was collected from Shandong, China, and the SEM model testing, interview data analyses were adopted to investigate impact effects among variables and management of university professional development from the perspective of teachers' lifelong learning. And the findings and recommendations were presented in structure of Allen's P-O-L-C framework (Planning, Organizing, Leading and Controlling).

6.1 Discussions

Concept framework of this study confirmed Jarvis (1996b) constructivism definition of lifelong learning as a constantly reconstructed process. The new model of influential factors postulated in this study revealed that lifelong learning is an experiential reconstruction process. Looking at professional development through the Constructivism lens, the key factors of teachers' professional development lie in both self-directed independent development, and external conditions, environmental mechanism can be a significant component of learning, which supported the P-O fit theory that the greatest variance in behavior and attitudes is due to the interaction

between personal and situational variables (Muchinsky & Monahan, 1987). Organization faces a dynamic and changing environment and requires employees to be able to readily change tasks and move easily between teams (Robbins and Judge, 2009). Although in P-O fit theory, the compatibility may be achieved either by supplementary fit or complementary fit (Muchinsky & Monahan, 1987), this study focused on the management of influential factors between it.

6.1.1 Discussions of Influential Factors

(RQ1: What are factors influencing university faculty members lifelong learning in professional development?)

This study attempted to clarify the relationships between factors and lifelong learning in the China university context and suggested a conceptual framework for these relationships. Organizational Learning Culture (OLC), Managerial Effectiveness (ME), Learning Content Focus (LCF), Collaborative Learning (CL) and Psychological Empowerment (PE) were verified as significant relationships with pursuit of lifelong learning (LLL), which could be served as influential factors in testing university faculty members lifelong learning in professional development. University teachers' lifelong learning integrated with their professional development, which was investigated under the scope of workplace learning. Factors enhancing workplace learning included employees' attitudes and motivation, organizational culture and practice, managers' skills, work environment, and resource availability (Barnett, 2002; Dochy, Gijbels, Segers, and Bossche, 2010). However, these studies have focused on clarifying factors influencing workplace learning in general, this study analyzed from the perspective of professional development, thus, this study selected factors sharing with characteristics of

professional development. Organizational learning culture (OLC), managerial effectiveness (ME) and psychological management (PE) were selected and explored how these factors impact employees' lifelong learning.

Organizational Learning Culture (OLC) reflected diverse dimensions of organization mechanisms beyond tangible supports, like opportunities, accessibilities to leaning, flexible information acquisition and interpretation as critical elements tested to create organizational learning cultures (Skerlavaj, Stemberger, Skrinjar, & Dimovski, 2007); Managerial Effectiveness (ME)'s impacts on lifelong learning evidenced the idea that "effective managers play a critical role in gaining and sustaining the top management support" (Raelin, 2000) and "promoting learning in the workplace through supports and commitment of practical activities" (Savolainen, 2000), which also broadened the researches in exploring its relationship with organizational outcomes; Learning Content Focus (LCF) and Collaborative Learning (CL) demonstrating the characteristics of coherence, duration, content focus, active learning, and collective participation of professional development (Darling-Hammond et al., 2009; Desimone, 2009; Guskey, 2003) did have impacts on individual lifelong learning; Psychological Empowerment (PE), whose four dimensions conveys psychological states and personal beliefs that employees have about their roles in relation to their work (Spreitzer, 2007), had the strongest relationship with lifelong learning.

Furthermore, the level of lifelong learning the result of individual lifelong learning process indicated that general quality and learning capacity of the 21st century university faculty members have been in a high level, which partially evidenced the educational level as the main influential factors of lifelong learning

orientation (Ma, Sun & Wen, 2013), because “the major part of university teachers are young ones in 30-40 years and they are more educated”(China Statistical Yearbook, 2017). University faculty members showed their consciousness of keeping learning through their work process. Respondents showed their willingness to learning new things to improve capacity, and tendency to enjoy challenging, and recognized the inner-power and collaboration with others, valuing “others as learning resources, actively listening to my peers’ reflection and opinions”. These qualities demonstrated in respondents highly accorded with characteristics identified by previous researchers that “The uniqueness of lifelong learning demonstrated by lifelong learners is self-directed learning (Knowles, 1975)”, “A quality of the lifelong learner is characterized by interest and ability to choose and control learning and effectively organize resources to accomplish them” (Cranton, 2006), and “another issue for lifelong learning is the need for changes” (Clarke and Hollingsworth, 2002), which echoed the conception that university faculty members were lifelong learners themselves.

However, in Lifelong Learning Behavior (LLLb), the practical behavior revealed the fall between ideology and actual performances, scoring relatively lower levels in working hours, learning plan, and showed less confidence in adjusting learning strategy and doing timely summary and reflection. This kind of fall might be caused by the “Social Expectation Effect” when respondents evaluated their capacity, leading to score towards higher levels. And university faculty members’ learning performance in professional development is typical workplace learning, which would also be influenced by many other factors, like life experiences (Knowles et al., 2005), desire for socialization (Bynum & Seaman, 1993), organizational strategic policy (Blaka & Filstad, 2007), etc.

6.1.2 Discussions of Relationships of Influential factors

(RQ2: What are relationships among influential factors and university faculty members' lifelong learning in professional development?)

It was found that organizational learning culture, managerial effectiveness, learning content focus, collaborative learning and psychological empowerment positively impact lifelong learning. In particular, as personal factors, psychological empowerment play an important role in enhancing lifelong learning in professional development (Linden et al., 2000). This result is consistent with the finding of Sunyang (2011) that organizational learning culture, managerial effectiveness and psychological empowerment have a significant and positive impact on workplace learning of employees in for-profit organizations located in Korea. However, the relatively lower scores in self-determination and impact indicated university faculty members in sample universities shared less independence and freedom in the decision on learning or working; and they did not believe individual performance means something in department. In this way, the result may imply their hesitation in feeling capable of work-related actions and being less motivated to the demands of each unique situation (Linden et al., 2000).

