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MICROTEACHING IN PAKISTAN:
PERSPECTIVES OF NOVICE HIGHER EDUCATION FACULTY ABOUT THE CONTRIBUTION OF MICROTEACHING TO THEIR LEARNING AND PRACTICE

A Dissertation Presented

by

SALMA NAZAR KHAN

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

May 2015

COLLEGE OF EDUCATION

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SALMA NAZAR KHAN

Approved as to style and content by:

_____
Cristine Smith, Chairperson

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Joseph B. Berger, Member

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Robert Marx, Member

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Christine B. McCormick, Dean
College of Education

DEDICATION

I dedicate this dissertation to my parents, my "Baba Jaan" & "Baybay Jaan," for their endless support and encouragement. Thank you both for your love and sacrifices, and giving me strength to reach for the stars and chase my dreams.

To coffee and donuts, who were my companions through many a long night of writing.

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Its my family's complete trust and unconditional love that carries me through always.

I love you all dearly.

Salma

ABSTRACT

MICROTEACHING IN PAKISTAN:
PERSPECTIVES OF NOVICE HIGHER EDUCATION FACULTY ABOUT THE CONTRIBUTION OF MICROTEACHING TO THEIR LEARNING AND PRACTICE

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ED.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Associate Professor Cristine Smith

This mixed-methods research documents the self-reports of novice higher education faculty of Pakistan about the contribution of the microteaching module of Master Trainer Faculty Professional Development Program (MT-FPDP) as well as the factors that either supported or hindered faculty in using their new knowledge and skills. My literature review on microteaching, which until recently had been a neglected field for two decades, includes higher education development needs as 'adults-teaching-adults,' microteaching as a response to novice teaching issues, and a contextual analysis of the model in different settings. I analyze and interpret the findings using a conceptual framework that synthesizes adult learning, self-efficacy, and reflective practices. This research finds that the opportunities to practice their teaching skills, with an intentional reflective feedback mechanism, allowed the novice faculty to prepare themselves in a safe and collaborative environment during MT-FPDP. However, microteaching content, activities, and supplementary material were neither closely relevant to varied teaching contexts of Pakistan nor appropriate in its application at the higher education level. Moreover, the lack of supervisors' expertise to facilitate the microteaching processes, and mentor the novices discouraged the participation. Despite these hindrances, the novices

reported behavior modification, self-efficacy, and use of reflective practices in their classrooms. However, discouraging organizational culture/policies, lack of collegial, administrative, and technical support, and geopolitical factors are the primary barriers to the implementation of the knowledge and skills. The Heads of Department (HoDs)/Deans confirmed the carryover from MT-FPDP to classroom teaching, and acknowledged these institutional supports and barriers. This research argues that the microteaching content and model must be adapted to the context of Pakistan, and the microteaching skills should be prioritized based on the higher education faculty needs. The Learning Innovation Division (LID) of the Pakistan Higher Education Commission (HEC) needs to appoint expert, unbiased, and culturally sensitive supervisors who can provide novices more self-directed, transformative, and reflective learning opportunities during MT-FPDP. LID/HEC should provide avenues for collaboration and coordination by establishing the informal "communities of practice" to foster collegial support within an institution and within a province.

Key Words: Microteaching, Higher Education, Adult Learning, Novice Faculty, Professional Development, and Pakistan

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ABBREVIATIONS

AERA	American Educational Research Association
CASE	Center of Advanced Study in Education
CERI	Center for Educational Research and Innovation
CIE	Center for International Education
CIES	Comparative and International Education Society
EFL	English as Foreign Language
FWL	Far West Laboratory of Educational Research & Development
HEC	Higher Education Commission
HoDs	Heads of Departments
ISSR	Institute for Social Science Research
IRB	Institutional Review Board
KPK	Khyber Pakhtoon Khwah
LCMT	Learner-Centered Microteaching in Teacher Education
LID	Learning Innovation Division
MLS	Microteaching Lesson Study
MT-FPDP	Master Trainer Faculty Development Program
PD	Professional Development
SD	Standard Deviation
SHEC	Sindh Higher Education Commission
SPSS	Statistical Package for Social Science

CHAPTER 1

INTRODUCTION

Statement of the Problem

> *Teachers in institutions of [higher education] have not been prepared to teach. We have persisted in the assumption that good teachers are born, hence cannot be made, and, further, that anyone who really knows can teach because the converse-he who does not know cannot teach-is true…again and again one looks for evidence of purpose in classroom, lecture hall and laboratory* (MacKenzie, Eraut & Jones, 1976, p.39).

Teaching is a profession that—like medicine, engineering, law, business, science, and technology—depends on identifying best practices for improving its implementation. Teaching deals not only with the physical but also the psychological needs of a learner, and learning is a complex process that requires teachers to keep abreast of emerging theories and practices in the field. Like every other profession, the requirements of teaching are also changing very rapidly. Particularly in higher education, the advent of innovative educational technology and research demands-to foster data-driven instruction and critical thinking for research based teaching—requires faculty members to continuously upgrade their teaching skills (Castellanos & Gloria, 2007; Moore & Rísquez, 2007; Petty, 2006; Kreber, 2005; Laurillard, 2002; Savin-Baden, 2000; Rogers, 2000; Moon, 2000; Ramsden, 1992). According to Rogers (2000) it is challenge for universities "to remain competitive in the new millennium; they must develop cohesive training programs with an emphasis on learning and provide adequate technical support that will assist faculty in integrating technology into instruction" (p.19).

In response to such challenges at the university level, the Higher Education Commission (HEC) Pakistan––as an autonomous body governed by the Federal Government––established a separate core division, Learning Innovation Division (LID), to bring academic standards of in-service professional development (PD) up to the international standards.[1] From its inception in 2003, LID has trained a total of 17,784 faculty members and managerial staff across Pakistan through different short- and longer-term certified training programs, workshops, and seminars based on the needs of the faculty members and the needs of their respective institutions (Higher Education Commission Pakistan, 2014). LID/HEC claims that making continuous efforts to increase the rapid growth of trained higher education faculties is a byproduct of the primary goal of paying closer attention to maximizing the quality of teaching at universities (Malik, personal interview, 2011).

Contrary to this claim, UNESCO (2008) reported that maximizing the number of trained teachers and number of training activities through PD programs is a common approach in low-resource countries like Pakistan. In addition, Chaudary (2011) emphasizes that these professional development activities for higher education faculty are "very brief, sporadic and traditional, and is conveyed off -site through top-down teacher training strategies" (p. 633).

In this regard, the three-month Master Trainer Faculty Professional Development Program (MT-FPDP) is a long-term LID program that aims to provide quality PD for higher education novice faculty—those with less than five years of

[1] Since 2003, LID has trained 17,784 faculty members and managerial staff across Pakistan through different PD programs (Higher Education Commission Pakistan, 2014).

teaching experience (Higher Education Commission Pakistan, 2014). The MT-FPDP program encourages the trained faculty to return to their institutions and facilitate the same training program, serving as Master Trainers in their respective universities, for other faculty (Higher Education Commission Pakistan, 2014).

MT-FPDP offers training through different academic course modules over the course of the three-month training (*See Appendix A for the detailed objectives and outcomes of MT-FPDP).* One of these modules is a five-day microteaching component. LID Pakistan has adapted the original Stanford Model (founded by Allen 1966) with an exception that "real" students were replaced with peers, focusing on ten out of fourteen teaching skills[1] originally proposed. Allen (1966) defines microteaching as a professional development and training approach where "teachers teach a limited number of students in a short period of time with an emphasis on a specific teaching skill" (p. 1). Microteaching module of MT-FPDP in particular is meant to provide novice university faculty with practical teaching opportunities. The LID introduced microteaching in the MT-FPDP training for the first time as a core component to help novice faculty members improve teaching skills and acquire innovative teaching techniques (*see appendix B for details of course modules*). LID reports that by the year 2013, 638 faculty members have been

[1] Planning, Setting induction, Presentation, Questioning, Encouraging the students to question, Exemplification, Communication, Methodology, Judging the students' problems, and Ending or summing up.

successfully trained in 22 Batches[1] of MT-FPDP (Learning Innovation Division, 2014).

However, Chaudary (2011) proclaims that higher education faculties in Pakistan lack teaching skills that enable them to be self-directed, reflective, and experiential learners and research practitioners. He further argues that these programs are "imposed rather than professionally owned and lack[ed] intellectual rigor and professional relevance" (p. 633). Chaudary (2011) conducted an ethnographic case study of six faculty members from different universities in Pakistan and focused on these professional development programs and their relevance with their classroom teaching and concluded that

> The participants felt their professional development was extremely inadequate, unrelated, and impractical for their real classroom experiences and a far cry from enabling them to meet their challenges. Most of them felt [they were] in a situation that was sink or swim. Their persistent critique of professional development in Pakistan indicated their unhappiness and their desire for change (p. 635).

His research concludes that, even after receiving such training, faculty lack teaching skills that enable them to be self-directed, reflective, and experiential learners and research practitioners (Chaudary, 2011). UNESCO (2008) critiqued the PD programs and stated that in Pakistan, "despite having taken a significant number of initiatives in a quest to further its Teacher Professional Development (TPD) objectives, progress remains less than satisfactory" (p. 9).

Aslam (2011) assessed the overall impact of HEC professional development programs and issues related to their implementation in the universities of Pakistan.

[1] Batch is a cohort of the participants, who attended MT-FDPD.

The research proclaims that LID/HEC has brought various effective measures that promote quality teaching in the universities of Pakistan. However, it is noted that "skill utilization by these initiatives and effectiveness with potential challenges and issues are still to be explored" (p. 98).

Therefore, researchers recommend that HEC should propose professional development activities that reflect the needs of the teacher as well as the students to measure the visible impact of these programs on the overall teaching-learning processes (Ahmed & Aziz 2012; Ahmad and Rashid, 2011; Raza, Majid & Zia, 2010; Memon, 2007).

However, there does not seem to be a single study that determined and/or evaluated the quality or impact of MT-FPDP or any of the program activities. The Pakistan national development report on education claims that when trying to improve the overall teaching-learning process at a higher education level, it is hard to maintain the quality and effectiveness of a teacher professional development program without assessing the impact of program activities (Ministry of Education, 2008). The 2006 UNESCO report also confirms that problems such as lack of accountability, resources, motivation, and most importantly, lack of evaluation are the major issues of ineffective professional development in Pakistan (UNESCO, 2008). Consequently, in the low-resource context of Pakistan, such a situation in teacher training can waste resources and also leads to demoralization of faculty members involved in these programs.

HEC has always encouraged third party evaluations of both long-term and short-term programs. However, foreign funding agencies[1] conducted most of the need assessments and evaluations, and the feedback was not appropriate given the existing education context of Pakistan. For example, the suggestions offered by the evaluators were not suitable for the available resources and time constraints. Additionally, some evaluators did not personally observe the program, but instead evaluated the program and its needs using program coordinators' completed evaluation forms. Thus, these assessments and evaluations did not examine the effectiveness of the program's theoretical and/or practical components.

Although microteaching is considered as a core component of the MT-FPDP training, it has never been evaluated separately to assess its effectiveness. Therefore, in order to understand the value of microteaching as a component of teacher's professional development in MT-FPDP, I explore the effectiveness (appropriateness for teachers' needs, perceived adequacy of its features, and its perceived impact on the teaching of novice faculty members) of the five-day microteaching component of the MT-FPDP training.

I became interested in this teaching approach through my first job in the Learning Innovation Division, HEC, Pakistan. It was my first opportunity to see microteaching in practice, and I was intrigued. However, I still had concerns and questions about the effectiveness of the microteaching approach. Some concerns

---

[1] The World Bank, United Nations Development Program (UNDP), UNESCO – Islamabad, United States Agency for International Development (USAID), and (Ministry of Education, Pakistan, 2006).

included its application for faculty from different fields of study and appropriateness of identified teaching techniques for higher education faculty. More specific concerns were the fears of novice faculty members when participating in the microteaching activities (such as videotaped demonstration teaching and feedback), and how they would utilize the skills learning in microteaching training in real classroom situations. Most importantly, I wanted to understand the novice faculty members' perceived supporting factors, challenges, and issues faculty faced when they tried to utilize the knowledge and skills learned from microteaching once back in their home institutions.

Purpose of the Study

The purpose of this study is to document and analyze the perceptions and self-reports of novice university faculty members about the contribution of the microteaching module of MT-FPDP to their teaching knowledge and skills about and use of new teaching competencies, as well as the factors that either support or hinder them in using new competencies.

Specifically, this study explores five questions:

1. What are the views of novice faculty members about their <u>experience</u> in the microteaching module of MT-FPDP?
    - What was the relative contribution of the various microteaching *activities*—such as practice teaching, lesson plan writing, videotaping and *content*—ten teaching skills to participants' perception about how much they learned from participating?

- What microteaching *features or processes* within microteaching module (e.g. peer support, feedback mechanism, self-reflection, microteaching supervision, and environment) helped the novices to participate fully and what hindered them from participating fully?
- To what extent did participants felt the microteaching module addressed their needs as novice faculty members?

2. What are the recommendations of novice faculty members about <u>how to improve</u> the experience of participating in the microteaching module?

    a. What features, components, or activities in the design of the microteaching module of the training would they like to change, and how?

    b. What remaining teaching skills do novice faculty feel they still need to obtain that they did not acquire during the microteaching module?

3. What are the perceptions of faculty members about the contributions of participating in the microteaching module to their <u>learning about teaching</u>? Specifically:

    a. To what extent do participants feel that the microteaching module contributed to acquisition of knowledge and skills about the ten teaching competencies?

    b. To what extent do faculty feel that participating in microteaching contributed to their self-efficacy in using new competencies?

c. To what extent do faculty feel that participating in microteaching contributed to their reflectiveness about their teaching?

4. What are the self-reports of novice faculty members about the contribution of the microteaching module towards changes in their actual classroom teaching?

    a. What changes, if any, do faculty members report in their own teaching?

    b. What factors in their teaching environment do the novice faculty members feel supported them or hindered them in applying what they learned from participating in the microteaching module? Specifically, what were the supports and barriers related to:

        1. Individual,
        2. Institutional structure and policies,
        3. Leadership,
        4. Facilities and resources,
        5. Colleagues, and
        6. Students

5. How do the HoDs or Deans perceive the changes of novice faculty members in applying new teaching skills?

    a. What specific changes, if any, do they observe in the teaching of participating faculty members?

b. What individual, institutional and other factors do they feel supported or hindered participating faculty members in using new teaching competencies?

Significance and Rationale of Study

The results of this mixed-methods study will contribute to the knowledge base about higher education teaching skills and the usefulness of microteaching model in similar contexts such as Pakistan. More specifically, the results of my research may provide significant information to LID, HEC to help them make modifications and improvements in the microteaching objectives and design. The feedback of faculty members, who attended the MT-FPDP, will provide a lens to see the strengths and weaknesses of the existing microteaching module. Such feedback from novice faculty and HoDs/Deans included:

- The perceptions regarding the supports and hindrances for the contributions of microteaching—to the newly acquired skills/competencies built into microteaching as well as the actual implementation of these skills in their classroom instruction.
- Critical feedback for improving the microteaching module—regarding both supports and hindrances in the model, particularly in regards to the modification of the microteaching module for the Pakistani context.
- Perceived contribution of microteaching module to self-efficacy and reflective praxis for the learned knowledge and skills.

- Remaining obstacles for implementation of competencies by novice faculty and their administrators.

The supervisors of the microteaching component of these programs may use the results of this study to make relevant changes to their andragogy reflecting the needs of faculty as adult as well as those in different fields of study. Moreover, I could not locate adequate research in the higher education context in relation with microteaching model. Therefore many of the written materials for faculty were aimed at different teaching levels and literacies that were not ideally suited for the higher education context. The results of this study may contribute to the quality of microteaching practices for novice faculty members in Pakistan, and the findings may be utilized to bring effective, context-based planning and implementation to practice-based learning through microteaching at their universities. Also, the findings of this study might be valuable for other contexts (I have presented a detailed contextual analysis in the literature review) beyond Pakistan that have developed similar microteaching models. It also may help the researchers in the field of education to pose several relevant questions to guide future research on related issues of higher education PD. Moreover, the results of the study will propose recommendations to LID, HEC, if efforts could be made to restrict the institutional dynamics that hinder the novices in implementation of their knowledge and skills at the universities.

Furthermore, having personally worked with HEC, I attest that they are very interested in the assessment and evaluation of their program and various activities in order to measure their cost effectiveness and impact on the universities. As a

central hub providing training to the faculty across Pakistan, LID/HEC has brought significant changes to the professional development of higher education faculty in Pakistan by setting new trends in faculty training through various short- and long-term programs (Taleem, 2011).

However, the 18th amendment to the Pakistani constitution, passed by the National Assembly on April 8, 2011 set in motion plans to dissolve the central education system of Pakistan (I-SAPS. n.d.; Siddiqui, 2010). Regarding the higher education of Pakistan, this devolution was primarily planned to task the provinces with the responsibilities for regulating university matters under provincial governments. This change in design is due in part to a perceived lack of funds and the relatively high expenses of teacher training activities. The national government assumes that this reform will raise the professional autonomy of higher education faculty members in the respective provinces.