In OLC, its positive correlations with PE and LLL indicated that by improving organizational learning culture, university faculty members' PE and LLL level would be enhanced. And In ME, questions derived mainly from Burns' (2012) concept of "transforming leadership", which could be achieved by two key areas: their capacity to provide teachers opportunities to attend professional development and access to other resources, to do experimental researches, etc.; and the capacity to provide input into external practices, like engaging in professional conversations,

reflections with teachers. However, although large numbers of researches emphasized managers significant influence on teachers' capacity to enact professional learning (Goldsmith, Doerr, & Lewis, 2014; Lachance & Confrey, 2003), ME functions comparatively less to PE and LLL. The reason for this phenomenon might be the nature of psychological empowerment that is defined as "the empowerment construct at the individual level "(Leung, 2009; Mo & Coulson, 2010; Schneider, Von Krogh, & Jäger, 2013), "intrinsic task motivation in which individuals feel a sense of control in relation to their work" (Spreitzer, 2007); And professional development is more influenced by external factors, whereas, lifelong learning is more personal. This result revealed, to certain extent, that the low effectiveness of managers in sample universities acted in individual lifelong learning.

In LCF, deepening understanding of LCF matters on how to improve university faculty members' LLL level. Scientific research achievement was considered as the most important measurement in their professional development, which was correspondingly reflected in most university evaluation system (Zhang, Kuang, 2017). However, in learning content, "practical skills and pedagogical knowledge" was perceived in a relatively higher level, while "scientific research knowledge" was lower and "theoretical and academic knowledge" the lowest. The discrepancy might partially reveal why professional development initiatives were less efficient and learning behaviors scored lower. In CL, valid collaborative learning works in improving university faculty members' LLL level. Effective collaborative learning includes opportunities to engage in active learning (Desimone, 2009), in which time allotment, external partnerships, campus coworkers, discussions on both teaching strategies and scientific researching projects, and timely feedback in

collaborative learning activities need to be guaranteed. Compared with the suggestions that engagement with professional development outside of the university, which is linked to the discipline, is valued more than that which is available internally (Jennifer, 2014). However, the relatively lower scores in “opportunities for teachers to learn with external partnerships” indicated the gap between learning expectations and actual learning opportunities. The absence of diversity of collaborative learning forms and activities is discouraging university faculty members’ learning opportunities and quality, which could hardly meet the learning need as required in their professional development evaluation system.

Significant relationships between OLC, ME and PE supported the accordance with the finding that organizational learning culture, managerial effectiveness, and psychological empowerment were positively related to workplace learning. “In particular, psychological empowerment and workplace learning had the strongest relationship, and organizational learning culture had more impact on psychological empowerment” (Sunyoung Park, 2011). Efficient LCF could provide teachers more tangible driven-power to conduct continuous learning process, having clear ideas on learning strategies, visible outcomes to promote teaching and researching practices, which is source for confidence and inner-power for teachers’ self-consciousness.

However, CL in this study scored no insignificant relationship with PE, which means, for one thing, university faculty members having experienced in CL activities shared little changes or reflections on meaning, self-efficacy, self-determination and impact, and on the other hand, CL activities functions ineffectively in improving faculties’ PE. McAleese (2013) affirmed that teachers cannot freely

engage in collaborative inquiry and professional knowledge building if they are feeling criticized or put down for not being competent within their profession. Similarly, Hargreaves and Fullan (2012) noted that teachers often work in isolation for much of the day and so they are missing the evaluative process or positive feedback that can calm anxiety and stress related to work performance.

Thus, mediating role of PE between OLC, ME, LCF and university faculty members' LLL was supported, which enriched the studies focused on the mediating effects of psychological empowerment between the organizational context and subsequent outcomes like transformational leadership and organizational commitment (Avolio et al., 2004), psychological climate and job satisfaction (Carless, 2004), the job, interpersonal relationships, and work outcomes (Linden et al., 2000), etc.

6.1.3 Discussions of university management of faculty members' LLL

(RQ3: How do university structures organize and manage faculty members' lifelong learning in professional development?)

The gaps and problems revealed in this study was consistent with the inefficiency of traditional professional development discussed in previous researches, as “one-shot”, “intellectually superficial”, “fragmented”, “incoherence”, etc. (Guskey, 1986; Ingvarson, Meiers, & Beavis, 2005; Supovitz & Turner, 2000). The gap between prioritized policy for professional development and insufficient practical commitment demonstrated the necessity of general conversion in designing concept, forming clear objectives of building a system that incorporates learning process as sustainable, comprehensive and lifelong learning experiences. However, managers recalled their consciousness of lifelong learning and forecasted the tendency of sustainable development of lifelong learning and professional development, but more

confusion on measurements and strategies to achieve it was delivered, because they lack awareness and tangible practical operation references. And to a large scale, professional development was considered as synonym of “professional title promotion”, more focus being placed in title ranking promotion assessment. Despite the more diversified and heterogeneous contents were included in professional development evaluation standards, findings in this study agreed the idea that that “the number of scientific research achievements was used mainly as the essential requirement for promotion, ignoring an effective way to identify teachers’ development level and professional growth” (Zhang, Kuang, 2017). In budget planning, many researchers argued more universities increased investment in online and distance learning as a priority in the university strategic plan, a lack of clarity regarding the sources of funding was evident (Brew, 1995). In budgeting planning, funding allocation, rather funding resources, deserved more concerns for better understanding management efficiency and organizational performance, revealing their desire to seek strategies to improving organizational performance through efficient professional development.

Integrating LLL with university teachers’ professional development is beneficial to achieve the balance between the desire for organizational performance and personal development goal. The management was organized in a fragmented structure, little thought having been given as a coherent exercise. Allan et al.(2003) argued that the strategic development approaches can hardly be achieved without considerable collaboration, findings confirmed the necessity that there must be consistency between the tasks to be performed and the structures in place for their coordination to provide effective and efficient learning and professional development.

Sample universities were organized in a traditional culture environment, where one problem existing is that a culture of resistance to change, “each unit is concerned with protecting their own role and they are not willing to relinquish to any other departments”. The establishment of Staff Professional Development Center was advocated in China. Many universities frequently followed the step, establishing the specific office which emerged as the addition of a staff development provider”. Although many research on the functions Staff Professional Development Center were done, the results revealed the less satisfied condition, thus, analyses on its functional mechanism and strategies need to be further investigated.

In leading, although the effective leadership of middle-level managers was valued by policy makers, concerns on leading part in management communicating, motivating, selecting and developing people might be served as evidence for the lower level in ME shedding impact on individual’s PE and LLLP. In controlling, the quality assessment was scaled mainly by quantified data files, being far away from Allen’s definition of “Controlling” as “the work a manager performs to assess and regulate work in progress and completed” (1964). The overemphasis on the results was squeezing the institution internal management as the incentive effect on teachers. Absence of variety in the practical process of incentive system for university faculty members is less sufficient in gradient, diluting their enthusiasm and passion in teaching and pursuit of knowledge, leading teachers’ faith into completely liberalism, making teachers lack proper identity with teaching professionalism and sense of responsibility (Du, Fang, 2013). They have recognized the long-term impacts of less collaborative culture. As recommended by Danaher, Price, and Kluth (2009) that “one crucial factor that has made the collaborative partnership model successful as a

teachers' professional development activity is the collaboration among the teachers instead of the traditional mentor assessor role of the teacher", collaborative learning and structured mentorship were regarded commonly as significant, calling for guidance on career pathways to ensure quality.

6.1.4 Discussions of Management of influential factors

(RQ4: How does management of university factors can contribute to the higher level of faculty members' lifelong learning in professional development?)

Results of this study showed that improving management of influential factors could achieve higher P-O fit level, which suggests that "faculty members are likely to exhibit more positive attitudes and behaviors" (Amos & Weathington, 2008, Cohen et al., 2011). However, much bewilderment was expressed in management of influential factors for universities lack awareness and tangible practical references. And management of influential factors would be achieved throughout the P-O-L-C circulation process, instead of separate section(s).

Several ways in managing influential factors to promote faculty members lifelong learning during professional development were as follows: 1) Balancing between organizational needs and individual needs. In making planning and organizing, university supporters strongly felt that the university and individual goals should be aligned; 2) Developing initiative in professional development. Proactive professional attitude helps teachers build positive learning inclination, realizing learning is self-directed and continuous; 3) Fostering qualitative measurement. Controlling for managerial effectiveness, high quality learning content and collaborative learning, assessment work should be conducted emphasizing its quality and process; 4) Providing more time for learning. Faculties were more inclined to take

the limited time to engage with learning that they perceived as having a tangible link with career progression. University faculty members' achievement assessments are closely linked to scientific achievements, which bring heavy research pressure for university teachers. As a result, many university teachers, despite of relatively free time, have a relatively tight pace of life in order to complete their scientific research tasks (Tang, Li, 2014); 5) Offering more learning opportunities. Various opportunities within and outside organization, collaborative learning were encouraged by universities, which is also one symbol of manager's capacity to influence the change environment (Burns, 2012).

6.2 Conclusions

This study investigates management of university professional development from a perspective of teachers' lifelong learning. Teachers' professional development is considered as teachers' changes which are the results of natural learning experiences continuously reformed through their career life. University teachers' lifelong learning and professional development are kept in an interactively sustainable relation.

This study was designed to answering two major questions: one was "what" questions involving to identify what factors are influencing university faculty members' lifelong learning in professional development, and what relationships are between them. The other was "How" questions aiming to reveal the current status of university management in faculty members' professional development and to develop a better understanding of ways in which management of factors can contribute to higher level of pursuit of lifelong learning.

This study founded framework based on constructivism and Person-Organization fit (P-O fit) theory (Kristof, 1998), indicating that adult lifelong learning is a process constantly constructed and reconstructed along their individual experiences with external organizational conditions (Knowles et al., 2005). Many external factors influencing lifelong learning of faculty members have been highlighted in this study. And management of university factors was designed as Allen's P-O-L-C framework (Planning, Organizing, Leading and Controlling) perspective, questions reveled how the university management was organized to provide professional development and how factors were organized and managed to achieve a higher P-O fit.

Findings from this study supported Jarvis (1996b) argument that lifelong learning is a constantly reconstructed process. The new model of influential factors postulated in this study supported the notion that lifelong learning could be influenced by both individual and external environment aspects; and university faculty's professional development efficiency could be valued from perspectives of lifelong learning level, which required each unit of the professional development providers to act their roles to achieve higher fit levels between individuals and organization (Muchinsky & Monahan, 1987).

This study recognized the characteristics of effective lifelong learning and teachers' professional development, which were labeled as necessary and significant to engage in learning during their professional development initiatives provided by the university. If the perceptions of organizational factors and individual psychological empowerment are kept in positive relationships, whereby "individual's characteristics, supplies and demands fit degrees with organization's will be

consistent with their perception on organization learning culture, goal orientation, which will be positively correlated with their experiences on psychological empowerment and interaction with organizational environment”, a higher fit degree would be achieved (Kristof, 1998).

This study confirmed the process of lifelong learning and university faculty members’ professional development are mutually embedded. University faculty members showed consciousness of learning required in professionalism and willingness to keep learning when necessary, with the level of individual lifelong learning process being high, which indicates the possibility and rationality of university faculty members becoming life-long learners that echoed the education mission of university faculty members in the new era (Kang, 2015).

The significant positive relationships of variables demonstrated Organizational Learning Culture (OLC), Managerial Effectiveness (ME), Learning Content Focus (LCF), Collaborative Learning (CL) and Psychological Empowerment (PE) as influential factors. And PE acted as mediating role between OLC, ME, LCF and LLL. Improving management of influential factors could achieve higher P-O fit level, thus university teachers PE and LLL level would also be enhanced.

This study found that important questions regarding the policy, coordination, location, and finance of professional development provision have not been given adequate consideration by university management teams in the universities studied. The concept of university teacher’s professional development is backward and lacks spiritual conviction (Tang, Li, 2014). Large numbers of policy makers and administrators considered little on the concept of keeping faculty members’ lifelong learning, they believed that “learning is kind of individual behavior”, “they have make

policies to advocate faculties to do something (researches, teaching, social works, etc.) for their professional development”, “they have provided various training programs”, lacking one overall picture of building a systematic mechanism to enhance organizational learning culture and faculty members’ learning performance.

It is fair to say that the professional development provision in sample universities was found to be fragmented, lacking coordination and cohesive management. The units responsible for professional development openly recognized that there was room for improvement in their processes, lacking leading theories and practical models for reference. In practical management, universities lacked of specialized planning agencies for university faculty members’ development. The management was conducted mainly by related research and the personnel department, whose content of business was partially distributed in terms of functions of department work, offering less concern about faculty members' professional development, and paying little energy to provide systematic designing of teachers professional planning and guidance (Jiang, 2010; Fang, Wu, 2017). In designing of training programs and learning content, the personnel department seldom considered the characteristics and needs of individual teacher, and lacked the sense of integrity and systematic consideration.