Some argued favorably for this policy move, underscoring the objectivity and freedom of provinces to design the context-based curricula (including language, culture, and social needs) and delivery mechanisms (Siddiqui, 2010). However, the 'centrally administered and regulated (HEC) education and standards ensured better global economic competition capabilities (Sajid, p. 8). Therefore, civil society, students, and teachers had largely criticized the move across the country, particularly given the inability of many provinces to appropriately fund and source such higher education institutions (Taleem, 2011). Prof. Dr. Abdul Nabi, a former Vice Chancellor of the University of Baluchistan, Quetta, underlined the negative influence of such an implication—the 18th Amendment—on Pakistani education in

general and on higher education in particular. Dr. Nabi criticized the parliamentary committee for undermining the administrative expertise and resource capacity that is required to maintain a uniformity of Higher Ed. curriculum and instruction with national and international standards. According to Dr. Nabi, "the 18th amendment would be a failure as far as the HE [Higher Ed.] sector is concerned" because it will be hard to conform with the socioeconomic changes insisted by the donor agencies. He further emphasized

> *Devolution would encourage multiplicity of standards/regulations on admissions, and minimum quality requirement for appointment, promotion, quality assurance on academics, curriculum and scholarships and would impact on overall knowledge exchange (Nabi, 2013).*

This amendment has not (to date) been implemented on national level due to the change in government, the social and political realities currently facing Pakistan—particularly in regards to terrorism. However, the Government of Sindh has announced the establishment of Sindh Higher Education Commission (SHEC) in February 2015, and claimed share in development funds and scholarships from the Federal HEC. However, Dr Attaur Rehman, HEC chief, has challenged the establishment of SHEC, and argued "Sindh government was trying to destroy the federal status of the HEC" (Haq, 2015). Though the amendment has not yet been implemented, the mere passing of such a resolution is still a very real threat to HEC. Although this study is neither a cost benefit analysis nor an impact study, the implications of my research can help HEC learn about the perceived effectiveness of at least one of their central programs. Thereby, HEC could argue for the continuation of its training, designs, and funding in a centrally regulated capacity.

Definitions and Terms

Microteaching

Microteaching is a professional development and training approach where "teachers teach a limited number of students in a short period of time with an emphasis on a specific teaching skill" (Allen, 1966, p. 1). Allen and Ryan (1969) developed microteaching for the first time in 1963 at Stanford University for a teacher education program. This proposed pedagogical method stresses teaching, reviewing, reflecting, and re-teaching of specific content in a real classroom setting. This model has been implemented widely across different contexts and disciplines involving peer students (fellow teachers) in training settings or "real students" in classrooms. I further discussed this application of microteaching with either "real students" versus peers in the review of my literature.

Peer Microteaching

Peer microteaching was an early adaption of the microteaching model. According to Cooper and Allen (1970) microteaching is not synonymous with simulated teaching. Peer teaching can be a very valuable experience, but it should not be equated with microteaching, where the students are "*real*" (p. 2). Nevertheless, with the passage of time, the term "*Microteaching*" is now interchangeably used for peer microteaching as well and is predominantly undertaken with the presence of peers acting as students. Peer microteaching is less complicated to set up compared to a microteaching practice that uses actual students (Bell, 2007). Research illustrates that peer microteaching transforms a

novice teacher into critical thinker, self-evaluator, and confident change agent, who possesses the potential to modify his/her own teaching in large classes and delivering a long lecture (Farris, 1991; ŞEN 2009; Vander & Chugh, 2012; Bell, 2007; Napier & Vansickle, 1981; Clifford, Jorstad & Lange, 2011). Most of the studies referenced in this literature review are conducted on peer microteaching but employ different models in a variety of contexts.

Teaching skills

Rychen and Salganik (2003) stated that skills, literacy, competence, and qualification are used interchangeably in the literature about teaching skills. They define it as "the ability to successfully meet complex demands in a particular context through mobilization of psychosocial prerequisites including both cognitive and non-cognitive aspects and as a, complex action system encompassing cognitive skills, attitudes, and other non-cognitive components"(p. 51). A report published by Uppsala University (1992) defined teaching skills as "what teachers do (different kinds of abilities), different kinds of knowledge that teachers need in order to be able to act in the best possible way, and attitudes and underpinning values that teachers embrace and apply" (p. 9). In this research study, I focused primarily on ten teaching skills that novice teachers should acquire through microteaching model in Pakistan.[1] These ten teaching skills are not exclusively similar to the one Stanford Model proposed, but most of them are related in purpose and aim. I further

[1] Planning, Setting induction, Presentation, Questioning, Encouraging the students to question, Exemplification, Communication, Methodology, Judging the students' problems, and Ending or summing up.

discussed these differences at the end of chapter two when I presented the microteaching model in Pakistan.

Novice faculty/Novices

There are various definitions of novice teachers in the academic literature. According to Strom (1989) a novice teacher is a teacher education program graduate entering teaching (p. 1). Literature uses terms such as novices, beginning teachers, neophytes, infant teachers, new teachers, novice teachers, and pre-service teachers interchangeably for teachers who are inexperienced and are not very familiar with mastery of teaching tasks (Bourne-Hayes, 2010; Erickson, 2009; Amobi & Irwin, 2009; Berk, et al., 2007; Cooper, 2004; Darling Hammond, 2003; Anderson, 1995; Campbell, Evans, Neill, & Packwood, 1992; Copeland, 1977). Beginning teachers have different concerns than the experienced teachers; therefore, professional development activities should be designed differently (Kim & Roth, 2011). In this research study, I consider novice faculty, defined as those who have fewer than five years of university teaching experience. I used the words novices and participants (the latter being used more frequently while reporting results-chapter 4) interchangeably for the higher education faculty sample in my research.

Andragogy

Unlike a typical elementary classroom where children are likely to be coming from similar experiential backgrounds due to shared ages and consequently life experiences, adults often represent a more heterogeneous group of learners

drawing from a wide variety of lived realities. Adults in these groups vary widely in their understanding, managing, analyzing, and implementation skills. The rationale of these differences is based on experience, maturity, independence and responsibility through which an adult learner develops his or her knowledge. So, I assume that my research participants—the higher education faculty—as adult learners may possess the same ability to learn the content and theory of microteaching, they are likely to be a highly diverse group in regards to their internalization of self-directed learning based on their varying reflections drawing on their experiences. Therefore, I will use the term Andragogy in my research that describes the art and science of adult learning because it deals more with self-directed learning of adults, compared to Pedagogy, which often manifests as teacher-led learning of children (Hiemstra & Sisco, 1990).

Self-efficacy

Self-efficacy generally refers to one's confidence in his or her abilities to accomplish a goal (Margolis and McCabe, 2006). Bandura (1997) defines self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). In this study, I looked at teachers' self-efficacy on the skills they learned through microteaching model of MT-FPDP, and how they perceive their ability to be successful at a specific goal or task—based on their learning from microteaching component—in actual classroom situations. More specifically, I investigated how confident or ready they felt to use the teaching competencies they had acquired.

Professional Development

Professional Development (PD) is an ongoing process that provides teachers with an opportunity to improve their teaching competencies through their participation in different activities. Craig, Kraft, & du Plessis (1998) referred to a professional development program as a *"continuum of learning"* (p. 1) that prepares the teachers for their daily classroom teaching practices and experiences, and addresses the emergent but continuously changing needs of a teacher. The term PD has been generally used for teachers' professional growth through ongoing problem solving, inquiry, and self-reflection in contexts reinforced by theoretical models of professional teacher training. These training activities include workshops, subject matter courses, education conferences or seminars, degree programs, research collaboration, peer observation, observational visits, working with a teacher's network, coaching, and mentoring (OECD, 2009). Teachers can participate in one or many different individual or group teacher-learning activities that help them to address their particular teaching problems.

Program Contribution

Deniston, Rosenstock and Getting (1968) defined program contribution as "the extent to which pre-established objectives are attained as a result of activity" (p. 324). In this study, I considered it useful to introduce some basic characteristic of the microteaching model in its use, the adequacy of the provisions and appropriate use of its features. I asked participants to express their views about the appropriateness and adequacy of microteaching model of MT-FPDP. I wanted to

add this component in my study because in order to bring changes in the model, the LID, HEC is interested not only to know participants' beliefs about the contribution of microteaching learning in their classroom teaching but how also how they perceive the design itself for the microteaching model used during MT-FPDP.

Organization of the Study

Chapter1-Introduction

This chapter included an overview to the background of the problem, statement of the problem, purpose statement, significance of the study, research questions and operational definitions of key terminologies. In short, it provided a direction and scope of this research study.

Chapter 2- Review of the Literature

This chapter reviews the research pertaining to novice teachers' professional development and literature on whether microteaching activities used within training programs improve the teaching competencies of novices. It then describes the multiple possible uses and trends of microteaching in different contexts including the MT-FPDP model of Pakistan. Finally, it discusses and examines the relationship among the literature findings and theories (including adult learning theories, reflective practices, and self-efficacy) to structure a conceptual framework of this research followed by a graphic depiction.

Chapter 3-Methodology and Procedures

This chapter provides a detailed description of research methods and procedures by discussing a rationale for the mixed-methods approach, describing

the sample of my research, data sources (instruments), data collection, data analysis, and the research settings. It further presents the delimitation of the research—that could constrain the study's scope or may affect its results, its suitability and/or adaptability—followed by a discussion of the possible issues of trustworthiness.

Chapter 4- Results

This chapter categorizes and reports the main findings of my research into three distinct categories including: A–*Description of participants' demographics* B–*Faculty members' experiences of the microteaching module* and C–*Reported contribution of the microteaching module to actual classroom teaching.* The related quantitative (statistical—table and graphs) and qualitative (narrative—interview excerpts) data are presented for each category.

Chapter 5-Discussion of Results

This chapter analyzes and discusses the results with reference to the research questions, literature review, and my conceptual framework. Overall, this chapter synthesizes the different patterns and themes underlying my research findings to make inferences and help me draw conclusions.

Chapter 6-Conclusions and Recommendations

This chapter presents a set of concluding statements and recommendations based on the assertions drawn from the discussion of results followed by a suggested course of further research.

CHAPTER 2

REVIEW OF LITERATURE

The goal of this chapter is to examine the knowledge base about the role of microteaching as an approach for the professional development of teachers. The main focus is to understand the research and theory underlying microteaching as a practice to improve the teaching competencies of higher education novice faculty in Pakistan.

In this chapter I described microteaching, which has been purported to be an effective approach for improving the teaching competencies of novice teachers.

I then reviewed literature relevant to teacher preparation and professional development, focusing both on literature related to novice teachers' professional development and research on whether microteaching objectives, features, and activities used within training programs improve the teaching competencies I also discussed multiple possible uses and trends of microteaching for teacher's professional development. A rationale for using microteaching built off of this literature. Lastly I summarized a brief history of the evolution of the original Stanford microteaching model into the many different formats that now exist for teachers from different fields of study.

As part of this review, I separately analyzed the evidence about the effectiveness of each of the key aspects of microteaching––including acquisition of skills, a safe and conducive learning environment, and a feedback mechanism. I examined whether, the acquisition of teaching skills in a controlled, safe and

conducive environment—with a multilayered feedback mechanism—helps novice teachers acquire and then practice higher levels of teaching competencies.

I also reviewed the theoretical concepts, particularly those within adult learning theories—such as the theory of transformational learning, reflective practices, and the self-efficacy concept––relevant to the purpose of microteaching as a professional development practice. I further discussed the usefulness of these concepts in microteaching activities in the cultural context of Pakistan. Consequently, I proposed a conceptual framework outlining expected/immediate outcomes from microteaching model, principles of adult learning, self-efficacy and reflective practice, and features of microteaching model that incorporate these principles. The chapter concludes by showing how my research questions will move the understanding of microteaching forward, based on what is already known and not known about the contribution of microteaching as an approach to professional development of novice teachers.

Professional Development of Higher Education Faculty

A desirable PD program includes all the important factors that contribute to the effectiveness of the overall teaching-learning process. These factors include teachers' knowledge, needs, expectations, and level of expertise that are associated with students' needs and overall requirements at the higher education level (Zepeda, 2008; Castellanos & Gloria, 2007; Moore & Rísquez, 2007; Lyons, 2006; Moon, 2000).

Although the needs of teachers vary based on the information processing and understanding of the students, the rapid shift in the roles of research, demands of society, student diversity, and trends of globalization make teaching competencies more difficult to achieve in higher education than K-12 education given "the pace of change in higher education is extraordinarily rapid and futures are uncertain" (Ryan and Fraser, 2010 p. 411). This uncertain and challenging setting within higher education puts more pressure on the connectivity of students' needs, quality education, and continuous teacher professional development (Memon, 2007; Petty, 2006; Laurillard, 2002; Evans, 2002; Savin-Baden, 2000). According to Erickson (2009), when teaching adults, the instructor needs to provide students with opportunities for self-reflection and self-assessment of their learning. Moore (2010) notes that critical thinking and decision-making are the two most important processes that make adult learning successful. The valuable experiences of adults also support their learning through systematic approaches of discussion and problem solving. In addition to these factors, Harman (2010) stressed that the most commonly shared values and expectations which higher education faculty have for their professional development includes: *academic freedom* to express their views, *collegiality* to form the community of scholars, and *professional autonomy* to use their professional judgment and learning about what and how they teach and do research.

Furthermore, higher education faculty are often assumed to have teaching skills even when they do not. Simply because a faculty member is qualified in their respective field upon entrance to a higher education institution does not necessitate

their possessing pedagogical expertise. As a result of such assumptions, professional development activities that are offered are of short duration and on the small scale of refresher-type courses, workshops, and seminars (Gibbs & Coffey, 2000; Gilbert & Gibbs, 1999) given the (falsely) assumed limited needs of higher education faculty. Cooper (2004) states "the ways in which teaching and learning are assumed to take place within a discipline are often not rationalized or examined, and are accepted as a set of mutually accepted givens" (p. 88). Moreover, Gibbs and Coffey (2004) concluded that:

> *From being small in scale, low in credibility and poorly supported, substantial training of 120–500 hours duration is now well embedded in many institutions, is often compulsory and is sometimes linked to probation or tenure. Increased confidence in the value of such training has not, however, been based on solid evidence (p. 88).*

As a result, such training activities have little impact on the overall teaching-learning processes (Savin-Baden, 2000; Gilbert & Gibbs, 1999; Ramsden, 1992), and are not capable of meeting all the challenges connected with higher education. Consequently, in order to keep up with emerging trends in the higher education, PD practices should be offered in close connection with the needs of teachers as adult learners and the learning needs of the students they teach. This must take into account that many of these skills require training that has an earlier beginning point than is assumed.

Professional Development of Higher Education Faculty in Pakistan

In order to improve the broader socio-economic settings in Pakistan, foreign funding agencies have developed and implemented myriad teacher-training

programs. Ahmed (2012) asserts:

> *Teacher education is necessarily both a manifestation and a reflection of culture. It has been formed in the cultural reproduction process of Pakistan and is also part of this process. Teacher education has no absolute objectives and contents; these are always culturally and socially constructed according to certain religious, social, economic, political and scientific situations. Every ITE program is an integral part of its contextual cultures and traditions in Pakistan, and they reproduce them through their own acts (p.110).*

Academia claims that HEC contributes to civil society as it addresses an increasing alignment with the above-discussed drawbacks by promoting higher education as a vehicle for economic development innovation and entrepreneurship. The chairperson of HEC praised the efforts of LID for improving teaching learning processes. He went on to state that higher education commission has shifted from its traditional role of university grants commission to higher education to innovation and entrepreneurship (Taleem, 2011). However, research proclaims that professional development programs in Pakistan are unsuccessful in preparing teachers for the real issues around education (Ahmed, 2012). Attesting further to such concerns have been recent findings stating that teacher preparation programs in Pakistan are lacking contextual flexibility and modifications. These programs focus on a minimal number of 'best practice' skills and techniques, leaving novice teachers ill prepared and feeling like insignificant and replace-able parts within this educational system (Bashir ud Din, Bana and Afridi, 2012; Ahmed 2012; Ali, 2011; Siddiqui, 2010).

Naqvi and Raza, (2011) explored the perception of employers about the quality of Pakistani university graduates in regards to their development skills.

Their study looked at intellectual, personal, and social development skills, and connections between these qualities with university faculty development. 65 managers from different companies were asked to report their views on a 30-item survey scale. They found that employers were not completely satisfied with the quality of Pakistani university graduates' development skills. They viewed this as a lack of professional expertise on the part of university faculties. The study concluded that "there is a low to moderate degree of need for developing teachers of Pakistani universities in instructional, professional and organizational areas of faculty development to help them play their mandatory roles in preparing quality students for job markets" (p. 67).

Moreover, the impact-based evaluation and assessment studies do not usually focus on investigating long-term expected changes as the result of PD programs, particularly in Pakistan. Dilshad (2010) highlighted that "in order to reform the teacher education sector in Pakistan, there is a dire need to evaluate the effectiveness of existing teacher training programs" (p. 88). Program assessment through feedback of the participants is a transparent measure of the quality of the program. Nonetheless, higher education PD programs need continuous feedback from participants and external evaluation of the entire program (Raza, Majid & Zia, 2010). Raza, Majid and Zia (2010) suggested that in PD programs for higher education faculty in Pakistan "the major emphasis should be on course content; teaching strategies; presentation, evaluation, and feedback skills" (p. 87). Hence, PD programs offered by the HEC might be cost effective, but there is a need to explore the contribution and impact of these activities in the real classroom situations.

The Role of Microteaching for Novice Teachers

Teaching experience is one of the fundamental factors that change teaching practice. For instance, the training needs and teaching competencies of an experienced teacher are different from the teachers who enter the profession with a fear of unknown experiences. Ryan and Cooper (1980) assert "new teachers are vulnerable to many outside forces and also to their own insecurities" (p. 68). This vulnerability continues if an organizational culture does not promote a norm of collective learning and fails to provide an exposure to interaction and peer-support for ongoing PD of novice teachers.

There are several teaching models adapted for PD of the novice teachers that emphasize teachers' collaboration, mutual understanding, collegiality, and teamwork as integral components for the successful initial teaching learning processes (Fullan, 2007; DuFour & Eaker, 1998; Darling-Hammond & Bransford, 2005). However, research indicates that training strategies and models that focus only on transmission of knowledge through collaboration seldom help novice teachers to develop teaching skills. Microteaching provides a mechanism for critical feedback from peers along with the direct participation and self-reflection by the novice teachers themselves (Willis, 1968; Borg et al., 1970; Anderson, 1995; Darling Hammond, 2003; Fullan, 2006; Feiman-Nemser, 2001; Bourne-Hayes, 2010).

Unfortunately, many teacher training colleges and universities designed courses without emphasizing any such characteristics. Most of the teacher training courses were deep in theory but deficient in practice, which created more

complexities in the initial stages of the teaching process (Lyons, 2006). Even if teaching is a complex challenge for novice teachers, according to Brown (1975) "it may best be tackled by simplifying and controlling the first experiences of the teacher" (p. 5). Microteaching is a process of breaking down complex teaching methods into specific, simple teaching skills. Microteaching is a "scaled-down" teacher training approach that simplifies the complexities and challenges of regular classroom teaching (Allen and Ryan, 1969).

Beginning late in 1990, teacher-training focus started to shift from being exclusively theory based to a mix of theory and practice. Schnuk (1999) (as cited in Janice, 2007) characterized this shift as a transformation from isolated teacher training theories to engaging models and practices. Although PD programs are moving from theory based courses to a combination of theory and practice, researchers claim that, in any individual or group context, teachers gain their most productive learning experiences when they are given an opportunity to observe and assess their own teaching practice. In this reflective practice teachers can develop their own inquiry and action research (Putnam & Borko, 2000; Guskey, 2002).

In this regard, microteaching, originating in the early sixties, was rapidly adapted by a large number of countries as a PD approach early on. The growth of microteaching since its first origins has resulted in an extensive and varied literature documenting myriad uses and underlining assumptions for this method. Huber and Ward (1969) reported that by 1969 more than 192 colleges and universities in the United States had started using one or another form of microteaching technique for teacher training. Some forms included changes to the

original Stanford Model. In the following section, I will discuss the historical timeline for the evolution of microteaching, concentrating on the significant and distinctive formats of microteaching, that demonstrate the rationales for its effectiveness in PD of novice teachers.

History and Evolution of Microteaching as an Approach within PD

The original Stanford Model was adapted to particular contexts, purposes and available resources (Allen & Clark, 1967). In the course of its adaptation, the Stanford Model has given rise to new forms (Brown, 1975). In the table below, I will provide a timeline of such adapted forms in different contexts.

Table 1: Contextual time-line of microteaching models

Model	Year	Unique Content and Practice
Stanford Model: Behavior Modification Approach	1963	Modification of teacher behaviors via mastery of competencies in presence of real students in a safe learning environment with a feedback mechanism. Identified fourteen core skills.
Mini courses: FWL	1966 - 1976	Developed *mini courses* on different subjects for in-service teacher trainings. Excluded the feedback of supervisor and participants and relied solely on videotape feedback.
Microteaching without Hardware Development: Malawi	1968	Emphasis on three basic skills: orderly presentation of material, questioning, and pupil involvement. Teach-re-teach model coupled with use of real students were central. Designed to offer students' effective feedback from three student observers and a tutor without the use of video cameras to record their performance.
Dynamic Skills Model: University of Chicago	1970	Focused on two fundamental features of teaching: the content/subject knowledge and behavior of the teacher. Viewed teaching skills as a learning dynamic associated with an ongoing teacher-student relationship. Lesson planning skills were central to the process.
Social Skill Model: New University of Ulster	1973	Based on the theoretical framework of Argyle's Social Skill Model. Claimed microteaching could provide a method for helping novices practice social skills necessary for development of interpersonal behaviors of teachers - included specific aspects of the planning, perception, and performance elements of teaching. Re-teach sessions were eliminated.
The Component Skill Approach: University of Sydney	1973	Concentrated on basic observable teaching behaviors that contribute to effectiveness of classroom teaching, adding to the Stanford Model's skills additional related skills to develop students' thinking through discovery learning and creativity.
Mini-teaching: Ulster College, Northern Ireland	1978	Bridged gaps between social skills training and classroom teaching. Length of lesson was increased gradually from 5 to 30 minutes. Final session involved student teaching in real classroom setting. Participants given both video and tutor feedback.
The Simplified Model of Microteaching: Namibia & China	1980	Modified Malawi model in response to in-service teacher training needs. China proposed this simplified model on a national level as a modernizing teaching practice. Introduced self-study groups of four to five students with rotating roles. Peer feedback and supervision replaced supervisors.
Microteaching Lesson Study (MLS)	2005	Combined simplified features of class size and lesson time from microteaching with collaborative and cyclical feedback aspects of Japanese lesson study. Fostered cooperative learning experiences. Teachers are divided into sub groups of four to six people to mutually develop, implement, analyze and review their lesson planning and teaching practice. Lesson is taught in a small class of five to ten students, mostly peers, for 25 to 30 minutes.
Learner-Centered Microteaching (LCMT)	2010	LCMT follows original Stanford model of teach-review-re-teach. However, voluntary rather than mandatory participation in second cycle. Comprised three stages dependent on individual students' preferences that include: thinking processes, activities (microteaching), and a series of other stages— decision making, planning, application, evaluation, and reflection of the learning.

I will discuss the literature review to describe the features of these models—how they were different from the original Stanford Model or subsequent forms—and listing their benefits and criticisms.

Behavior Modification Approach: Stanford Model

The Stanford Model developed by Allen and Ryan (1969) was based on a scaled down microteaching approach initiated at the Stanford University that focused on modification of teacher behavior (Koran, 1969; McDonald, 1973) through mastering certain teaching competencies built around the presence of real students in the training. The variables of microteaching include lesson span, number of participants (peer/students), number of rehearsal or repetition of teaching practice, the role of supervisor, and the use of an audio or video recording facility.

The Stanford Model of microteaching was originally proposed for pre-service training of novice teachers, and it identified fourteen different skills including; stimulus variation, setting induction, silence and non-verbal cues, reinforcement of student participation, fluency in asking questions, probing questions, higher order questions, divergent questions, recognizing attending behavior, illustrating and use of examples, lecturing, planned repetition, and completeness of communication (Allen & Ryan, 1969). According to this model, the trainees first receive formal instruction about specific teaching skills through lectures and demonstration, and then practice these skills by preparing and teaching a short lesson of 5 to 10 minutes to a small group of students (real pupils) in the presence of a supervisor in

a laboratory setting. Each participant's presentation is video recoded. Each then receives feedback from the supervisor and students through audio or videotape recordings of his/her own teaching performance. In light of this feedback, each participant prepares and re-teaches the lesson to improve performance. Hence, the basic purpose behind the development of microteaching was to teach the range of teaching skills and competencies one by one, and receive feedback in a supportive environment.

This initial model of microteaching was considered to be an opportunity for teachers to teach students in a safe laboratory setting instead of struggling with the diverse influences of student backgrounds, intellectual abilities, and learning styles in a large classroom setting (Allen & Clark, 1967). This microteaching model "allows for increased control of practice. In the practice setting of microteaching, the rituals of time, students, methods of feedback and supervision, and many other factors can be manipulated" *(*Allen & Ryan, 1969, p. 2).

Nonetheless, many researchers and practitioners criticized the Stanford Model. Huber and Ward (1969) reported that it was difficult to organize the microteaching session in a laboratory setting because students are not easily available to participate and provide feedback since they spend all day in school. McGarvey and Swallow (1986) questioned the model's behavior modification approach to teacher training; they asked "could a complex skill like teaching be learned by dividing it into simpler component skills or behaviors and practicing these? (p.5)" Nash (1972) said that specific behavior modification disregards individual values and social context of an individual teacher.

Mini courses: FWL

Between 1966 and 1976 using *a scaled down approach* (Stanford Model) of specific skills and feedback mechanism of microteaching, the Far West Laboratory of Educational Research and Development (FWL) developed *mini courses* on different subjects for in-service teacher trainings. Borg, Kelly, Langer and Gall (1970) called the mini course "a new type of auto-instructional package of microteaching" (p. 32) that excludes the feedback of supervisor and participants and relied solely on videotape feedback.

In 1971, educators from United States, Norway, Great Britain, West Germany and Japan met in Paris to examine the microteaching material developed in FWL, and to design a transfer project[1] on this material (Center for Educational Research and Innovation (CERI, 1975).

Teachers were provided with a guide of instructions and videotape to show them the use of a specific skill. Then the teachers prepared a lesson and practiced the skill in the classroom, and recorded the classroom session for self-assessment

[1] Transfer project was implemented in the following universities in different five countries:
Netherlands- University of Nijmengen (Effective Questioning, Elementary level)
University of Leiden (Higher Cognitive Questioning, Intermediate & Advance level)
Sweden- University of Goteborg (Effective Questioning, Elementary level)
Great Britain- University of Lancaster (Higher Cognitive Questioning, Intermediate & Advance level)
Germany- University of Tubingen (Higher Cognitive Questioning, Intermediate & Advance level)
France- University of Paris VIII (Higher Cognitive Questioning, Intermediate & Advance level)
Norway- University of Trondheim (Organizing independent learning, Primary level)

on a special evaluation form. After this they followed the same review and re-teach process in front of a different group of students to get different perspectives.

After four years the transfer project was successfully completed. According to CERI (1975) report

> *It needed more careful and critical look at the aims and practices of their own system. Innovation in the ongoing teacher training programs of participating countries, therefore, may have moved more rapidly than otherwise might have been expected (p. 62).*

India is one of the countries in Asia where this technique developed in Lancaster, UK, was tried out in the early seventies at the Technical Teachers' Training Institutes, Madras. The list of skills defined by Allen & Ryan (1969) was emphasized and the outcomes were later studies at national level institutions like the CASE (Center of Advanced Study in Education) University of Baroda (Passi, 1976).

CERI (1975) reported: "since no administrator or supervisor is required to conduct a mini course, and since no one needs to see the teachers' taped practice sessions, the mini course has proved comfortable and non-threatening to thousand of teachers" (p. 14).

Nonetheless, some researchers criticized the mini courses because the lack of supervision eliminated accountability and resulted in poorer teaching. Little attention was given to the appropriate use of the skills, and the focus on the teacher ignored student's perspectives. The mini course model neglected the real purpose of microteaching (Nash, 1972), and sometimes resulted in fleeing, inconclusive learning gains (Brusling, 1972). Moreover, Perrott et. al., (1974) pointed out that

direct adaptation or transfer material does not account for the important social and cultural factors of particular countries and different contexts.

Microteaching without Hardware Development: Malawi

Microteaching has been transformed when adapted into the low resource context of much of Africa. The model has been exported to the real situation in different universities, including: University of Botswana, Lesotho and Swaziland, the University of Dar-e-Salaam, University of Nairobi, University of Zambia, and the University of Malawi (Lawless, 1971). The University of Malawi first offered demonstration lessons in 1968 program in which students taught and later discussed lessons with peers in a simulated class. The students were asked to prepare 25-30 minutes of lesson in cooperation with the tutor and two fellows, with an emphasis on three basic skills including orderly presentation of material, questioning, and pupil involvement. Then they were asked to teach the lesson for 10-15 minutes in the presence of tutor, observers, and other fellows. After observation, everyone discussed for 15 minutes and shared their assessment about the planning, implementation and evaluation of the lesson. After two years, the University of Malawi proposed a microteaching practice mainly focusing on the presence of real students, and the teach-re-teach model. This model included preparation and the teaching of two micro lessons of approximately 40-45 minutes, followed by 15 minutes of discussion with participants, and concluding with a revision of the lesson plan. The lesson is then re-taught after half an hour.

Perlberg (1972) stated that, despite not having video recorded assessment, this model provided students with effective feedback of three student observers and a tutor. Evan (1970) also demonstrated that the teaching of two full micro-lessons in one microteaching session provided participants a full scale teaching practice. According to Lawless (1971) this model would have been more effective if the student had a chance to self-asses after watching the video recording.

Dynamic Skills Model: University of Chicago

Later, at the University of Chicago, Guelcher, Jackson & Necheles, (1970) established a dynamic skill approach to microteaching focusing on two fundamental features of teaching: the content or subject knowledge and the behavior of the teacher. Guelcher, et.al. (1970) claimed the Stanford model failed to maintain the connection between the skills, and their rationale and relevancy to a teaching context. They viewed teaching skills as a learning dynamics associated with ongoing teacher-student relationships. This group of University of Chicago researchers stressed the connection between the lesson and the teaching competency being developed over the aims of a particular lesson. The central focus was on the process of learning, not the outcomes.

The *Dynamic skill model* was designed to improve *lesson-planning skills*, followed by an *actual microteaching session*. The subject matter component of lesson planning served as a context for practicing a specific skill. The *lesson planning skills* were incorporated with the following five stages in this approach; i) practicum, in which the significance and characteristics of good lesson planning is taught, ii)

peer group microteaching, in which the lesson plan is practiced, iii) a seminar on the supervision of microteaching, iv) a seminar on the logic and input of the skills, and v) discussion between tutor and novice about nature of the lesson to be taught and the standards for evaluation to be used. After mastering the lesson planning skills, they applied the actual microteaching session of teach-review-re-teach (Pereira & Guelcher, 1970). According to McGarvey and Swallow (1986) this style of microteaching was used successfully in teacher training programs for some years.

Social Skill Model: New University of Ulster

Brown (1975) offered a modification of microteaching at the New University of Ulster based on the theoretical framework of Argyle's Social Skill Model. McGarvey & Swallow (1986) criticized the Stanford model for failing to address the social skills essential to communication between teacher and student. Argyle (1970) claimed that microteaching could be valuable method of helping novices practice the social skills necessary to teaching and healthy social interaction. This peer microteaching system was built on the original skills outlined by the Stanford model, but with an emphasis on social skills essential for the development of interpersonal behavior of teachers. Moreover, in this system, novice teachers were taught to learn the specific aspects of the planning, perception and performance aspects of teaching (McGarvey & Swallow, 1986). However, the organizational arrangements were also modified from the Stanford Model. Due to the large number of students enrolled in microteaching groups, the re-teach sessions were dropped, which later resulted in diminished interest among the novices. It was

getting hard for them to follow up and assess the improvement in their teaching skills (Brown, 1975).

Mini-teaching: Ulster College, Northern Ireland

Hargie, Dickson and Trittmar (1978) integrated Argyle's social skills model with the teaching skills outlined by the Stanford Model to develop another format of microteaching called *mini teaching*- an extension of the microteaching format. This model was designed to bridge the gaps between social skills training and classroom teaching. The length of the lesson was increased gradually from 5 to 30 minutes, the final session involved the student teaching in a normal classroom setting, and the participant was given both video and tutor feedback. Hargie and Maidment (1979) assert that the mini teaching model helped teachers recognize the importance of teaching skills in action, and supported the teaching-learning process.

The Simplified Model of Microteaching: Namibia and China

Namibia transformed the simplified Malawi model further in response to in-service teacher training needs. Later, China proposed this simplified model on a national level as a modernizing teaching practice. According to Allen and Wang (1996), three new concepts were added to this simplified microteaching model, including:

1. **Self-study groups** of four to five students were formed following the peer microteaching model and the students rotated the role of supervisor and observer among the group.

2. **2 + 2 evaluation protocol** introduced teaching skills to participants based on three media: face-to-face teaching, multimedia presentation, and the provision of reading the skill-related material. The participants were asked to present microteaching followed with peer feedback in the form of two compliments and two suggestions for improvement.
3. Supervision of a tutor was substituted by **"Peer Supervision"** with the rationale that 2+2 evaluation from peers provides enough feedback that could replace the traditional role of supervision.

This simplified version of microteaching has been broadly adapted in USA and other contexts. It is considered an effective and inexpensive model that can be easily adapted in low resource context and can achieve results similar to those of the original microteaching model (Allen & Wang, 1996).

The Component Skill Approach: Sydney Micro-skills

After a decade of experimentation of the Stanford model, Sydney University introduced a microteaching approach focusing on basic observable teaching behaviors that contribute to the effectiveness of classroom teaching. The skills included: reinforcement, questioning, variability, explaining, setting induction, closure, discipline and classroom management, small group and individualized teaching skills, and skills related to developing students' thinking through discovery learning and creativity (Turney, Clift, Dunkin, & Trail, 1973). The selection of these component skills was based on the needs of the novices observed by the teacher

trainer, and assessment of those needs in the light of up-to-date research and theory of teaching.

According to Turney, Cairns, Williams & Hatton (1975), the skills emphasized by the model were used to develop a practical understanding of teaching based on a research-driven practice of learning. However, McGarvey and Swallow (1986) state that in this approach " a relationship was often sought with a curriculum and tutor so that trainees might obtain practice in the method particular to their chosen area of teaching interest, the behavior modification approach was being justified in terms of its limitations" (p. 12).

Microteaching Lesson Study (MLS)

Fernandez (2005) introduced Microteaching Lesson Study (MLS) by combining the simplified features of class size and lesson time from microteaching with collaborative and cyclic feedback aspects of Japanese lesson study (Lewis, 2002). According to Fernandez and Robinson (2006) MLS is "a cooperative learning experience intended to challenge prospective teachers' thinking about teaching and learning, and encourage their connection between theory and practice" (p. 203-204). Unlike individual teaching performance in microteaching sessions, in Japanese lesson study the teachers are divided into sub groups of four to six people to mutually develop, implement, analyze and review their lesson planning and teaching practice (Fernandez, 2002). In MLS, the supervisor chooses the topic for the group depending on their existing level of knowledge and understanding of certain topics. Unlike Japanese Lesson study, in MLS the lesson study is videotaped

to help the supervisor and students review, reflect, and analyze the lesson (Fernandez, 2005). Moreover, the lesson is taught in a small class of five to ten students, mostly peers, for 25 to 30 minutes (Fernandez, 2010).