As for the learning opportunities, communication of development opportunities, record keeping and evaluation methodologies emerged as weaknesses in the process of manager role playing. There was strong consensus that the professional development opportunities that are currently available could support faculty members in achieving organizational goals (Burbank & Kauchak, 2003)but

that the absence of effective coordination and inadequate alignment with organizational goals is inhibiting their potential (Bauer, 2010).

Lower scores in the constructs of OLC and ME evidenced the concerns in less-efficiency and fragment structure revealed in management of university professional development. And the discrepancy existing between the professional title promotion system focus and the focus in professional learning content and collaborative learning indicated the gap between learning supports provided by universities and the policy designing.

6.3 Suggestions

(RQ5: How can university factors be better organized and managed to enhance faculty members' lifelong learning in professional development?)

The charge of demonstrating a clear map between supporting professional development and the ability to achieve lifelong learning is a big challenge, particularly in light of the dearth of empirical research related to this topic. In a climate where ambiguity regarding professional development process controlling is one of the greatest concerns of university faculty members' professional development, the management that advocates faculty members into lifelong learners in true sense needs further consideration.

University managers suggested that the topic should get more attention at senior management levels. Professional developers suggested a range of enhancements that they could make to their own processes. Individual faculty members showed that they were not very strategic about their own lifelong learning. It became evident that with respect to lifelong learning in professional development

there is room for enhancement at all levels of the organization. The findings highlight improvements that can be made at organizational and individual levels.

Suggestions for for university managers

In building Organizational Learning Culture (OLC): making senior managers aware of the impact and linkage of professional development and lifelong learning, one strategic policy of faculty members' professional development and systematic designing for cultivating lifelong learning culture from whole perspective is to be ensured (Planning); Establish one systematic management collaborating with professional development providers in setting out the university's expectations of professional development initiatives commensurate with the budget allocated (Organizing); Bring the Faculty Member Development Center into work, leading a cross-functional team to coordinate a holistic approach to professional development and to regularly report on professional development outcomes (Leading); Be ever cognizant of lifelong learner identity issues in policy designing. Reward what you value in terms of development outcomes. In making professional title promotion system, more balances are to be drawn between scientific research achievement, teaching achievement and other performances, fostering a multiple evaluation system to consistently stimulate university faculty members learning interests, learning content and learning achievement (Controlling).

In enhancing Managerial Effectiveness (ME): form a promotion mechanism, illustrating the capacities required to achieve managerial effectiveness, including abilities in self-learning, management, communication and role-playing, etc.(Planning); Responsibility is distributed close to decision making so that people are motivated to learn toward what they are held accountable to do (Organizing);

Managers are expected to be efficient in appropriately resourcing professional development opportunities to deliver on the articulated expectations. Furthermore, sharing information matters a lot in improving efficiency. Managers are expected to embrace the idea in their minds that management decision making be made in the light of faculty members' actual advice, and to create understand and motivate faculty members to take effective actions by mutual communications (Leading); Ensure that the focus on development of managers is not disproportionate and that adequate levels of leadership training are available for managers that provide them strategies for developing faculty members' learning performance (Controlling).

In designing Learning Content Focus (LCF): carry out a professional development needs analysis to provide more tailored and targeted professional development scheme for faculty members, and an individual learning proposition tendency, if possible(Planning); Engage with faculty members to identify the key challenges they are facing and design professional development sessions to address these specific challenges. Faculty members' development needs and learning content should be mutually reviewed by both institutional supporters and separate academic department to achieve its efficiency (Organizing); Managers are encouraged to have the capacity to provide targeted learning contents for efficient learning. One systematic designing for teachers professional development from whole perspective is to be ensured, in-service trainings are provided to satisfy participants actual needs, diversifying learning content in both "theoretical and academic knowledge" "practical skills and pedagogical knowledge" and "scientific research knowledge" (Leading); Keep systematic records of the content of faculty members' engagement with professional development. Use this data to identify patterns in engagement and to

inform planning and delivery of future sessions. Understand that many of the objectives of professional development concern learning and changes that are not easily measured in the traditional sense and that the measurements currently sought are often not those that have the greatest impact on professional development or learning performance (i.e. number of people that completed a specific course etc.) (Controlling).

In providing Collaborative Learning (CL): clearly articulate the goals of professional development, aligning them with the achievement of university performance goals, strategies, projects, or targets as laid out in the strategic plans and also with career progression as appropriate (Planning); Facilitate the engagement of faculty members with professional development through more flexible availability of opportunities – using various locations and times of the day and making it available online as appropriate (Organizing); Recognize the value of informal and tacit professional development as well as learning on the job and engineer greater opportunities for such forms of development. University managers are expected to provide more collaborative learning opportunities, encouraging university faculty members to join in projects outside institutions, conducting learning in various fields beyond teaching activities (Leading); In Design evaluations that will better measure the impact and outcomes of the various professional development activities, consider using pre and post evaluations and longitudinal evaluations as appropriate (Controlling).

Suggestions for faculty members

Four dimensions of psychological empowerment shows empowering processes are a set of experiences by which individuals: (1) learn to see a closer

correspondence between their goals and how to achieve them, gain access to and control resources, and (2) have opportunities to influence the decisions and important results (Zimmerman, 1995). Their sense of autonomy and impact in their workplace directly influence their psychological identification, and hence their learning performance. Given the autonomous nature of the learning role, faculty members should take greater care to ensure that they are engaging in efficient learning to progress along their desired professional development. Some recommendations for consideration are provided from two levels: 1) self-promotion for more efficient learning, like engaging in a time management course; improving learning strategies in mentorship; conducting summary and reflection in collaborative projects; resourcing learning opportunities by communication, etc. 2) raising P-O fit for more efficient professional development, trying to inform yourself regarding what is valued in your university's policy schemes; balancing your own learning goals and the goals of your academic department and the university, seek out and strategically select appropriate professional development opportunities on an on-going basis; taking a reflective approach to documenting your engagement in professional development and take note of the impact and outcomes of this engagement.

6.4 Limitations and recommendations for future research

The influential factors investigated in this study was designed from learning culture, managers effectiveness, learning content and collaborative learning, which were regarded as necessary and immediate elements involving in research questions. This topic could usefully be examined through other lenses, for instance from the perspectives of university learning community, the funding sponsors of

development initiatives and from the perspective of faculty members as the self-builders of professional development or lifelong learning.