MLS has been an effective teacher training techniques for pre-service teacher training programs for the last ten years of its application in the U.S. (Fernandez, 2010). The benefits of MLS include the improvement in content and pedagogical knowledge, growth in observation and reflection, mutual understanding, and collaboration among participants (Fernandez, 2010; Fernandez & Robinson, 2006; Parks, 2007; Post & Varoz, 2008). However, Roxanne (2012) emphasizes that the facilitator or mentor does not provide a continuous support to the group, which can affect the participants' learning in this entire process.

Learner-Centered Microteaching (LCMT)

Referring to the contemporary practices of microteaching in PD, Kilic (2010) emphasizes *Learner-Centered Microteaching* in teacher education. LCMT follows the original Stanford Model of teach-review-re-teach. An important difference from the Stanford Model is voluntary rather than mandatory participation in the second cycle. The model comprises three stages dependent on individual students' preferences that include: thinking processes, activities (microteaching), and a series of other stages— decision making, planning, application, evaluation, and reflection of the learning (Kilic, 2010).

The emphasis on individual preference helps participants be more comfortable and results in reducing the anxiety associated videotaping in first cycle

compared to the other microteaching models (Brown, 1975). Nonetheless, Akalin (as cited in Kilic, 2010) claims that in LCMT the lesson planning and reviewing is done individually, and therefore it is less effective than the microteaching model in which the main focus is to improve teaching skills through feedback from supervisor and participants.

Research Implications and Uses of Microteaching in other Fields of Study

Many of the research reviews and empirical studies were undertaken in the social sciences. Additional models, from other disciplines, have been developed to improve skills in pre-service and in-service teacher education. Empirical research confirms that microteaching can be used successfully for the development of other human relation skills. The research of Ivey (1971) shifts the paradigm of this innovative teaching approach to the education of counselors and psychologists. He identified several microteaching skills, which are related to the skills essential in the field of counseling. For instance, each novice counselor applies some specific skill and gets instant feedback on his/her performance. Furthermore, aspects of microteaching, such as written description and video recording to assess performance, were introduced into the field of micro counseling. Therefore, Ivey used the term *"micro-counseling"* in his book.

Likewise, Ananthakrishnan (1993) reviewed the use of the microteaching approach in medical teacher training programs. According to Ananthakrishnan (1993), medical teachers do not have any pre-service teacher training, and therefore they rely mostly on observing other teachers, and practicing skills in a trial and

error process. Feedback is not an essential part of Ananthakrishnan's approach to medical teacher training program. An unsupervised observation has a risk of poor outcomes, and trial and error is a waste of time in a classroom situation. She concluded that

> *The conventional methods, therefore, fail to be ideal for training medical teachers. Microteaching, which was evolved by Alien and his group in the late sixties to improve the skills of teachers, is an excellent vehicle of providing medical teachers with an opportunity to improve their teaching skills (Ananthakrishnan, 1993, p. 143).*

Cook and Brown (1968) adapted the original Stanford Model of microteaching and reported the experiences of business education teachers at Wayne State University, Michigan. They described that microteaching is an appropriate and effective approach for the PD of business educators. However, unlike teachers from social sciences, the teachers in the field of business put more emphasis on specific content related to business rather than the competencies outlined in the Stanford Model.

Thus, microteaching has been used and is applicable not only for the training of teachers who teach social sciences but also could be used in other fields of studies with specification of certain teaching skills suitable with the needs and requirements of the certain field. The use of microteaching has become more flexible in its components and features, including longer lessons, varying the number of participants, peer group study, location/setting, and feedback procedures. Moreover, micro peer teaching is one of the most applied forms of the

original Stanford Model of microteaching and has been effectively adapted in various situations in different time periods.

The empirical and theoretical literature over the years that I have reviewed for my research has tested the effectiveness of microteaching and its value as an approach in the professional development of teachers, particularly pre-service novice teachers. It was interesting to note and exciting to explore the notion that, despite some criticism, microteaching has spread very rapidly around the world and is extensively used in different contexts, and in different forms for the PD of teachers. In order to explore the effectiveness and rationale for the rapid growth of this approach, I will review in the next section the literature that demonstrates supports as well as criticisms for key aspects of microteaching.

Research Evidence about Key Features of Microteaching

Across the various models for microteaching that have evolved, there are three key aspects of microteaching that have been more extensively researched:

1. Skill/competency acquisition
2. Setting a safe environment
3. Feedback mechanisms

Feature 1: Activities to Help Novice Teachers Acquire Teaching Skills (the Goal of Microteaching)

There is seemingly no end to the myriad and complex teaching skills a novice teacher must acquire to achieve mastery of their craft. When pondering what the

skills and competencies that teachers must learn and master, Evan's (1970) stated that "skill" is not a single set of behaviors for a certain situation, but rather, is a range of alternatives to different situations. These skills range from hard curricular skills, such as lesson planning and materials design, to soft non-curricular skills, such as giving students feedback and creating a healthy class environment, from planning to implementation and assessment skills, and from managing discipline in the classroom to engaging students in learning activities.

Freiberg (2002) proposed that most novice teachers learn about teaching skills through trial and error, which often takes many years. As a result of this chaotic process of learning, an unprepared teacher either leaves the profession or finds other ways to promote the learning of students without proper dedication towards this profession. Teaching is a profession that needs to document and share best practices of teaching learning processes. It is very hard for novice teachers to acquire all of the teaching skills across the continuum of quality teaching in their early years of teaching.

Microteaching provides novice teachers an opportunity to concentrate, practice and improve one particular teaching skill (Cooper, 1986) at a time. During microteaching practice, novice teachers repeat the same lesson twice in one session, which allows them to practice and learn difficult skills demanded by regular classroom settings. Allen and Ryan (1969) initially listed fourteen skills or competencies that novice teachers should acquire including:

1. ***Stimulus variation*** is the teacher's ability to motivate the students, improve their participation, and avoid boredom.
2. ***Closure*** is a process to connect what has been learnt, and what still needs to be learned.
3. ***Setting induction*** is a process of gaining students' attention at the beginning of the class.
4. ***Silence and non-verbal cues*** help teachers avoid continuous interruption in the discussion while keeping the discussion flowing.
5. ***Reinforcement*** is recognizing students' difficulties, listening, encouraging their participation, and responding to them.
6. ***Questioning skills*** deal with the fluency in asking, passing, and adapting questions.
7. ***Probing questions*** are used for going deeper into students' initial responses and leading them to a more detailed response by asking leading questions.
8. ***Higher order questions***, which strengthen the higher order thinking skills of students by asking them questions with a range of possible responses.
9. ***Divergent questions*** help teachers to develop divergent thinking of students, and in response they generate a wider variety of ideas.
10. ***Recognizing attending behavior*** helps teachers to overcome the individual differences by identifying the appropriate behavior to respond in the classroom situation.

11. ***Illustrating and use of examples*** is one of the most important skills for clarifying, verifying, or substantiating the concepts being taught by beginning with simple examples and progressing to evermore-complex ones.
12. ***Lecturing skills*** help teachers to gauge the challenge of students' engagement and attention in a concept through lecturing techniques.
13. ***Planned repetition*** is a practicing skill to help teachers develop various ways to repeat their main ideas, concepts, or key facts, in order to help the student "over-learn" the material.
14. ***Completeness of communication*** expresses the facts required by the students in order to clarify the concerns allowing a continuous smooth discussion of ideas.

Since then countless variations have been made in microteaching skills. Among the pioneer researchers of microteaching effectiveness for skill development, Young and Young (1968) investigated the use of microteaching for both novice and expert teachers in both pre-service and in-service PD programs. Research has been undertaken on the microteaching program offered by the University of Maryland. A major focus of this center was to modify teaching behavior through the process of inquiry. Microteaching was integrated into that program at different levels, including courses offered i) during college education, ii) and/or during the first year of the teaching experiences, iii) as well as simultaneous teaching in regular classrooms. Through a series of seminars, novice teachers learned and practiced a few fundamental teaching competencies in a microteaching

session. The research concluded that microteaching helped both the veteran and novice teachers to explore and adapt new teaching competencies. For the novice teachers, it proved a golden opportunity to reduce many of the disturbances, obstacles, and disappointments that they usually faced in the first years of teaching.

Kallenbach and Gall (1969) compared the performances of student, who were trained through microteaching method of teaching and the performance of student teachers, who were conventionally trained. Thirty-seven students were selected by the Education Department of San Jose State College to begin a summer internship program to certify them as elementary teachers. The sample group was heterogeneous in terms of gender, age, years of experience, level of education and marital status. The sample was randomly divided into two training groups- with half participating in microteaching and the rest partaking in the regular student teaching program. Both groups were taught the same course work for 10 weeks in methods, curriculum, and learning theory, and the practicum experience was offered through microteaching. The conventional student teaching group was sent to elementary schools, which had summer school programs to teach 10 hours a week for an average of 5 weeks in the classroom. The microteaching group participated in the sessions for one hour per week for a period of 7 weeks. Both the groups were taught specific teaching skills in the areas of lesson preparation and presentation. However, only the microteaching group was asked to prepare a short lesson to practice in microteaching session to 4 or 5 students. Their teaching was videotaped and reviewed by their supervisor. After the summer training program, participants

from each group were required to teach a five-minute lesson to a group of four to six elementary school students.

It was found that microteaching was not superior to the conventional training methods in its effect on teachers' classroom performance. However, microteaching was more efficient as a training approach because it accomplished comparable outcomes with traditional training methods in only one-fifth of the total time needed for traditional training. Moreover, microteaching does not involve administrative cost and challenges that are found in conventional classroom observation.

Saunders, Nielson, Gall, and Smith, (1975) examined the effects of Higher Cognitive Questioning skills, which was the skill focused on during the microteaching sessions with novice teachers at Utah State University. The sample of the study was comprised of pre-service trainees including juniors, seniors, or graduate students enrolled in a required, introductory education class at the university during the fall, winter, and spring terms of the 1970-71 academic years. The selected sample was randomly divided into two groups. It was a microteaching group who followed only the mini-course format, a comparison group who received classroom observation, peer microteaching, and lecture-discussion over three different semesters. The data indicated that groups who studied the course materials and, in addition, did some form of microteaching made greater use of higher cognitive and probing questions, and they were able to elicit longer student responses after training. Observation and lecture-discussion, traditional mainstays

of pre-service programs, were not effective in this skill acquisition program. However, peer microteaching did have a positive impact.

Peterson (1973) also explored the use of the microteaching approach for the acquisition of questioning skills in pre-service teacher training. Twenty-four novice teachers from Gonzaga University were randomly assigned to two groups of twelve with different treatments. In treatment I, teachers participated in a mini-course of microteaching concepts. This mini-course was based on the twelve different questioning skills or behavior, including: i) asking questions and calling students with a break of 3-5 seconds, ii) dealing with incorrect answers, iii) calling both volunteer and non-volunteer students to participate, iv) redirecting the same question to different students, v) framing questions that required long responses vi) framing high cognitive questions, vii) prompting viii) asking for clarification for insightful answers, ix) refocusing, x) avoid repeating own question, xi) avoid answering own question, and xii) avoiding repetition of students' answers. This mini-course was implemented in four different instructional activities. The first activity consisted of watching a lesson for 20 minutes in which the first three behaviors were discussed and demonstrated. In a second activity students watched a 10-minute film on three of the behaviors and were then asked to recognize the behaviors on a checklist. After recognition of three skills, students were asked to prepare a short discussion lesson to practice these skills. During the third activity the students taught the planned lesson with four to eight students through microteaching technique. These lessons were recorded and then replayed after each lesson to observe the use of those three skills. After viewing the recorded videos,

students were asked to re-plan the same lesson. Students repeated the microteaching lesson in the final activity as well, and the performance was recorded and reviewed again.

In treatment 2 there was no microteaching, instead students watched an instructional film and were provided handbooks to practice the behaviors. After a week, all the students were asked to prepare a 20-minute discussion lesson using the twelve specific teaching behaviors. Each discussion was recorded and two evaluators gave feedback for each of the videotapes. The study concluded that the microteaching paradigm was not effective in changing the questioning behavior of student teachers in their actual classroom settings. But the students who received the treatment of microteaching were more aware of the use of the twelve behaviors and were better able to implement them in small group settings.

I believe one potential flaw in the methodology of this study is that it is not comparing like to like, in that those exposed to the microteaching were accomplishing the same tasks in 1/5 the time. It would seem reasonable to hypothesize that more significant gains may be observed between the participants in the treatment vs. control group over the course of a few years as opposed to just a few weeks. Specifically I would hypothesize that treatment I participants would last longer as teachers (less burnout) and have a faster learning curve for implementing these skills were researchers to observe the two groups of participants over a more longitudinal period.

Sadker & Sadker (1975) investigated the use of microteaching to develop human relation skills for pre-service teacher education programs funded by the University of Wisconsin. They proposed a program on the basis of eight identified skills for human relation development. These eight skills were categorized into three clusters[1]. In order to assess the effectiveness of this program, they asked each teacher to plan and teach a short lesson of five minutes to elicit the feelings and emotions of the students. Each teacher delivered the lesson with a small group of four sixth grade students. The teachers' performance was video recorded and evaluated. The whole group of teachers was then equally divided into two small groups for an experimental and a control group via random selection. Both groups were taught three human relation skills; how to set up inventory questions, how to reflect on students' feelings and values, and how to reinforce their feelings and values. The experimental group learned the skills through microteaching and was provided with videotapes and supplementary material to learn. However, the control group learned these skills through discussion and lecture. After the treatment, each participant was asked to teach a five-minute lesson and their performance was video recorded and evaluated. Comparison of the two groups revealed that the microteaching approach was more effective for teaching human relation skills compared to the traditional models of teaching.

[1] Cluster I was designed to elicit the student's expressions of feelings and values, and it was comprised of four skills including; attending behavior, initiating the affective situation, asking inventory questions (focused on here and now in order to help students for self-observation), and reinforcing pupils' expressions of feelings and values. Cluster II was designed to clarify student's expressions of feelings and values based on three skills including; reflecting student's feelings, asking clarifying questions, and identifying discrepancies. Cluster III was focused on one skill; to encourage the alternative behaviors to their learning.

Berk, Hiebert, Jansen, and Morris (2007) found the Stanford microteaching skills not exclusively responsive to the needs of higher education faculty. They proposed a similar framework of skills that are highly appreciated by recent practitioners because it provided a purposeful and systematic way of effective teaching. These competencies include: (a) setting learning goals for students, (b) assessment of goal accomplishment during the lesson, (c) identifying the hypotheses for why the lesson did or did not work well, and (d) using the hypotheses to revise the lesson. Turney, Cairns, Williams and Hatton (1975) underscored the importance of the adult learner and proposed to include research-driven teaching skills related to developing students' thinking through discovery learning and creativity in microteaching skills.

Feature 2: Safe and Conducive Learning Environment (A Characteristic of Microteaching)

To achieve the goal of acquiring teaching skills and competencies, the laboratory setting of microteaching has taken into consideration the creation of safe spaces in which teachers can practice their craft. This controlled laboratory setting allows for practice before having learning in a potentially threatening environment within a regular classroom situation. Research also supports the argument that novice teachers learn effectively and more confidently if they practice the teaching skills first in precise, limited, (Metcalf, Hammer & Kahlich, 1996) and well-organized supportive environments (Minton, 1997; Amobi & Irwin, 2009). Nevertheless,

Copeland (1977) highlights that "training in laboratory settings alone is not sufficient to insure student teacher behavior change" (p.154-155).

Copeland and Doyle (1973) explored the influence of laboratory skill training on classroom teaching performance. Fourteen college senior student teachers who were enrolled in a social sciences course, were taught different questioning skills; higher-order questions, probing questions, and divergent questions in the first half of the semester. The groups were then randomly divided into an experimental and a control group. A pre test was administered to the whole group, but only the experimental group participated in the six week microteaching training by following the Stanford teach-review-re-teach model. Each participant completed three cycles of microteaching in the presence of a supervisor and received feedback for the improvement of teaching the skills. After six weeks all students were asked to plan and teach 15 minutes of a micro-lesson. Their performances were recorded on a post-test. After seven weeks both the groups taught in a real classroom setting and their teaching was observed through a coding system. The results indicated that novice teachers showed considerably higher levels of teaching competencies in the artificial limited setting of microteaching, but they did not apply most of that learning in a regular class. Hence, the study concluded that skill training in the laboratory might not be enough by itself to increase the effective teaching performance in the classroom.

Amobi and Irwin (2009) investigated the importance of using the microteaching approach in an on-campus clinical setting instead of sending teachers to real classrooms in the schools. In order to claim the effectiveness of on-campus

microteaching practice in promoting the reflective and effective teaching, they reviewed literature related to role of field-based teaching experiences; the limitations of field based teaching practices, and the features and effectiveness of on-campus microteaching. They stated that:

> *On-campus microteaching with its practice of scaled-down teaching, feedback and self-analysis, offers a unique context for grounding pre-service teachers in the development of effective and reflective teaching. These characteristic attributes of microteaching appear to have been elusive for teacher educators because the emphases in microteaching seem skewed toward providing an opportunity for pre-service teachers to practice teaching skills (p. 32).*

Higgins and Nicholl (2003) reported the experiences of two novice teachers who used microteaching techniques to learn presentation skills, and found that "microteaching has the potential to facilitate student teachers to develop teaching, assessment and feedback skills in a safe and supportive learning environment" (p. 226).

Feature 3: Feedback Mechanism and Self-reflection (A Component of Microteaching)

Microteaching greatly expands the feedback dimension in teaching. Provision of feedback to novice teachers about their teaching performance is a very important component of microteaching. Cooper and Allen (1970) called attention to the significant aspects of this scaled-down approach, and declared that it was one of the teaching approaches that allowed teachers to learn specific teaching skills with immediate feedback on their performance. A multi-layered feedback mechanism involved human feedback from the students/ peers, feedback of supervisor/ trainer, and recorded image of one's teaching performance.

The first part of this mechanism—peer observation in the microteaching process—provided an exciting and inspiring opportunity to learn. McLean (2006) argued that peer observation not only provided an insightful and reflective learning experience to the novice teachers, but also supported the progress of creativity, innovation and practicality in early years of teaching. Huber and Ward (1969) used the teaching competencies outlined by Allen and Ryan (1969) to develop an eight-week microteaching course for pre-service teacher training at the University of South Dakota. The course followed a "teach, critique, re-teach and re-critique" cycle, using mechanisms of video recording and observation of both peer students and real students from the school. They found that student teachers developed an encouraging, productive, and responsive fellowship with each other because of the peer feedback mechanism used in microteaching.

Vander, Kloet and Chugh (2012) questioned the "peers feedback" feature of microteaching and its value to constitute good teaching. One of the authors served as Microteaching coordinator at the University of Toronto, and the North American postsecondary education institutions evaluated the program. They examined ten evaluation forms to review and revise the microteaching program. They found that peer evaluation and feedback facilitated the novice teachers in recognizing, and hence accomplishing, the essential competencies through a thoughtful process. Moreover, they stated that:

> *We imagine microteaching as a teacher training method that can do more than reproduce established modes of teaching and instead serve as a site where it is possible and desirable to experiment with new forms of teaching and learning (p.609).*

I'anson, Rodrigues, and Wilson, (2003) stressed the effectiveness of peer feedback by quoting:

> *Microteaching is a heuristic procedure that offers no guarantees, unlike an algorithm, which, if followed accurately guarantees a solution. It is also something that warrants a shift from viewing self and agency from one's own lens to viewing oneself through the eyes of another. This awareness of other perspectives, and openness to a genuine dialogue with other points of view, may result in deeper participation within a community of practice (p. 198).*

Moreover, the second part of the feedback mechanism—supervisor guidance—helped novice teachers scrutinize the aspects of their own performance by introducing expert opinions about effective teaching. The role of the supervisor had a major influence on the learning of novice teachers because supervisors not only provided guidance but also offered an opportunity to discuss the concerns of teaching (Brown & McGarvey, 1975).

The third part of the feedback mechanism—recording video—provided novice teachers an opportunity to review their own performance in order to identify the methods that work and the methods that need more refinement. In microteaching sessions novice teachers view the videotaped lesson for the purpose of assessing their own teaching, making themselves comfortable, and becoming motivated to self-analyze and engage in reflective practices. Once the video is recorded, the novice teacher can review it over and over again, which develops the patience to accept one's mistakes, making it easier to consider peer feedback in a positive and friendly manner.

The recording of teaching performance promotes insightful and constructive self-analysis that helps to begin a beneficial discussion about events and behaviors

that are easily avoidable in the usual teaching/learning environment (Joshi, 1996, Olivero, 1970; Gross-Davis, 1993; Wilkinson, 1996; Minardi, 1999; Jacques, 2000; Stevens, 2007).

Recent research done by Donnelly and Fitzmaurice (2011) strongly advocated the use of videotape towards productive reflective practice in microteaching. They state that well equipped classrooms articulated an effective meaning to the teaching learning process, and it is very important "to view and listen to one's teaching performance from the students perspective—it is a very valuable experience " (p. 34).

However, there is some disagreement about the effective use of video recording in microteaching. For instance, He and Yan (2011) examined the use of microteaching method in EFL (English as Foreign Language) training for novice teachers in China and concluded that the use of technology in microteaching classrooms appears only to be a way of displaying the competence of novice teachers; therefore, the purpose of the technology was regarded as superficial and unproductive. Stanley (1998) analyzed that the engagement of novice teachers in self-reflection may result in painful experiences because self-scrutiny (Carlson, 1996) is a difficult task especially when teachers are positively inclined to learn new things. Ajayi-Dopemu and Talabi (1986) compared and contrasted the effectiveness of video recording in microteaching programs offered for 40 novice teachers in Nigeria. The novice teachers were taught the skills of oral questioning, techniques for visual presentation, and non-verbal skills. After that in microteaching sessions, one group received feedback from video recordings, but the performance of the

other group was not recorded. The study found out that the teachers whose performance was video recorded and discussed, performed significantly better in acquiring teaching skills through microteaching than those who did not use video recordings. Later, in 2001, Kpanga replicated this study again in Nigeria with a sample of forty teachers and confirmed the earlier findings and concluded that microteaching is less effective without the use of video-recordings because the novice teachers had not acquired the ability to recognize errors in their own teaching performance.

With the innovation of video technology, it is becoming easier to use mobile phones, handy cams and digital cameras to record and review videos easily. One can now use a myriad of Microsoft tools that facilitate the video recording process, and "video annotation tools offer teachers the ability to see, as well as to analyze and refine, practice prior to, during, and following formative field experience" (Rich & Hannafin, 2009, p. 65).

Hence, microteaching offers novice teachers the prospect of receiving productive feedback in order to improve their teaching skills in a fairly safe atmosphere. This short but meaningful training activity possessed effective features that help the novice teachers to unpack the actual purposes of learning by getting feedback and, thereby, maximizing their insights both as an effective teacher and self-reflective practitioner.

In the following section I will first describe the research that supports as well as other research that disputes the effectiveness of microteaching for PD of novice teachers.

The Effectiveness of Microteaching for Developing Teachers' Skills

Supportive Evidence

Hargie (1977) reviewed an enormous amount of research to determine the effectiveness of microteaching for novice teachers. Based on research published in the first ten years after the development of microteaching at Stanford University, he looked at students' performance and concluded that microteaching is a more useful approach than other traditional methods of PD. Other researchers make additional claims that microteaching strengthens the knowledge and disposition of a new teacher (Allen & Richard, 1965; Cooper & Allen 1970; Cooper & Stroud 1967; Allen & Eve, 1968; Young, 1969; Hargie, 1977; Benton-Kupper, 2001; Higgins & Nicholl, 2003; Fernández & Robinson, 2006).

One of the contemporary and most cited comparative research studies that proclaim the effectiveness of microteaching for novice teachers was done by Benton-Kupper in 2001. Fifty-three student teachers from various disciplines, English, Mathematics, Social Sciences, Education, and Arts, who participated in a one-month microteaching course, were asked afterwards to fill out an evaluation survey. The results of the analysis showed that after participating in microteaching, these teachers were better able to both recognize their strengths and weaknesses as well as to differentiate between the level of competency achieved and the expected

level required to be an effective teacher in a regular classroom setting. McGarvey and Swallow (1986) also proclaim that practicing a specific teaching skill in a short lesson with swift feedback provided for a significantly shortened learning cycle as compared to the conventional teaching practice in a classroom. This meant that novice teachers could receive more support and have more information about their performance more quickly. They would also have more opportunities for repeat practice and for developing their powers of perception and analysis. Thus, microteaching was intended to help students improve their teaching skills and their self-confidence (p.2).

ŞEN (2009) explored the views of 39 novice teachers about the effectiveness of peer microteaching in Turkey, and found that participating in microteaching helps novice teachers overcome initial teaching anxiety in real classrooms. He further reported that "the prospective teachers saw this as an advantage and thought themselves lucky compared with those who could not experience microteaching" (p. 173).

Evan (1970) accentuates that:

> *When properly planned, [the] beginning teacher will find microteaching a simulating and rewarding climax to their training program instead of the traumatic and frantic experience which is all too often the case in the traditional approach to teacher training (p. 17).*

Furthermore, microteaching helps novice teachers to connect the theory with practice and receive spontaneous results. Rebecca Farris, who taught microteaching at the Education University of Nevada for several years, affirms that Micro-peer teaching for students include increased self-awareness for individual students,

improved performance on specific skills, heightened concern for performance evaluation, and increased self-confidence in presentation manner. The exercises allow students to practice their presentation style as well as specific skills (Farris, 1991 p. 560)

Consequently, Huber and Ward (1969) state, "microteaching may be mini in nature but it is mighty in effect" (p. 65).

Contrary Evidence

On the other hand, some research studies, demonstrate that microteaching rarely brings a change if it is practiced without an association with other effective teaching approaches. Notably, the research of Bell (2007) formed a discourse analysis on 22 (12–40 minutes long) videotapes from seven undergraduate prospective teachers of mathematics and six graduate students of TESOL. The selected participants were also asked to give their views about the purpose of the activity, role of the supervisor, and video recording through a questionnaire. Based on the findings of the research, he argued "microteaching is a highly complex, layered (laminated) task for the participants" (p. 37). He further added that peer-microteaching practice complicates the process of learning because the individual teacher feels a clash of identities as a student teacher, learner, and peer observer.

He and Yan (2011) explored teachers' perceptions about the effectiveness of microteaching for novice teachers. They asked 60 novice teachers who participated in the microteaching program, to write a reflective paper based on their experiences in microteaching with a focus on its effectiveness and drawbacks. On the basis of

participants' reflection and views about the microteaching program, the study concluded that it is a useful teacher training technique, but it does not provide a real classroom teaching experience. Moreover, this artificial teaching environment cannot help teachers to acquire classroom management skills and interactional strategies. Metcalf (1993) refers to microteaching as "just pretend," that it is not an authentic teaching and learning strategies for future teaching.

Moreover, Wagner (1973) found that microteaching, which basically ensures the learning of a particular skill by practicing, teaching twice, reviewing the lesson on videotape, and receiving feedback, does not bring significant changes in overall teaching behavior.

Other researchers criticize microteaching because it is difficult to organize (Brown & Amstrong, 1975); it focuses primarily on the holistic approach to skill acquisition and therefore ignores the needs of the individual teacher (Seidman, 1969).

In addition, novice teachers face difficulties preparing short lessons, and they consider microteaching an artificial (Brown & Amstrong, 1975), cosmetic, and ineffective (He and Yan, 2011, p.297) teaching approach. Microteaching follows the behaviorist approach (Nash & Agne, 1971) and ignores the social context of teaching (Nash, 1972). Brown (1975) reported that "the biggest critique of microteaching is that microteaching will produce homogenized teachers with standard smiles and procedures" (p. 17), which reduces diversity, and hence results in the development of standardized teaching (Wolfe, 1970).

Cost related to the use of technology, especially for a low resource context, was another critique of the microteaching design (Brown, 1975; He & Yan, 2011). However, Evan (2002) claims that even though there is a cost related to the use of microteaching, the developing countries cannot afford not to investigate and adapt new approaches.

After reviewing the literature about the rationale and effectiveness of the microteaching approach for PD of novice teachers, one might conclude that microteaching should not completely replace traditional PD practices such as training and workshops. However, the overall review of the literature suggests that microteaching is one the most common practices used in teachers' PD programs, one that enables teachers to get direct feedback in a system of controlled practice (Perlberg, 1972; Allen & Eve, 1968). Teachers can observe and improve their teaching competencies in a comfortable learning environment (Politzer, 1969) with a higher degree of confidence, support, and feedback (Zepeda, 2008).

As part of my dissertation process I conducted a pilot study with a small sample set of novice faculty who participated in different Batches of microteaching module. The purpose of this study was to understand the microteaching skills, activities, features, and various processes during the MT-FPDP. The result of this study showed that microteaching is an effective approach in its application for novice higher teacher faculty development. In an unexpected development, the collaboration among teachers in microteaching helped inspire and establish a professional network at the national level. The interview participants suggested that the program incorporate in the future teaching skills that higher education faculty

need the most in order to create a more procedural and systematic model of microteaching in Pakistan. The results of this study primarily guided me in proposing my dissertation research. (*A detailed map of study findings is attached as Appendix C)*.

Microteaching Model in MT-FPDP- Context of Pakistan

Master Trainer Faculty Professional Development Program (MT-FPDP) is one of the most expensive 8 to 12 week certificate programs conducted by The Learning Innovation Division (LID), the teacher-training wing of the Higher Education Commission (HEC) Pakistan. It is a residential program for small "Batches"[1] of provided with travel and daily allowances. MT-FPDP is basically designed for novice university faculty members with less than five years of teaching experience.

Microteaching is the fifth component of the program, falling roughly in the 8th week. Before attending the microteaching module, novice faculty members participated in different teaching modules, including the Androgogical Skills module, which provides theoretical understanding of teaching skills and strategies for teaching adults. The Andragogical skills module immediately precedes microteaching module.

Microteaching Skills: MT-FPDP

The contextual analysis of microteaching use in Table 1 depicts that this model has evolved into different forms, using varied skills depending on the context and needs of the teachers. During the pilot study of this research, I interviewed the

[1] Batch is a cohort of the participants, who attended MT-FDPD.

project officials and a microteaching resource person to understand the objectives, processes, activities, skills, and features of microteaching model in MT-FPDP. I was told, and also the document provided to the participants confirmed, that LID has adapted the Stanford Model focusing on ten out of fourteen teaching skills listed by Allen and Ryan (1969). However, having studied the Stanford microteaching model and its comparison to other forms, I determined that these skills do not always relate exclusively to the skills outlined by Allen. Additionally, across such comparisons we see certain universal features, even when the terminology may be modified slightly between them (e.g. Presentation vs. Stimulus variation). Further we can see in the table below how MT-FPDP compared to Stanford Model has different foci/robustness for different skills, with some being occasionally omitted entirely in one or the other.

The following table will provide a comparison and demonstrate the differences between the skill sets of MT-FPDP microteaching module and Stanford Microteaching Model.

Table 2: Comparison of Microteaching Skills (MT-FPDP vs. Stanford Model)

MT-FPDP-Microteaching Skills	Stanford Model-Microteaching skills
1. Planning • Objectives vs. Contents • If you need to teach for 40 minutes you need 40 x 5 = 200 minute for planning. • Gathering the sources • Outline from A-to-Z • Possible bottle necks • Expected questions • Time budget vs. content • Method of attack (Methodology, Procedure of teaching) • Achievements of objectives • Evaluation of success through feedback (what will be the procedure)	
2. Setting induction • How to start • Learning readiness • Motivation • Known to unknown • Easy to difficult • Rapport • Questions • Activities by students / teacher • Incidents, Stories, Events • Experimentation • Localization	***Setting induction*** is a process of gaining students' attention at the beginning of the class.
3. Presentation • Clear concepts • Sequential organization • Exemplification • Linkages • Student's participation • Activities • Knowledge and Understanding • Logical Positivism	***Stimulus variation*** is the teacher's ability to motivate the students, improve their participation, and avoid boredom.
4. Questioning • Float the question over the heads of all participants. • Give time to think • Give option for answering (Volunteer) • Correct the answer if wrong • Be polite	***Questioning skills*** deal with the fluency in asking, passing, and adapting questions. ***Probing questions*** are used for going deeper into students' initial responses and leading them to a more detailed response by asking leading questions. ***Higher order questions***, which strengthen the higher order thinking skills of students by asking them questions with a range of possible responses. ***Divergent questions*** help teachers to develop divergent thinking of students, and in response they generate a wider variety of ideas.

5. Encouraging the students to question • Inquiry approach • Controversies • Brainstorming • Probing • Appreciating the questions	
6. Exemplification • Subject oriented • Environment oriented • Problem Solver • Relevance • Valid Examples	***Illustrating and use of examples*** is one of the most important skills for clarifying, verifying, or substantiating the concepts being taught by beginning with simple examples and progressing to evermore-complex ones.
7. Communication Pitch of the voice, Pauses, Speed, Linkages, Reference to context, Level of students, Fatigue and boredom (Avoid), Non-verbal Communication, Humor, Pronunciation	***Completeness of communication*** expresses the facts required by the students in order to clarify the concerns allowing a continuous smooth discussion of ideas. ***Silence and non-verbal cues*** help teachers avoid continuous interruption in the discussion while keeping the discussion flowing.
8. Methodology Lecture, Demonstration, Discovery, Laboratory, Practical, Activities, Computers, Discussion, Inductive, Deductive, Mastery learning, Peer teaching, Participatory learning, Inquiry approach, Problem solving, Seminar	***Lecturing skills*** help teachers to gauge the challenge of students' engagement and attention in a concept through lecturing techniques.
9. Judging the students' problems • Level of Students • IQ of students • Talented, Normal, Slow learners, Distributed students • Knowing individual differences, difficulties etc. and helping them out • Making the difficult concepts understandable for all • Guidance and counseling in problematic situations	***Reinforcement*** is recognizing students' difficulties, listening, encouraging their participation, and responding to them. ***Recognizing attending behavior*** helps teachers to overcome the individual differences by identifying the appropriate behavior to respond in the classroom situation.
10. Ending or summing up. • Summary of two minutes in the form of massage of presentation • Students usually remember it for longer time. • This may be in the form of one or two main points • Evaluate your teaching by one or two simple questions of that lesson • Application should be the focal point of end message	***Closure*** is a process to connect what has been learnt, and what still needs to be learned.

Upon examining the difference within this table, I further explored the implications for these oddities in my data analysis.

The Structure of Microteaching Module: MT-FPDP

During MT-FPDP's "microteaching" session there was more than just doing a short teaching activity with peers acting as students and receiving feedback. What I call "microteaching module" is the entire component of the MT-FPDP, which comprises two days of practice teaching (Day 1 and Day 5), and three days of training in teaching strategies and techniques.

The microteaching session proposed in MT-FPDP tracks the changes in teaching competencies of teachers through pre- and post-treatment assessment.