Many of the findings presented in this study would merit further investigation. Much of the existing research of lifelong learning focused on individual cognitive characteristics, learning tendency, learning orientation or psychological disposition, and this study had made an exploratory attempt to do simple measurements from the aspects of learning performances like learning time, motivation, mode, frequency and learning strategy. A more holistic approach to the topic of lifelong learning performances that takes into account the full complexity of the influential factors and relationship between lifelong learning inner cognitive characteristics and explicit lifelong learning behaviors would make a valuable contribution to knowledge on this topic.

Considering the analyses were done within the territory of China, more specialized instruction on characteristics of Chinese education policy and university background would be preferred. As for the reasons for the discrepancy revealed in this study deserve further discussion, and the solutions to solve this phenomenon will be of great significance.

As for the methodology, the samplings were selected from universities located in Shandong province because of personal convenience, a larger scaled sample data would be preferred for its generalization. In designing questionnaire of lifelong learning, this study adopted a conservative perspective in compiling items, mainly from previous research results. The items in questionnaire could be designed more advanced with times, blending factors with characteristics of 21st century, like learning with digital technologies, collaborative learning in E-learning platform,

methods of more detailed data resources collected by the internet tools, etc. And the quality interviews were done after questionnaire survey, and questions were structured in a more general way, being less targeted toward variables designed in questionnaire. Structured mixed researches might be more effective in leading detailed and constructive suggestions.

Furthermore, this study adopted SEM model test, which was verified as suitable tools for data analysis, for the data was compiled from one single level of university faculty members' perspective. Although the P-O fit theory agreed the availability of one single level analysis, HLM model test is suggested from both organization and personal parts in this field for further dissection.

6.5 Implications

Theoretical Implications

Based on the findings and relationships among the identified constructs, this study can provide a fundamental base and additional information to establish or revise professional development in the China university context. This study emphasized the lifelong learning ideology of professional development. The focus of this study was on how individual perceptions of organizational and personal characteristics influence lifelong learning during the job. In other words, this study regarded lifelong learning as a social process and assumed that professional development is considered as faculty members' changes which are the results of natural learning experiences continuously reformed through their career life. Faculty members learn better when procedures, people, norms, and so on in the workplace are incorporated into the social context in which the learning takes place (Jensen, 2005).

Thus, these social dimensions of lifelong learning serve the personal integration in professional development and build up the sociality of individuals at universities.

Emphasis on university faculty members' learning within specific professional development contexts would encourage researchers to pay more attention to context-relevant factors enhancing lifelong learning. If one university has an organizational system that encourages faculty members to share their learning and to integrate learning and work, and emphasizes the role of managers to distribute useful information to faculty members, this context could influence the positive perceptions of faculty members about the learning environment. Researchers should be interested in how to use this context in order to motivate university faculty members to engage in lifelong learning along their professional development whenever the company or individuals have this need. The positive impacts of influential factors could provide theoretical implications for lifelong learning in specific contexts.

Practical Implications

The results in this study suggest several implications for China university managers in terms of developing interventions. Above all, this study found multiple relationships between organizational, managerial, and personal factors and lifelong learning. The current status and problems revealed in professional development would provide evidences for reflections. Professional development provision practitioners could use diverse factors influencing lifelong learning as interventions to improve professional development. For instance, HRD professionals can help employees pursue learning when they experience and adapt to organizational changes. Faculty members with higher psychological empowerment would be motivated to learn and be able to adapt better to changing contexts. They may have more active attitudes to

learn new job skills and changed organizational policies and procedures. Or they may be less reluctant to establish fresh relationships with co-workers. And the weakness of fragmented management system warned providers of the necessity to build cohesive and systematic functions among separated units. At this point, professional development providers should create a more conducive organizational learning culture and provide support through a partnership with other departments and management. Professional development providers should help faculty members perceive the support (e.g., supervisory support) that fosters their efforts to learn and perform in a new organizational context, creating appropriate environments to enhance and exhibit the preferences of learning culture.

In terms of managerial effectiveness and psychological empowerment, this point suggests that professional development providers should consider the roles of managers and individual motivation for faculty members' learning and development. Outstanding managers in organizations can be role models for those who are interested in preparing for future careers and conducting learning. Through identifying the excellent points of selected managers in terms of performance and effectiveness and exploring how to sustain their excellence in given conditions, professional development providers can design and develop customized programs for professional development.

In terms of intrinsic motivation, psychological empowerment causes employees to take the initiative to influence desired outcomes and improve understanding about related issues in the community (Zimmerman, 1995). To deal with the issue of professional development and lifelong learning, professional development providers could provide more learning opportunities to faculty members

to foster their motivation, confidence, and autonomy for conducting learning. Faculty members who are intrinsically motivated present inherent interest in their work, and they behave naturally to accomplish their work (Grant, 2008). At the same time, it is important to share with faculty members the belief that learning opportunities can be a vehicle for resolving both individual and organizational issues. Through diverse learning opportunities, such as new skill development programs, faculty members can have stronger confidence in their abilities and individual sense of control in relation to their work, which ultimately contributes to learning performance improvement. Professional development providers should understand which programs and interventions, e.g., workplace blended learning (Kim, Bonk, & Teng, 2009) and communities of practice (Chang, Chang, & Jacobs, 2009), work for leading employees to engage in continuous learning.

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APPENDIX A

INTERVIEW GUIDE (ENGLISH VERSION)

Interviews will be semi-structured and the questions below will act as a guide.
Questions will be asked as they become relevant within the conversation.

Question 1	How is the professional development of faculty members organized? (i.e. Who has overall responsibility for professional development of academic staff? How are structures in place to support the professional development programs managed?)
Question 2	How are influential factors on faculty members' learning in professional development managed, including Organization Learning Culture (OLC), Managerial Effectiveness (ME), Learning Content Focus (LCF), Collaborative Learning (CL)? Why is it organized in this way?
Question 3	In what way does the professional development provided make a contribution to the faculty members' lifelong learning?
Question 4	Would you have any suggestions or recommendations on how the institutional approach to faculty members' lifelong learning could be improved?
Question 5	Anything else to add?

APPENDIX B
INTERVIEW GUIDE (CHINESE VERSION)
访谈指南 (中文版本)

本次访谈旨在了解专家学者对大学环境背景下教师职业发展中终身学习的影响因素的分析，以及大学组织机构在管理这些影响因素过程中发挥的作用及其管理途径。访谈指南根据研究内容提供了半结构化的访谈问题，本次访谈也将根究该访谈指南罗列的问题进行。感谢您的配合！

问题 1

贵校的教师职业发展是如何管理的？
（例如：谁负责贵校教师的职业发展的全面设计和管理？
贵校的参与机构是如何设计/管理教师职业发展的？）

问题 2

贵校是如何设计、管理以下大学教师职业发展的影响因素的，包括组织学习文化/领导效果/学习内容焦点/合作式教学？
贵校为什么是这样设计/管理的？

问题 3

您认为大学教师的职业发展如何促进了他们的终身学习？

问题 4

您有哪些意见或建议来改善大学教师的终身学习吗？

问题 5

您还有哪些需要补充的吗？

APPENDIX C

RESEARCH INSTRUMENT (ENGLISH VERSION)

Influential Factors of University Faculty Members Lifelong Learning in Professional Development

Thank you for your participation. I am Hongyan Zhou, a PhD candidate studying Education Management at Dhurakij Pundit University (Thailand). I am conducting a dissertation research on *Management of University Factors to Support Lifelong Learning of Faculty Members* during professional development.

The purpose of this study is to investigate the factors influencing on university faculties' workplace learning from both individual and organizational aspects. **The information that you provide will be kept anonymously and confidentially and used in aggregated summaries only for research purpose.**

The questionnaire should take you 10-15 minutes to complete. This questionnaire consists of seven sections. There is no right or wrong answer in each question. It is very important that you respond to each and every statement. Only then I can include your opinions in the final analysis.

Please feel free contact me at 359134700@qq.com or yanwei1407@163.com , if you have any questions and comments. Thank you.

Sincerely,
Hongyan Zhou
Researcher

Section I Demographic Characteristics

Following questions are to obtain demographic information about you. Please check the box that best describes you in each item.

1. What is your gender?
Male Female
2. What is your age?
18-25 years
26-35 years
36-45 years
46-55 years
56 years or over
3. What is your marriage?
Married Unmarried
4. What is your highest level of education?
Two-year college degree
Four-year college degree(Bachelor)
Master degree for Graduate school
Doctor degree for Graduate school
Others ()
5. How long have you worked for this organization?
Less than 3 years
3 ~ 4.9 years
5 ~ 9.9 years
10 ~19.9 years
Over 20 years
6. What is your teaching hours per week (on average)?
less than 8 hours
9-16 hours
17-24 hours
25-32 hours
33 hours or over
7. What is your current salary?
¥1000~3 000
¥3001~5000
¥5001~7000
¥7001~10000
over ¥10000
8. What is your current professional rank or title?
Lecturer
Assistant Professor
Associate Professor
Professor
9. What is your profession planning?
Remaining in this area within 5 years
Remaining in this area within 10 years
Remaining in this area forever
Leaving current job whenever possible
10. I spend some time everyday engaging in learning.
None
1hour
2hours
3hours
4hours or more

Section II Psychological Empowerment The statements below describe your perception of work and learning. Please indicate your level of agreement by checking the box that best reflects your perception. 1----- 2----- 3----- 4----- 5 Strongly Disagree Disagree Neutral Agree Strongly Agree	
Meaning	
11. The work I do is important to me.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
12. The job activities I do is personally meaningful to me.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
13. The job I do is my career pursuit, I am willing to achieve it through professional development.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Self-efficacy	
14. I have the ability to organize my own learning experiences through identification of needs, planning, carrying out learning activities and evaluating accomplishments.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
15. I have the ability to do purposeful reading, observing, listening, comprehension, and communication.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
16. I have the ability to develop knowledge, skills and competence required to achieve next professional goal.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
17. I know clearly what my personal professional development plan is.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Self-determination	
18. I have opportunities to access campus resources I needed for my career development.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
19. I have considerable opportunities for independence and freedom in how I learn.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
20. I have considerable opportunities for independence and freedom in how I do my job.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Impact	
21. I have opportunities to participate in setting, owning, and implementing a joint professional development plan.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
22. I have significant influence over what happens in my department.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Section III Pursuit of Lifelong Learning The statements below describe your learning process and behavior. Please indicate your level of agreement by checking the box that best reflects your learning experiences. 1----- 2----- 3----- 4----- 5 Strongly Disagree Disagree Neutral Agree Strongly Agree	
Lifelong Learning Process	
23. I view learning as important to my job.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
24. I believe that keeping updated and competent in my career is important.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
25. I prefer to work on tasks that force me to learn new things.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
26. When I fail to complete a difficult task, I plan to try harder the next time I work on it.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

27. I am imaginative and are willing to entertain new possibilities, new directions.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
28. When I receive new information, I will find out what is going on after the surface of things	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
29. I attempt to make sense of new learning and enjoy seeing how things fit together.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
Lifelong Learning Behavior	
30. I am self-motivated rather than chiefly motivated by others.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
31. I value others as learning resources, actively listening to my peers' reflection and opinions.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
32. I study regularly after working hours.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
33. I have a clear learning plan to achieve my professional development.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
34. I can adjust my learning strategy whenever necessary.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
35. During the learning process, I do timely summary and reflection.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
Section IV Organization Learning Culture The statements below describe your perception of institutional learning culture. Please indicate your level of agreement by checking the box that best reflects your perception. 1-----2-----3-----4-----5 Strongly Disagree Neutral Agree Strongly Agree disagree	
36. In my university, decision-makers would modify their ideas based on the facts they discussed or gathered.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
37. In my university, learning is designed into work so that people can learn during work.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
38. In my university, faculties are in a high degree of exposure to changes and demands and instant information for learning.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
39. In my university, faculties spend time building trust with each other.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
40. In my university, outside consultants are payed to present professional development activities.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
Section V Managerial Effectiveness The statements below describe your perception of supervisory effectiveness. Please indicate your level of agreement by checking the box that best reflects your perception. 1-----2-----3-----4-----5 Strongly Disagree Neutral Agree Strongly Agree disagree	
41. My supervisor is an effective learner himself/herself.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
42. My supervisor is an effective manager.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
43. My supervisor is an excellent role model to me.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
44. My supervisor provides me effective information to better my development plan.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
45. My supervisor takes steps to facilitate me more professional	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5