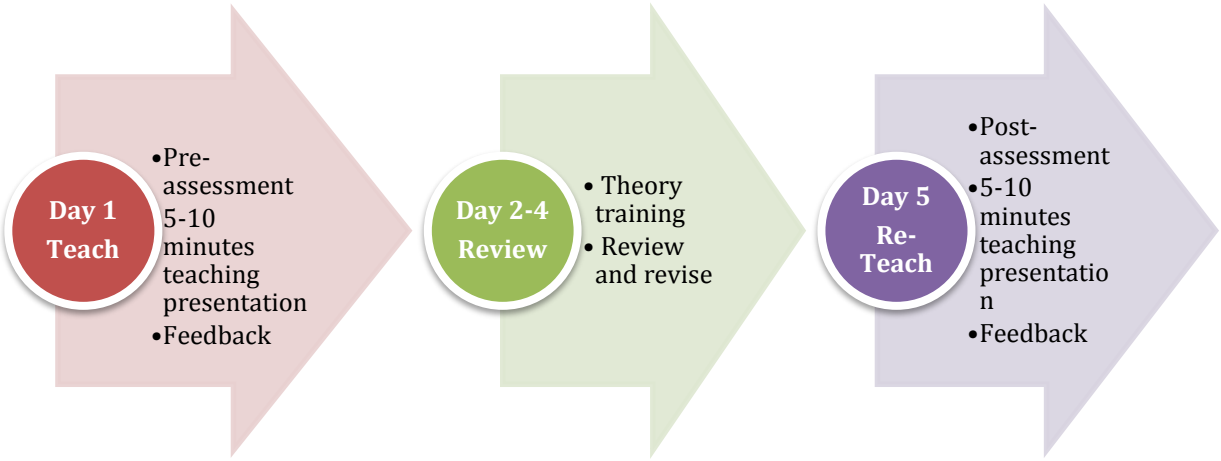


Figure 1: Structure of the Microteaching module: MT-FPDP

Day 1— *Pre-Assessment:* At the end of the Andragogical Skills module the participants are asked to submit a lesson instructional plan based on their area of interest or field of study. For example, a chemistry faculty might write a lesson plan on how to teach about the elements. On day 1 of microteaching each of the participants delivered a 5 to 10 minute lesson, based on this plan. Other participants, a supervisor and LID staff members observed their performance to assess their teaching competencies. While one participant takes his or her turn as a presenter, everyone else played the roles of students. The entire presentation of

each participant is video recorded. When finished, the presenter had a moment or two to react to his or her own teaching. Then everyone else joins in to discuss what they saw that they especially liked. Finally, the faculty member received feedback from the supervisor and other participants using the feedback checklist. All participants received their completed feedback checklist forms for self-analysis. The faculty members could also reflect on their own presentations by watching the videotaped recordings at any point after their presentation in order to rate the performance on the feedback checklist. Moreover, these video recordings of the microteaching were made available to participants throughout the program as well as after the program ended. The resource persons and program coordinator assumed that these recorded microteaching sessions helped the novice teachers to reflect on their continuous learning and helped them improve their teaching competencies.

Day 2, 3 and 4— *Innovative Teaching Techniques Practice:* After this initial practice teaching session, the participants attended three additional sessions per day (each two hours in duration) for three days to be exposed to theoretical knowledge about innovative teaching techniques and ways to improve teaching competencies. The supervisor, based on the participants' reflections during the first days cycle of practice teaching/feedback, asked participants what they wanted to work on, and then suggested lesson approaches and suitable topics as well as providing individual guidance for the preparation of the post-assessment teaching lesson. During these three days, each participant also created another practice

teaching lesson—either revising their original lesson or creating a new one—, which they then teach on Day 5 for the second Microteaching practice.

Day 5 –*Post-Assessment*: Finally, at the end of the microteaching module, on day five, participants again re-teach and repeat the entire practice teaching process to see if their teaching has changed. The supervisor and peers observed each participant, and provided feedback on changes in their teaching performance. This was also videotaped. Throughout the five days, participants were welcomed and encouraged to meet after the formal sessions each day, in the microteaching labs, with other participants to discuss what they had learned and planned, in order to get extra support and ideas from their peers.

At the end of Day 5, facilitators asked participants to complete the standard assessment form used throughout the 12 weeks at the end of every module, where participants give their assessment of how the microteaching module has helped them or not.

Conceptual Framework for Analyzing Microteaching

Teachers' professional development differed with the level of information processing and understanding of the students. The learning needs of primary school teachers are different from secondary-school teachers, which are different from higher education faculty. Higher education faculty are adults teaching adult learners—who are transitioning from an academic life to their professional careers.

In this section, I explored theoretical concepts relevant to adult learning, with the purpose of establishing a framework to design, implement and evaluate the

impact of microteaching model and practice for novice faculty members. There are a myriad of theories and concepts that focus on adult learning and its effective facilitation and so my discussion here is limited to three key theoretical perspectives including:

1. Adult learning theories/concepts: Knowles' Andragogy, possible selves, and transformational learning)
2. Reflection and reflective practices
3. Self-Efficacy.

All of these concepts are particularly relevant to analyze microteaching as a component of training, because they provide principles of how adults best learn

Adult Learning Theories/Concepts

Knowles' Andragogy

According to Knowles (1970), the pioneer of andragogy, it is a learner-focused theory. He claims that learners shift their perspectives and dispositions of learning as they grow in their age and field. This growth and maturity alters their choices, and they prefer to gain knowledge based on their intrinsic motivation and needs. Andragogy stresses features of independent and self-sufficient learning, which allows adults to connect their learning with their experiences (Knowles, Holton, & Swanson, 1998). Therefore, the principle that should be enacted as part of the microteaching module is: *adults learn best when they have control of their own learning.*

In addition to these, Knowles (1984) also stresses the notion of facilitating a safe learning environment for adults. He believes that learning a skill within a supportive environment can help the adults to understand the logic and value of its meaning. As a result, they are better able to apply the skill in a more confident way. Therefore, the principle that should be enacted is: *adults learn best when the learning environment is safe and supportive.*

Knowles (1984) recognized the following six principles of adult learning-adults are:

1. *Self-directed and internally motivated*
2. *Able to bring life experiences and knowledge to learning contexts*
3. *Goal oriented*
4. *Relevancy oriented*
5. *Practical learners*
6. *Needing to feel respected (p. 185)*

Knowles' assumptions of Andragogy:

1. *The need to know — adult learners need to know why they need to learn something before undertaking to learn it.*
2. *Learner self-concept —adults need to be responsible for their own decisions and to be treated as capable of self-direction*
3. *Role of learners' experience —adult learners have a variety of experiences of life, which represent the richest resource for learning. These experiences are however imbued with bias and presupposition.*
4. *Readiness to learn —adults are ready to learn those things they need to know in order to cope effectively with life situations.*
5. *Orientation to learning —adults are motivated to learn to the extent that they perceive that it will help them perform tasks they confront in their life situations.*

(Knowles, 1990, p.57)

Knowles and Brookfield shared somewhat similar notions of adult learning and the facilitation of learning activities. Brookfield (1986) proposed the following

six principles of effective practice to facilitate teaching-learning activities for adults. Adults:

1. Participation is voluntary
2. Need to be treated as unique individuals deserving mutual respect.
3. Learn when they have an opportunity to demonstrate collaborative spirit by altering different roles in groups.
4. Need action and reflection on individual participation
5. Learning facilitation should foster critical reflection
6. Learning needs to be nurtured with self-direction

Andragogical concepts of relevance, immediate need, and self-direction fit well with the objective and outcome of microteaching, which is to engage the learner in designing and delivering short lessons on particular skills independently in a safe learning environment, and to allow him/her to learn through the process of receiving feedback from others as well as analyzing one's own performance.

Possible Selves Theory

Markus and Nurius introduced the theory of possible selves in 1986 as a new perspective in adult education. "*Possible selves"* denotes the future-oriented factors of *self-concept* identified by Knowles (1973). According to Markus and Nurius (1986), "possible selves represent individuals' ideas of what they might become, what they would like to become, and what they are afraid of becoming, and thus provides a conceptual link between cognition and motivation" (pg. 954). According

to Rossiter (2007), "an adult education perspective on possible selves focuses on the areas of activity where the possible selves construct intersects with concerns of adult educators—life span development, career transition, persistence toward academic goals, and teaching or mentoring relationship" (p. 13). Moreover, the theory of possible selves also links the current self in any activity through a detailed and significant analysis of present events (Cross and Markus, 1991) with the future self (Rossiter, 2007a).

Therefore, the principle that should be enacted as part of the microteaching module is: *adults learn best when they are provided with future oriented professional development opportunities that represent individual ideas of what teaching skills they might use in their future teaching practice*.

Fletcher (2007) extends the concept of possible self in individual adult learning to include a mutual relationship of supervisor and participant in adult learning activities. He endorses the idea that a mentor helps a mentee to develop specific skills through ensuring a process of transition. Most specifically, he believes:

> *Incorporating possible selves into mentoring, which in turns is integrated into self-study action research, can be a powerful change force in adult education. It may empower adult learners to take responsibility for their professional development and create a scaffold rather than a straitjacket within which they continue to develop (p. 84).*

Therefore, the principle that should be enacted as part of the microteaching module is: *adults learn best when they have a collaborative and supportive mentoring relationship during and after the professional development activity*.

The possible selves' theory is relevant to microteaching objectives and outcomes because it describes the novice teachers' visions of themselves as effective teachers. With the acquisition of skills and competencies, the novice teacher overcomes the fears connected to his/her past or present teaching experiences.

Transformational Learning Theory

Transformative learning has been extensively discussed in adult education. Mezirow (2002) introduced transformational learning by building on the notion of adult "experiences" (Knowles, 1970) and the idea of "self" (Markus and Nurius, 1973). Mezirow's theory of transformational learning is a major change in one's perspective brought about by reflection on one's experiences. I believe this theory explains how adults learn meaningfully through processing their widespread experiences. Mezirow (2000) presented the following ten steps for transformational learning of an adult:

1. *Experience a disorienting dilemma*
2. *Exam one's beliefs and assumptions*
3. *Assess one's personal role assumptions and alienation created by new roles*
4. *Share and analyze personal discontent and similar experiences with others*
5. *Explore options for new ways of acting*
6. *Build competence and self-confidence in new roles*
7. *Plan a course of action*
8. *Acquire knowledge and skills for action*
9. *Try new roles and assess feedback*
10. *Reintegrate into society with a new perspective (p. 13).*

Based on her own journey of constructing meaningful and effective educational practices in the field of professional development, Wilcox (1997) states

> *I was an active agent in my own transformation. It felt empowering to direct my own learning through a series of self-defined learning projects, first focusing on other experiences and then focusing on my own experiences. Acting*

> *as my own "critical friend" I was able to view faculty development from different perspectives without being dependent on others to guide my learning (p. 30).*

The interactive sessions of microteaching provide novice teachers an opportunity to transform their teaching skills through an in-depth analysis of their micro lesson performance based on the received feedback and self-assessment through video recording. The above-mentioned steps demonstrated by Mezirow will provide me a great deal of information to compose data analysis principles.

Another principle that should be enacted as part of the microteaching module is: *self-defined learning coupled with a collaborative relationship among participants in professional development encourages them to develop new strategies and improve their teaching.*

All the above-discussed theoretical concepts of adult learning provide an alternative way of understanding adult learning through microteaching and its collaborative learning environment and reflective approach. These concepts add weight to the importance of microteaching as an approach for the growth and professional development of novice faculty members as adults. Adults need to analyze this transition, and reflect on their learning by sharing and collaborating with other adults who might be going through the same painful experiences of transition. Therefore, I will discuss the concepts of reflection and reflective practices— an important feature of microteaching— that contribute toward successful learning of adults.

Reflection and Reflective Practices

The concept of reflection has been used widely in various learning theories. In connection to the theories of adult learning, reflection is primarily conceptualized as the process through which an adult critically analyzes and develops his or her knowledge through experiences (Fenwick, 2001; Illeris, 2007; Kreber, 2005; Hoyrup, 2004). According to Boud, Keogh, and Walker (1985) reflection is an essential concept in adult learning theory, which provides learners a chance to critically think and assess their learning by recapturing their experience. Brookfield (1987) argues that critical reflection is basically the reflection of an individual based on the point of view of others, which helps the individual to exhibit their own unique standpoint in a collaborative learning context.

Argyris and Schön (1974) proposed the notion of a reflective practitioner in the field of teaching and learning and claim that individuals need to be proficient in reflection in order to integrate their learning with their actions and experiences. Reflective practice plays an important role in the effective learning processes at any level and in any field of life. However, Schön (1987) emphasized the use of reflective practice in teaching. The use of reflective practices in the professional development of teachers, particularly in their early years of teaching, helps them to improve their teaching (Illeris, 2007). Richards (1990) as quoted in Jordi (2011) stated that reflective practice "helps teachers move from a level where they may be guided largely by impulse, intuition, or routine, to a level where their actions are guided by reflection and critical thinking" (p. 5).

Tarrant (2013) connected the concept of past—present—future possible selves and reflective practice and contest that reflection is a process of "self-questioning to reconstruct what happened—or to construct what might happen—that enables the teacher to move from novice to expert" (p. 2).

Microteaching is strongly grounded in the principles of reflective practices:

> *Microteaching can provide a window into students' reflective processes. This externalization enables conversation and dialogue to occur through the sharing of these multiple perspectives on individual practice (I'anson, Rodrigues, and Wilson, 2003, p. 197).*

Thus, adults can use self-inquiry, logical reasoning, critical thinking, reflection, and decision-making to achieve transformational learning and transition to new ways of acting.

The principle that should be enacted as part of the microteaching module is: *adults learn best when they feel motivated, with a clear sense of ownership and purpose, to reflect on their learning.*

Tarrant (2013) developed the concept of self-selected adult learning, which is based on independent self-reflection, to management-initiated reflection, mentoring, and peer-reflection. I see these three forms of reflection as three different learning contexts for adults. First, I consider the ***management-initiated reflection*** as an institutional level supported from the head of departments or deans. For effective implementation of teaching-learning activities, it is important that upper management support teachers by listening, documenting, and reflecting on their progress. Tarrant (2013) states "management has every right to suggest

areas of improvement. It is its important role to encourage and support the development of its staff" (p. 25).

The second level of ***mentoring*** could be both at the institution and during the training. However, to be specific, I consider the role of supervisor as a mentor only during the microteaching module. With reference to the mentoring role of a supervisor, Tarrant (2013) claims that supervisors need to evaluate the performance of participants in an activity. However, as mentors, they can move the idea of session evaluation to a much more focused reflective practice. They can design activities that help participants observe and discuss their practice with knowledge and confidence.

The principle that should be enacted as part of the microteaching module is: *adults learn best when they establish a mentoring relationship where the supervisor observes, reflects, and gives feedback on their learning to promote reflective practice*.

I consider ***peer-reflection***, the third level of reflection, both as peer learning during the microteaching program and peer support in institutions. Torrant affirms:

> *One way of developing personal professional reflection is through working with peers…as we often do need to articulate something in order to make sense of it. Working with peers would suggest a positive move away from feelings of 'being judged,' which come with management-led reflection (p. 26).*

Therefore, two principles that should be enacted as part of the microteaching module are:

- *Adults learn best when their peers observe their performance and give them reflective feedback.*

- *Adults learn best when they develop an organizational culture of collegiality and shared learning.*

The concept of reflection is related to the objectives and outcomes of microteaching because during the microteaching model, novice teachers relive their experience by critiquing their teaching performance and promoting skills as a reflective teacher-practitioner immediately after delivering a brief micro lesson. This helps novice teachers to address the complexities of change in their teaching competencies.

The discussion of reflection and reflective practices in teaching-learning processes of adults provided me with some distinct principles that will guide my data collection and analysis. I will discuss the concept of self-efficacy because it will provide me some distinct outcomes of adult learning with respect to microteaching module and practice.

Self-Efficacy

Self-efficacy generally refers to one's confidence in his or her abilities to accomplish a goal (Margolis & McCabe, 2006). Bandura (1997) defined self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Although self-efficacy is a strong indicator to determine mental and physical outcomes, the ability to successfully perform a task may depend on the nature of the task, context or settings of the task, and individual's effort to the task (Bandura, 1997). Thus, individuals may experience difficulty with understanding a concept. They may not have the

confidence to apply new concepts into practice or they lack the adequate support in the application context.

Bussey and Bandura (1999) described four ways to develop and strengthen self-efficacy.

1) Structuring an activity that incorporates successful experiences from the past is an effective way to build one's competence level and results in higher self-efficacy.

2) Proposing models is the second way. Bussey and Bandura (1999) state that

   Models transmit knowledge, skills and strategies for managing environmental demands. Seeing people similar to oneself succeed by sustained effort raises observer's beliefs in their own capabilities. The failures of others instill self-doubts about one's own ability to master similar activities (p. 23).

3) Social pursuance is the third way that influences self-efficacy. Research suggests three approaches to accomplish social persuasion: challenging one's beliefs with respect to one's ability; accepting one's failure as an effort deficiency instead of lack of ability; and providing useful feedback.

4) The fourth way is to reduce or eliminate the factors that restrain one's self-efficacy.

I can see a close connection of the four ways of boosting self-efficacy with the objectives and expected outcomes of microteaching module and adult learning. Adults have a different approach to self-efficacy as compared to children. According

to Smith (2013) self-efficacy changes with age since the wealth of experiences positively contribute to self-efficacy.

The principles derived from this theoretical perspective on adult learning are:

- *Adults utilize their learning successfully when they are able of using their learning in their practice*
- *Adult are best capable of implementing new strategies and skills, when cognitive dissonance is fostered, leading to improved andagogy.*
- *Adult's confidence is boosted when the factors leading to fear and anxiety, that would impede confidence, are reduced and those factors that increase a safe space and support are maximized.*

Summary of Conceptual Framework

Although each of these perspectives and theories/concepts contributes to our understanding of how adult learn and change in a learning culture, none of these are independently able to provide a conceptual framework for microteaching as a professional development approach for novice faculty members (adult learners) in Pakistan.

On the basis of my literature review about principles, design and features of the microteaching model and the enacted principles drawn from the conceptual analysis of theories—adult learning, self-efficacy and reflective practice— I propose the immediate and expected outcomes of microteaching in the table below.

These immediate/expected outcomes derived from literature and theory will help me explore the short and medium-term outcomes of the microteaching module

and practice. On the basis of these outcomes, I propose a framework that will help me collect and analyze the data in order to obtain an influential underpinning to the design and implementation of effective microteaching practices for adult learners (novice faculty members) in Pakistan.

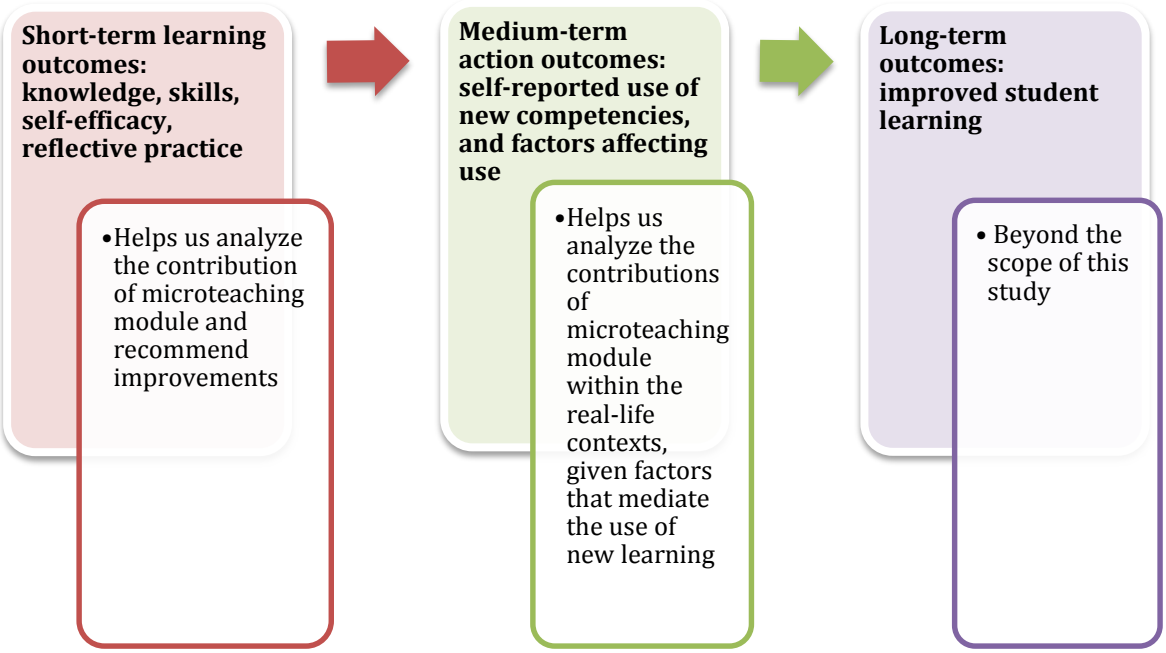


Figure 2: Logic Model for Microteaching

Table 3: Conceptual Framework: Derived from Literature and Theory

Expected/immediate Outcomes from Microteaching Model		Principles of adult learning, self-efficacy and reflective practice	Features of Microteaching Module that incorporate these principles
Increased Knowledge/ Skills	• Acquisition of specific teaching skills • Application of new teaching strategies • Motivation of voluntary participation in self-directed learning activities • Adaptation of new way of learning into existing knowledge • Develop ability to successfully use new teaching skills in classroom teaching • Develop ability to facilitate student learning by incorporating innovative teaching strategies • Develop ability to plan and demonstrate lesson on various subjects • Accomplishment of self-defined learning coupled with a collaborative relationship among participants	• Adults learn best when they have control of their own learning • Adults are self-directed and internally motivated • Adults build life experiences and knowledge when their participation is voluntary • Adults learn best when they are involved in goal oriented and relevancy oriented activities • Adults utilize their learning best when they feel motivated, with a clear sense of ownership and purpose, and reflect on their performance • Adults explore options for new ways of acting • Adults learn best when they develop an organizational culture of collegiality and shared learning	• Provision of opportunity to integrate new perspective into their existing teaching styles • Demonstration of different roles in groups—as observer, presenter, and reviewer • Presentation of relevant and goal oriented activities • Provision of supportive learning environment to share and analyze experiences with peers
Increased Self-efficacy	• Increase self-efficacy in teaching • Build confidence to take initiative and experiment in application of skills	• Adults learn best when they are provided with future oriented professional development opportunities that represent individual ideas • Adults learn best when the activities incorporates successful experiences from the past is an effective way to build their competence level • Adults learn and transmit knowledge efficiently when they observe modeling • Adults utilize their learning successfully	• Provision of opportunity to review and re-teach • Application of a skill through trial teaching before teaching it in actual classroom

		when they are able of using their learning in their practice • Adult are best capable of implementing new strategies and skills, when cognitive dissonance is fostered, leading to improved andragogy. • Adult's confidence is boosted when the factors leading to fear and anxiety that would impede confidence are reduced. • Adult are best capable of implementing new strategies and skills when safe spaces and supports are maximized.	
Increased Reflective Practice	• Develop ability to recognize strengths and weaknesses of one's teaching style • Develop ability of self analysis of one's personal teaching performance	• Adults learn best when the learning activities foster critical reflection • Participation in reflective practices fosters meta-cognition leading to insightful applications of their learning. • Self-defined learning coupled with a collaborative peer relationship encourages adult to develop new strategies and improve their practice • Adults learn best when their peers observe their performance and give them reflective feedback • Adults learn best when learning activities foster meaningful observation and reflection • Adults learn best when they establish a mentoring relationship where the supervisor observes, reflects, and gives feedback on their learning to promote reflective practice • Adults learn best when the learning environment is safe and supportive	• Provision of video recording of one's teaching performance to identify strength and weaknesses • Promote action and reflection on individual participation to adapt new teaching skills/strategies • Build self-assessment and self-reflection techniques through recorded videos • Foster feedback mechanism through reflective peer-assessment • Establish a collective and reflective learning culture • Development of a collaborative and supportive mentoring relationship • Provision of a safe teaching environment (through scaling down class size)

CHAPTER 3

METHODOLOGY AND PROCEDURE

In this chapter, I discussed the research methodology I used along with the rationale for selecting the various research procedures for design, data collection, data analysis, and interpretation of data. I further described changes from the initial proposal in my methodology, my stance and positionality as a researcher, as well as limitations to this research.

Research Design

This study used an exploratory research approach. Such an approach was particularly appropriate as the basic purpose of this study was to explore the views of the novice faculty members about the contribution of microteaching (model) on their self-efficacy in teaching skills, as well as the contribution of this perceived learning in their classroom teaching (practice). According to Gall, Gall and Borg (2003), exploratory research is the most commonly used method in response to the curiosity and goals of a researcher. It also helps to better understand a phenomenon in order to undertake further and more extensive research. Following this method helped me understand the broader prospects involved and also addressed my concerns that I have mentioned earlier in chapter one. Moreover, by focusing on exploring the participants' point of views, the exploratory purpose gave me a deeper insight to discover some specific answers to the proposed research questions.

Research Approach

This study followed a mixed-methods (Qualitative and Quantitative) research design. Tashakkori & Teddlie (2010) call mixed methods a 'third research paradigm,' which recognizes "the importance of traditional quantitative or qualitative research but also offers a powerful third paradigm choice that often will provide the most informative, complete, balanced, and useful research results" (p. 318). In quantitative research, a researcher depends on numerical data and numbers (Gall et.al. 2003; Green 2007) while qualitative research is used to understand a context by exploring different issues in detail (Creswell, 1998).

In order to understand the views of novice faculty thoroughly, mixed methods approach provided an opportunity for collecting and analyzing both quantitative and qualitative data sequentially (Creswell, 2003).

The justification for mixing both qualitative and quantitative approaches in my study is that the quantitative data of Phase I provided a broader spectrum of the research problem, i. e., What Higher Education faculty think about the effectiveness of the microteaching model, what they learned through the process, what they applied to their classroom teaching, and what they felt needed to be added in their learning experience through microteaching. However, in the second phase, the qualitative data analysis described and explained the numeric data by exploring the participants' views in more depth (Green, 2007; Onwuegbuzie &Teddlie, 2003; Tashakkori & Teddlie, 2003; Creswell, 2002).

Moreover, I would not have completely understood the views of novice faculty or HoDs/Deans by either exclusively using a quantitative or qualitative

technique (Ivankova, Creswell, & Stick, 2006; Johnson & Onwuegbuzie, 2004). The study needed different types of methods to understand best and make inferences about the experiences and views of novice faculty members and their HoDs/Deans. “Combining both methods leads to several inferences that confirm the data sets” (Tashakkori & Teddlie, 2003, p. 16).

The mixed-methods approach was the best approach to answer my research questions because it helped me obtain multiple inferences by collecting data through different sources of a survey questionnaire and interviews from two different samples of faculty and management (HoDs and/or Deans). In addition, a mixed-methods approach led to the authentic arguments when the inferences obtained from the triangulation of data received from novice faculty members and their deans happened to be similar.

The rationale for mixing the quantitative and qualitative approaches in my research study was to get a deeper understanding of participants' views and perceptions in different ways. According to Reichardt and Rallis (1994), "given its complexities and multiple facets, a complete understanding of human perception is likely to require more than one perspective and methodology. The quantitative and qualitative traditions can provide a binocular vision with which to deepen our understandings" (p. 11). For this reason, exploring the different perspectives through the mixed-methods approach enabled me to obtain a more complete picture of experiences of faculty members during and after the program (Tashakkori & Teddlie, 2003).

Another rationale for mixing the quantitative and qualitative was that I desired to obtain rich data that could support my arguments and help me interpret the results of the study. The five key purposes for using mixed-methods research proposed by Green, Caracelli, & Graham (1989) best describes my rationale of combining the methods to explore the experiences of higher education novice faculty, and views of their HoDs/deans in my research.

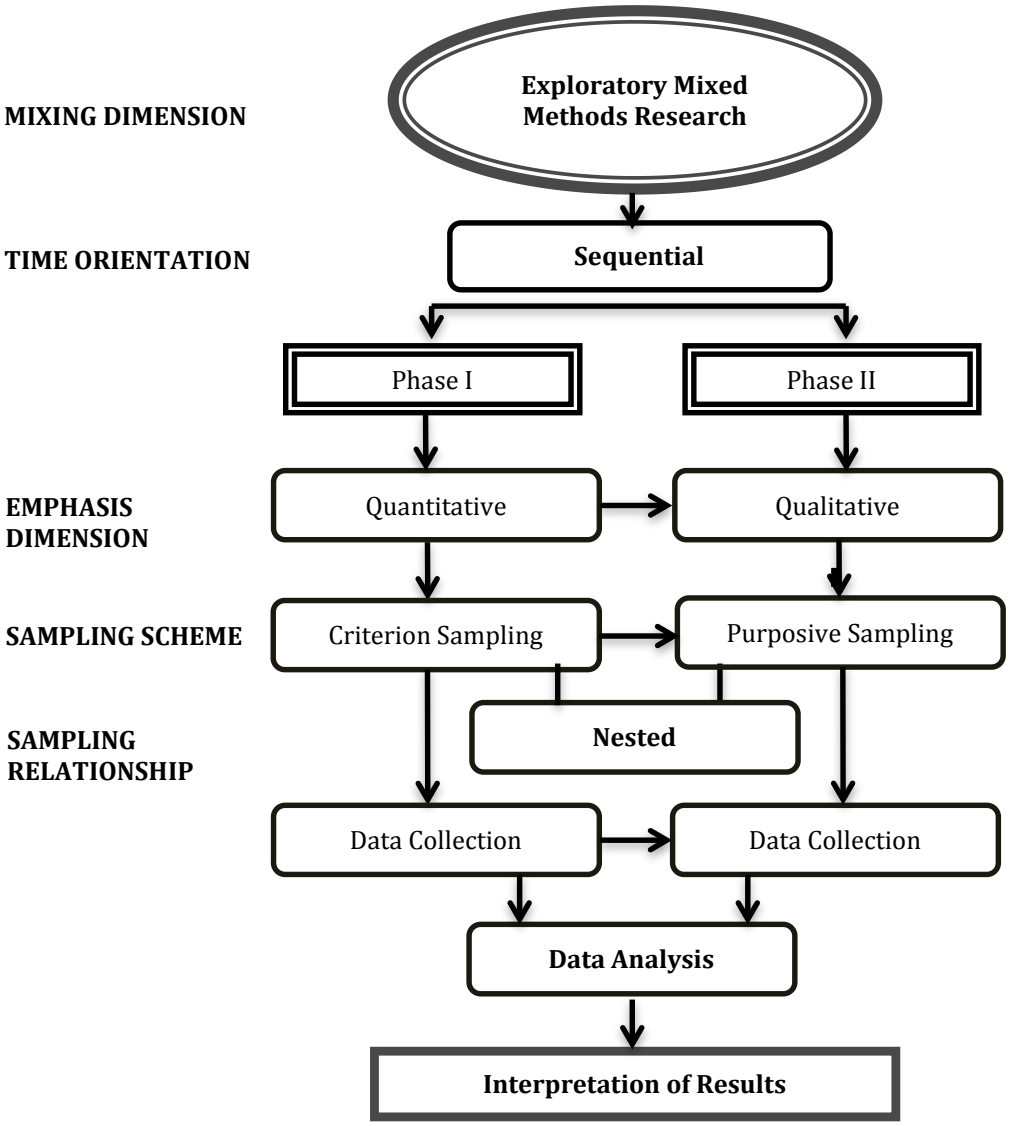


Figure 3: Research Methods and Procedure

I followed three out of five purposes Green et al. described for mixing the research methods: first, for *complementary purpose*—to maximize the strength of both types of data in both phases, and minimize the weaknesses of an individual method; second, for *development purpose*—to use the results of quantitative data (Phase I) to enhance the credibility of data obtained through interview responses of faculty (Phase II); lastly, for *expansion purpose*—to increase the overall scope of research, and forward viable recommendations to LID/HEC for program modification. Thus, the use of the mixed-methods approach not only gave me an opportunity to explore the research problems more deeply and understand the views of the novices, but also to analyze the results of the study.

The above visual model (Figure 3) illustrates the research process for this sequential exploratory mixed-methods study. The purpose of this model is to present the method by which this study was carried out.

This research study used the sequential exploratory mixed-methods design (Creswell, 2003), and the implementation of data collection consisted of two phases. I used a fully mixed design where the quantitative and qualitative phases occurred one after the other— the quantitative phase preceded a purely qualitative phase. According to Morgan (1998), the researcher should consider the sequence of qualitative and quantitative data collection and the priority given to each form of data in combining the methods in one single study. Tashakkori and Teddlie (1998) added another factor for design consideration: the integration of the data in study phases. In my research study, such integration occurred during stages of research questions, data analysis, and interpretation of the results. In data collection, both

phases were given approximately equal priority. Although I analyzed the results of the quantitative data prior to initiating the qualitative data, mixing occurred within and across the analysis, in the interpretation of the results, and in the discussion of the outcomes of the entire study.

In the first phase, predominantly quantitative data were collected through the survey questionnaire. This quantitative data helped me design the interview protocols for my qualitative Phase II. Additionally, it allowed me to narrow my focus during the qualitative data design and collection. Importantly, the quantitative data also helped me with the interpretation of my qualitative findings.

In the first phase, the novices were selected through self-selected criterion sampling to complete the survey questionnaire. There was a nested sampling relationship between the samples of quantitative and qualitative phases. Therefore, a sub-sample of faculty members from the existing sample was selected through critical-case sampling criteria (selecting particularly important participants) in Phase II for interviews. Moreover, I also interviewed a sample of HoDs and Deans (who agreed to participate) of the respective faculty in Phase II. Furthermore, the comprehensive conceptual framework and its enacted principles guided me during the discussion, and interpretation of results.

Population and Sampling

The population for this study was higher education faculty members with five or fewer years of experience from public and HEC funded private sector higher education institutions across Pakistan, who participated in a 12-week Master

Trainer Faculty Development Program (MT-FPDP). Both male and female faculty members were included in the research.

According to Onwuegbuzie and Collins (2007), sampling techniques are complex for mixed-methods studies like this in which the phases of the study are concurrently or sequentially connected because various sampling schemes should be considered for both components of qualitative and quantitative research. Whereas quantitative research involves "statistical generalizations," which means the sample should be representative of the population, qualitative research involves "analytic generalizations," which means the results obtained from the selected sample should apply to the larger conceptual theory (Miles & Huberman, 1994). Therefore, I will discuss the sampling criteria for both phases separately.

There was a nested sampling relationship between the quantitative and qualitative samples (Onwuegbuzie & Leech, 2005). "Nested sampling designs represent sampling strategies that facilitate credible comparisons of two or more members of the same sub-group. The goal of this sub-sampling is to obtain a sub-sample of cases from which further data can be extracted" (Onwuegbuzie, & Leech, 2007, p. 246).

Phase I- Quantitative

In my research proposal, I proposed to select the faculty members from the last four Batches[9] of MT-FPDP except the 20th, as they did not spend much time in the universities after participating in the program. However, by the time I started

[9] Batch is a cohort of the participants, who attended MT-FDPD.

my data collection, participants of Batch 20 already had spent over eight months in their respective universities. Therefore, as per my criteria for sampling, which I will discuss later in this section, I selected five Batches (now including the 20th Batch) of MT-FPDP.

Generally, each Batch of the program is comprised of 28 to 30 faculty members, male and female, and the faculty members come from different fields of study including the social sciences, pure sciences, and management sciences. Thus, in Phase one, I sent an online survey to a total of 148 faculty members—who participated in the 16th, 17th, 18th, 19th, and 20th Batches of MT-FPDP during the years of 2011, 2012, and 2013—through self-selected criterion sampling (Patton, 2001) to complete the survey questionnaire.