development opportunities.	
46. My supervisor offers guidance to promote my professional competences and skill levels.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
Section VI Learning Content Focus The statements below describe your perception of learning content. Please indicate your level of agreement by checking the box that best reflects your perception. 1-----2-----3-----4-----5 Strongly Disagree Disagree Neutral Agree Strongly Agree	
47. In my university, professional development is one coherent part of overall vision.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
48. My university evaluates the impact of professional development on faculties' theoretical and academic knowledge.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
49. My university evaluates the impact of professional development on faculties' practical skills and pedagogical knowledge.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
50. My university evaluates the impact of professional development on faculties' scientific research skills and research ability.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
51. Students achievement is an important measurement in faculties' professional development.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
52. The promotion of student achievement is one motivation of my professional learning.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
Section VII Collaborative Learning The statements below describe your perception of learning forms and opportunities. Please indicate your level of agreement by checking the box that best reflects your perception. 1-----2-----3-----4-----5 Strongly Disagree Disagree Neutral Agree Strongly Agree	
53. I spend at least more than one hour each week participating in professional development activities.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
54. Opportunities for teachers to learn with external partnerships is an important part of our professional development activities.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
55. Opportunities for teachers to learn with campus peers is an important part of our professional development activities.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
56. Opportunities for teachers to discuss and reflect teaching activities with other teachers is an important part of our professional development activities.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
57. Opportunities for teachers to examine and review student work with other teachers is an important part of our professional development activities.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5
58. Opportunities for teachers to gain instant feedback and offer from other teachers is an important part of our professional development activities.	Ⓐ1 Ⓐ2 Ⓐ3 Ⓐ4 Ⓐ5

————— **APPRECIATED FOR YOUR FILLING!** —————
————— **BEST REGARDS!** —————

APPENDIX D
RESEARCH INSTRUMENT (CHINESE VERSION)

高校教师职业发展中终身学习影响因素调查问卷

尊敬的老师，您好！

感谢您参与此次问卷调查。我是周宏燕，泰国博仁大学教育管理博士。现在，您将完成根据博士论文《大学教职员终身学习管理因素之研究》设计的问卷。

本次问卷调查旨在研究高校教师职业发展中的学习现状，并从个人和学校两个层面探讨高校教师职业发展中终身学习的影响因素。**本次问卷调查采取匿名形式，我承诺您所提供的所有信息我们将严格保密，汇总数据将只用于研究目的。**

本次问卷调查将占用您10-15分钟时间。问卷共由7部分组成，选项没有对/错之分。为确保问卷调查的有效性，请您就每个选项问题全部逐一作答。

感谢您提出宝贵的意见和建议！

请联系邮箱：359134700@qq.com 或 yanwei1407@163.com。

第一部分 人口统计特征 该部分是关于您的个人背景特征，请您根据实际情况选择相应选项或填写相关内容。	
1、您的性别是： 男 女 2、您的年龄是： 18-25岁 26-35岁 36-45岁 46-55岁 56岁及以上 3、您的婚姻状态是： 已婚 未婚 4、您的最高学历是： 专科 本科 硕士 博士 其它 (请说明：) 5、您的教龄是： 不足3年 3~4.9年 5~9.9年 10~19.9年 Over 20年 6、您的周学时是： 少于8小时 9-16小时 17-24小时 25-32小时 超过32小时 7、您平均每月的薪水是： 1000~3000元 3001~5000元 5001~7000元 7001~10000元 超过10000元 8、您现在的专业职称是： 讲师三级 讲师二级 讲师一级 副教授 教授 9、我对目前从事的职业领域的计划是： 1 5年内继续从事目前职业 2 10年内继续从事目前职业 3 退休前继续从事目前职业 4 看情况，有机会会离开目前职业 10、我每天花 时间学习。 1 0个小时 2 1个小时 3 2个小时 4 3个小时 5 4个小时或更多	
第二部分 心理授权 该部分内容描述了关于职业和个体自我效能的观点和感受，请您根据自身体验判断以下陈述在多大程度上反映了您的感知。 1----- 2----- 3----- 4----- 5 完全不符合 基本不符合 不确定 基本符合 完全符合	
职业意图	
11、我现在做的工作对我来说很重要。	◎1 ◎2 ◎3 ◎4 ◎5
12、我认为现在从事的教育教学活动很有意义。	◎1 ◎2 ◎3 ◎4 ◎5
13、我认为现在的工作状态符合我的价值追求，愿意通过努力谋求职业发展。	◎1 ◎2 ◎3 ◎4 ◎5
自我效能	

14、我具备了组织学习行为的能力，能够明确学习需求、制定学习计划、执行学习活动和评估学习成就。	◎1 ◎2 ◎3 ◎4 ◎5
15、我具备了有意学习的能力，能够完成有目的的阅读、观察、倾听、理解和沟通。	◎1 ◎2 ◎3 ◎4 ◎5
16、我具备了实现下一个职业目标所需要的能力（包括思想、知识和能力）。	◎1 ◎2 ◎3 ◎4 ◎5
17、我很清楚自己的职业发展，有明确的职业发展规划。	◎1 ◎2 ◎3 ◎4 ◎5
自主决定	
18、我享有一定的权利，可以支配实现职业发展需要的学校资源。	◎1 ◎2 ◎3 ◎4 ◎5
19、我享有自主权，可以自主规划实现职业发展需要的学习内容和学习方式。	◎1 ◎2 ◎3 ◎4 ◎5
20、我享有自主权，可以独立地规划如何实施具体的教育教学活动。	◎1 ◎2 ◎3 ◎4 ◎5
影响	
21、我有机会参与学校对教职员职业发展规划的制定、开展和实施过程。	◎1 ◎2 ◎3 ◎4 ◎5
22、我个人的职业发展会对所在部门发展产生较大影响。	◎1 ◎2 ◎3 ◎4 ◎5
第三部分 终身学习 该部分内容描述了职业发展过程中学习倾向和学习行为，请您根据自身体验判断以下陈述在多大程度上反映了您的学习经历。 1----- 2----- 3----- 4----- 5 完全不符合 基本不符合 不确定 基本符合 完全符合	
终身学习倾向	
23、我认为学习在职业发展中非常重要。	◎1 ◎2 ◎3 ◎4 ◎5
24、我愿意坚持学习新的知识、技能以满足实现下一个职业发展目标的要求。	◎1 ◎2 ◎3 ◎4 ◎5
25、我乐于接受可以让我学习新鲜知识、技能的工作和职位。	◎1 ◎2 ◎3 ◎4 ◎5
26、面对失败，我会继续尝试新的方法直至解决问题。	◎1 ◎2 ◎3 ◎4 ◎5
27、我富有想象力，乐于接受新想法，喜欢探索新的可能性，新的方向。	◎1 ◎2 ◎3 ◎4 ◎5
28、遇到新信息，我总是深入研究一下看看发生了什么，而不是仅仅看其表面信息。	◎1 ◎2 ◎3 ◎4 ◎5
29、我喜欢把新的信息和我已经知道的信息结合起来思考。	◎1 ◎2 ◎3 ◎4 ◎5
终身学习行为	
30、在学习上，我是一个积极主动的学习者，而不是被动驱使的。	◎1 ◎2 ◎3 ◎4 ◎5
31、在学习上，我善于借助他人作为学习资源，会积极听取同行的反馈和意见。	◎1 ◎2 ◎3 ◎4 ◎5
32、工作时间之余，我会有规律地自主学习。	◎1 ◎2 ◎3 ◎4 ◎5
33、为实现职业发展规划，我制定了明确的学习目标。	◎1 ◎2 ◎3 ◎4 ◎5
34、为实现职业发展目标，我会适时调整学习策略。	◎1 ◎2 ◎3 ◎4 ◎5

35、在学习过程中，我会及时地总结反思。	◎1 ◎2 ◎3 ◎4 ◎5
第四部分 组织学习文化 该部分内容描述了对组织学习文化的感知，请您根据自身体验判断以下陈述在多大程度上反映了您的感知。 1-----2-----3-----4-----5 完全不符合 基本不符合 不确定 基本符合 完全符合	
36、在我们大学，领导的决策会根据会议讨论或收集的信息来修改他们的想法。	◎1 ◎2 ◎3 ◎4 ◎5
37、在我们大学，学习渗透到工作的各个环节，教师可以在工作中不断学习。	◎1 ◎2 ◎3 ◎4 ◎5
38、在我们大学，教师可以随时了解学校政策变化和需求，获得最新学习信息。	◎1 ◎2 ◎3 ◎4 ◎5
39、在我们大学，教职员工花功夫建立相互信任的关系，彼此之间愿意公开又坦诚地进行意见交流。	◎1 ◎2 ◎3 ◎4 ◎5
40、在我们大学，学校调动多方资源，为我的职业发展提供了有效的专业引领（比如学科领域专家指导、骨干教师帮带、科研专家的理论引领、教研专家的实践引领等）。	◎1 ◎2 ◎3 ◎4 ◎5
第五部分 领导效果 该部分内容描述了对上级领导效果的感知，请您根据自身体验判断以下陈述在多大程度上反映了您的感知。 1-----2-----3-----4-----5 完全不符合 基本不符合 不确定 基本符合 完全符合	
41、我的领导自身是一个自主、高效的学习者，不断地寻找学习提高的机会。	◎1 ◎2 ◎3 ◎4 ◎5
42、我的领导具有良好的管理能力，能够对我部门实现有效管理。	◎1 ◎2 ◎3 ◎4 ◎5
43、我的领导是我学习的榜样。	◎1 ◎2 ◎3 ◎4 ◎5
44、我的领导能提供有效信息帮助我调整职业发展方向。	◎1 ◎2 ◎3 ◎4 ◎5
45、我的领导能采取实际措施帮助我接受更多的职业发展学习机会。	◎1 ◎2 ◎3 ◎4 ◎5
46、我的领导能提供有效指导促进我提升专业素质、知识、技能水平。	◎1 ◎2 ◎3 ◎4 ◎5
第六部分 学习内容焦点 该部分内容描述了对学习内容的感知，请您根据自身体验判断以下陈述在多大程度上反映了您的感知。 1-----2-----3-----4-----5 完全不符合 基本不符合 不确定 基本符合 完全符合	
47、在我们大学，教师的职业发展是学校整体规划的一个重要组成部分。	◎1 ◎2 ◎3 ◎4 ◎5
48、学校注重考核职业培训或学习活动对教师专业知识的培养和提	◎1 ◎2 ◎3 ◎4 ◎5

升。（学科内容知识）	
49、学校注重考核职业培训或学习活动对教师教学实践的效果和作用。（教学法知识）	◎1 ◎2 ◎3 ◎4 ◎5
50、学校注重考核职业培训或学习活动对教师科学研究能力的效果和作用。（科学研究知识）	◎1 ◎2 ◎3 ◎4 ◎5
51、学生的学习成就是衡量教师职业水平的一个重要指标。	◎1 ◎2 ◎3 ◎4 ◎5
52、不断提升学生的学习成就是我在职业发展中不断学习的动力之一。	◎1 ◎2 ◎3 ◎4 ◎5
第七部分 合作式教学 该部分内容描述了对学习形式和学习机会的感知，请您根据自身体验判断以下陈述在多大程度上反映了您的感知。 1-----2-----3-----4-----5 完全不符合 基本不符合 不确定 基本符合 完全符合	
53、我每周参加的与教师职业发展直接相关的活动时间至少1个小时。	◎1 ◎2 ◎3 ◎4 ◎5
54、我参加的职业培训和学习活动包括教师与校外同行之间的合作学习。	◎1 ◎2 ◎3 ◎4 ◎5
55、我参加的职业培训和学习活动包括教师与校内同行之间的观摩学习（比如听课、经验分享、成果展示等）。	◎1 ◎2 ◎3 ◎4 ◎5
56、我参加的职业培训和学习活动包括教师之间共同探讨和反思教师的教学实践。	◎1 ◎2 ◎3 ◎4 ◎5
57、我参加的职业培训和学习活动包括教师之间共同商议和检查学生的学习成就。	◎1 ◎2 ◎3 ◎4 ◎5
58、我参加的职业培训和学习活动包括教师之间及时地提供反馈和信息共享。	◎1 ◎2 ◎3 ◎4 ◎5

————— 填答至此全部完毕，感谢您的支持和协助！ —————

————— 祝您身体健康、万事顺利 —————