According to Patton (2001), criterion sampling "involves selecting cases that meet some predetermined criterion of importance" (p. 238). I called it a self-selected criterion random sampling because I sent the questionnaire to everybody who participated in the five selected Batches of the program. It completely depended on the choice of the participants to respond or to complete the questionnaire. I used three criteria in this research study for choosing these five Batches:

1. First, the participants who completed the entire twelve-week MT-FPDP and were still considered as novice faculty (they had less than five years of teaching experience).

2. Secondly, they had enough time to implement the learning they received through microteaching model in their classroom teaching.
3. Thirdly, the novice faculty whom I would be able to contact through their e-mails registered in the database of LID, HEC, and had not left to continue their higher degrees in foreign countries.

Given these criteria, it was very difficult to draw a random sample of available email addresses with a non-zero probability of selection, as their present functionality was completely unknown. As a result, I decided not to draw a random sample out of this population. I was conscious of the fact that survey methodologists do not consider it a good practice to send a survey to all of the contactable members of the target population (Dillman, 2009).

Response Rate to the Survey

Since a possible random sample of this population could have seriously affected the response rate of this survey, I sent the survey questionnaire to all 148 participants. Thirteen e-mail addresses were not functional anymore. A total of 96 faculty members out of 135 responded to the survey. Of those 96, only 44 faculty members completed the survey fully or partially (either all three sections or most of the questions in sections one and two of the survey).

Phase II- Qualitative

In the second phase, a nested sample of novice faculty members was selected from the sample of Phase I through a critical-case sampling scheme. Patton (2001) defines critical-case sampling as "a process of selecting a small number of important

cases - cases that are likely to yield the most information and have the greatest impact on the development of knowledge" (p. 236). Onwuegbuzie and Leech (2007) suggest three to four participants per sub-group (in my case each Batch) for nested sampling design, and Guest, Bunce and Johnson (2006) recommend at least twelve participants for conducting interviews in a mixed method study. The 96 respondents who completed and returned the questionnaire constituted the quantitative sample for my study. All participants were informed—in their survey consent form—that some of them would be asked to participate in a follow-up individual interview. In my research proposal, I proposed that I would choose the faculty for interviews who would complete either all three sections or most of the questions in sections one and two of the survey. Of those 96 respondents of Phase I, only 44 faculty members completed the survey fully or partially.

I selected the interview participants from those 44 through the following criterions:

1. I divided those 44 questionnaires into five groups, one group for each of the five Batches.
2. Then I chose four participants from each Batch, who teach in universities within each province.
3. Then, I organized the participants' data based on their Batches of MT-FPDP.
4. Finally, I sorted the final list by organizing the participants on the basis of their gender.
5. Among these five groups, I sought individuals who agreed to an interview, and who could provide rich data, understand the nature of my research, and

provide me authentic information based on their experiences (McMillan, 2000).

Response Rate to Interview

I sent an e-mail to the first 20 selected participants asking if they would agree to a face-to-face interview. Nine out of 21 agreed. Then I sent the e-mail request to 10 more participants, and five agreed—later, when I was already in the field, two additional participants agreed to an interview. Consequently, I received consent from 16 faculty members, which included three faculty members from Batch 16, three faculty members from Batch 17, four faculty members from Batch 18, three faculty members from Batch 19, and three faculty members from Batch 20. Although the plan was to interview all the respective HoDs and Deans of the sub-sample faculty, this proved impossible. The time constraints to stay in each province and the overwhelming busy schedules of HoDs and Deans made it impossible to interview all 16 of them. Rather I was able to interview only seven of them (four HoDs and three Deans), meeting the minimum requirement for my research.

Among 96 survey respondents, the participants were predominantly men, with 63% of the sample male. For qualitative data collection, I tried to maintain a gender balance while selecting the sub-sample for face-to-face interviews. Interestingly, when contacting the departmental leaders of the novice faculty, I found out that most of the HoDs/Deans were female. Therefore, I considered getting specific assertions and opinions on the questions related to gender participation during the program—and gender roles in implementing new knowledge and skills

in their universities—from both males and females. For the sub-sample of participants I interviewed, in order to maintain the equal distribution of years of teaching experience, I succeeded in interviewing faculty whose teaching experience ranged from one to six years. *(For detailed graphical data of the participants' demographics, see appendix D).*

The faculty from three major provinces— Punjab, Sindh, and Khyber Pakhtoon Khwah (KPK)— completed the survey in roughly equal numbers. Also, I received the filled surveys from a representative faculty teaching in the Federal Capital and Azad Jammu & Kashmir. However, during the interviews I maintained an equal balance of three faculties from each province.

Given the prevailing sociopolitical instabilities coupled with power outages in Pakistan, I presumed that there would be difficulties with response rates to my online survey. The faculty shared concerns in this regard such as violent threats to faculties, universities closing for unannounced periods of time, and power outages. However, there was a comparatively low response to the survey from the faculty of Baluchistan. During my interviews I discovered that this was due to the unique concerns they shared such as access to Internet being confined to their time at university, and the additional difficulty in accessing the universities because of local strikes, in addition to other shared concerns of faculty throughout Pakistan.

Based on the representative sample of my research I feel confident assuming that this balanced distribution of participants from across all five Batches provided me with representative and rich data to interpret my results and infer conclusions.

Pilot Study

In order to understand the features and processes of the microteaching model in Pakistan, I conducted a small-scale pilot study. This study presented the perceptions of a sample of novice university faculty in Pakistan about the effectiveness and contribution of the microteaching component of MT-FPDP. I conducted a video Skype interview with seven faculty members (four males and three females) from two Batches of MT-FPDP held in 2011-12 (*see appendix E for pilot study interview protocol*). Based on the thematic analysis of the findings, I found out that novices were referring to two different kinds of learning experiences while sharing their views about contributions of the microteaching module: their learning experiences during the module and the experiences related to the implementation of that learned knowledge in their classroom teaching. It was hard for me to connect the two. Therefore, I organized my survey questionnaire in three different sections, which I will discuss later in this chapter.

During the interviews, the participants reflected more on the significance of features and provisions of this model (during the training in LID/HEC) for their learning and its implementation. Moreover, HEC is also interested to know more about the efficacy of the microteaching model, its skills, and the features that comprise it. Therefore, in my dissertation research, I focused on perceptions of novices about the various microteaching features, activities, and skills (during the program), and how it helped the novice faculty members learn and apply lessons in their classroom (after the program).

Research Tools

I used a survey questionnaire for the quantitative data and an interview protocol for the qualitative data. I proposed to analyze the Quality Assurance Division (QAC) semester reports of interview participants, but I could not get permission from the QAC/HEC to access the reports during my stay in Pakistan. I did not pursue it later because I discovered these data might take my research in a different direction and may have expanded my study beyond the scope of this dissertation.

Quantitative – Survey Questionnaire

For the quantitative data, I used a web survey tool known as Survey Monkey. The purpose of this survey was to gather statistics—mostly numerical or quantitative data—along with some qualitative data obtained in response to open-ended questions that described perceptions, views, and experiences of the study population (Fowler, 2009).

I could not find any research tool that has been developed to explore the effectiveness or contribution of the microteaching model or about the assessment of self-efficacy of the teachers on teaching skills discussed in the microteaching model. The results of my small-scale pilot study predominantly guided the development of survey items. I further consulted the previous literature about the microteaching model, its features, provisions, the teaching skills taught through the model, and measures of its effectiveness (Vander Kloet & Chugh, 2012; Donnelly and Fitzmaurice 2011, He &Yan, 2011; Kilic, 2010; Amobi & Irwin, 2009; Berk, Hiebert,

Jansen, & Morris, 2007; McLean, 2006; Fernandez, 2005; Higgins & Nicholl, 2003; I'anson, Rodrigues, & Wilson, 2003; Freiberg , 2002; Minton, 1997; Allen & Wang,1996; McGarvey & Swallow, 1986; Brown, 1975; Turney, Cairns, Williams & Hatton, 1975; Saunders, Nielson, Gall, & Smith, 1975; Sadker & Sadker, 1975; Turney, Clift, Dunkin, & Trail, 1973). Most importantly, the principles of my conceptual framework, drawn from the analysis of different theories and concepts helped me develop the research tools.

Development of Survey Questionnaire

The survey questionnaire consisted of three main sections. Section A asked about demographic variables, i. e., name of university, province, department/faculty, gender, experience, age, qualification, and the Batch of MT-FPDP of each participant. These variables helped me in the selection of a sub-sample for the subsequent qualitative study.

Section B was designed to explore perceptions about the experience of the microteaching module-During MT-FPDP. The items included in this section were designed to get holistic views of individuals that express their experience and expectations about the efficacy of the content and process of microteaching. While designing this section, I grouped similar aspects of microteaching together. In order to get a true response on some crucial aspects, the items were repeated in different ways. I mostly used the Likert Scales with a resolute response option instead of using a middle "neutral" category. For instance, I used a four-point Likert scale ranging from "strongly disagree" to "strongly agree" without an uncertain category.

The fixed item format developed for this section asked respondents to agree or disagree with these simple statements. The reason for not adding the "uncertain" or "neutral" middle category was to force respondents to agree or disagree with a statement. Having a neutral category allows respondents to register an ambivalent opinion on the statement. "Strongly agree" or "strongly disagree" means that the respondent has strong feelings for or against the statement. "Agree" or "disagree" means the respondent has an opinion in agreement or disagreement with the statement (Dillman, Smyth & Christian, 2009; Fowler, 2009). This section also asked for suggestions to improve the microteaching experience. I asked the novices to prioritize the proposed skills that the literature recommends for higher education settings.

Section C reports the participant's perceptions about the contributions of the microteaching module to their learning about classroom teaching. This section also focused on the institutional factors that supported or hindered the novice to apply their knowledge and skills. I designed the items on a five-point Likert Scale, ranging from "Not At All" to "Very Much". A "Not At All" response means that the respondent does not feel he/she utilized learning from microteaching in the classroom. A "Very Much" response means the respondent effectively utilized learning from this experience after returning to their classroom.

While designing the survey questionnaire, I tried to develop items expressing only a single idea in each item. Constructing the closed-ended questions was fairly straightforward. Hence, I began constructing the items with a specific goal in mind. I examined what the items and item responses would look like at the most specific

level, and then used these ideas to decide the different item formats. I tried not to force any item by making it mandatory as "it may, sometimes, frustrate the respondents along with some sort of violation of ethics" (Dillman, 2009, p. 209).

However, in order to select a sub-sample for the second phase of face-to-face interviews, I needed the demographic information. The missing data on demographic variables could have created challenges, particularly to locate the Batches and the different universities of the participants. Therefore, the participants were required to answer the background questions in section before taking the rest of the survey.

Pilot Testing of Survey Questionnaire

The survey questionnaire (*see appendix F*) was tested prior to the implementation for validity and reliability purposes. This survey questionnaire was electronically administered. Dillman (2009) emphasized that "the web survey should be checked across different platforms and browsers to ensure that items are displayed similarly on different platforms" (p.201). During pilot testing, this survey was sent through Survey Monkey and one of the participants completed the survey on a smart phone. Moreover, before sending the survey questionnaire to the study participants, I checked it on different platforms and operating systems to ensure the consistency of its display.

I sent the online survey questionnaire to five of the novice faculty members, who participated in the pilot study and agreed to respond to the survey. Two faculty members responded and completed the survey online. One faculty member completed the survey over a Skype call while I was observing and taking notes. I

asked each of the participants to observe how much time it took to complete the survey and give me feedback on any item or question they felt was hard to understand or not relevant. Based on their feedback on the survey and my notes (that I noted while observing a faculty member on Skype call), I incorporated the changes and modified the items and reorganized the sections where needed.

Before piloting the questionnaire, I did not add the variable of "Batch of the program," in section A [Demographics], which made it hard for me to recognize the participants. Upon realizing this, I added in this variable later. Also, respondents found that some of the items in Section B—about learning environment, and the role of supervisor—were repeated, and appear to measure the same things. For me, these questions were my effort to avoid measurement error (Fowler, 2009), which later helped me validate the responses across items, and to identify inauthentic data that are likely to occur in survey implementation (Dillman, 2009).

The survey questionnaire took 15-20 minutes to complete. This survey questionnaire seemed very lengthy; however, pilot testing confirmed that the items were easy to answer. Moreover, my research required rich data for a strong base to develop the tools to collect qualitative data. Again, I not only tried to keep the survey questionnaire a voluntary effort, but also tried to ensure that the questions did not appear irrelevant to the respondents.

Qualitative – Interview Protocol

I designed a general interview protocol (*see Appendix G*) consistent with the survey questionnaire (Creswell, 2002). To design a unique interview protocol for

each of the 16 sub-sample participants, I referred to their individual responses to each specific question of the survey. Later, during the interviews, I asked open-ended questions based on their earlier responses to the survey questionnaire. This was followed by leading and probing questions to understand the detailed individual perspectives of the novice faculty members on their learning from the microteaching component of MT-FPDP, and to explore the implications and effectiveness of the microteaching method in their teaching practice. According to Creswell (2003), the semi-structured interview in exploratory research studies allows the investigator to obtain additional information about the research questions. Such interviews encourage participants to share their beliefs and experiences freely and help the researcher explore new insights.

Keeping in mind the role of upper management, I interviewed the respective Heads of Departments (HoDs) or deans (of the selected faculty members) about their role and support; the changes they perceived in the teaching of selected faculty members; their efforts of cascading the microteaching sessions; and the effects, challenges, and issues related to the planning and implementation of microteaching.

Data Collection

During the first stage prior to the implementation of this research study, I obtained permission from the Higher Education Commission Pakistan, and human subjects' participation approvals from the University of Massachusetts's Institutional Review Board (IRB).

Since the purpose of this research was to understand the participants' perspectives, I did not anticipate soliciting information that was personal or that could make participants feel vulnerable in any way. Therefore, I sent an introductory e-mail to each participant, explaining why it was important for them to participate, and how the information would be used. I also added this information in the voluntary consent form (*see Appendix F*) in addition to the research purposes, objectives, and a brief methodology of my research.

For quantitative data, I used an online survey questionnaire, as I was certain that higher education faculty in Pakistan were familiar in using online surveys, and I could not foresee any possible problems with it. Being a former HEC employee, I was also aware that almost all the university faculty members in Pakistan have easy access to computer and Internet. I requested that they should complete the survey within three weeks. By designing the online survey so that participants could fill it out during multiple sittings (they could save the survey and come back to it another day to complete it), I assumed that faculty members would take more time answering. I followed up with a reminder e-mail three weeks after giving out the survey and requested faculty to complete it within another two-weeks.

I observed that the reminders increased the likelihood of participants completing the survey. I was also afraid that if I had not given them a deadline to complete the survey that the respondents would be more likely to forget to complete it. Nonetheless, it took the faculty members longer than expected to respond to my e-mails or complete the online survey. There could be multiple

reasons for it, however; power outages and slow speed Internet was found to be one of the most recurring reasons during interview responses.

I travelled to Pakistan for face-to-face interviews with faculty and their HoDs/Deans. I was not required to have any prior official approval from HEC and/or their respective universities for visiting the faculty for interviews. Therefore, I was able to start scheduling the interviews prior to my visit to Pakistan. I informed all the participants in their survey consent form that some of them would be asked to participate in a follow-up voluntary individual interview. Later, I sent a separate e-mail asking for their consent for a face-to-face interview. I asked the selected and agreed sub-sample to sign and send back the informed consent before scheduling the interview. However, I was unable to get a response from most of the faculty via e-mail. I was mindful of participants' working responsibilities and time commitments, and tried to avoid any kind of disruption. To accommodate these needs, I visited the sites personally to ask for their consent to agree for an interview. I could not force any participant to partake on a certain day and time as per my schedule, but rather wait for them to show their availability.

After getting the written consent signed (typically on site and in person) from the sub-sample —which included provisions to protect their rights, identity and confidentiality—I explained to them that their participation was voluntary; they could drop out at any time they want, or they could refuse to answer any questions. I also secured their permission to be audiotaped before the interviews. I explained that I would erase the audiotape once their interview has been transcribed, and I would not be using any audio clips, so others would not be able to identify their

voices. Keeping in mind the power dynamics and political settings of the universities in my country, I discussed the interview protocol for their deans with novice faculty to help ensure the faculties' comfort. I assumed this discussion helped me get more authentic data without any pressure from their deans influencing their responses.

Moreover, given the current law and order situation in Pakistan, it was hard for me to travel to Baluchistan and some parts of Khyber Pakhtoon Khwah (KPK). Therefore, I conducted Skype interviews with three faculty members from Baluchistan. I was unable to interview all the respective HoDs and Deans of the faculty as I committed to doing in my initial research proposal. The time constraints to stay in each province and the overwhelmingly busy schedules of HoDs and Deans made it impossible to interview all 16 of them; I was only able to interview seven of them (four HoDs and three Deans). I interviewed six of them face-to-face and one of them, from KPK, via Skype interview (who was transferred a month before the interview to Malakand[10] from Peshawar city).

Data Analysis

In my research study, the mixed methods analysis allowed me to use the strengths of both quantitative and qualitative procedures that helped me proceed with the implications. As Tashakkori and Teddlie, (2003) stated "the ability to get more out of the data provides the opportunity to generate more meaning thereby enhancing the quality of data interpretation" (p. 353).

[10] There was a military operation going on in that area and commuting was not easy.

After receiving the completed questionnaires, I coded the participants' responses and entered them into the Statistical Package for Social Science (SPSS) program. I imported data to Microsoft Excel to run some statistics, specifically to find out Mean and Standard Deviation (SD), because of statistical errors in SPSS. I double-checked the data for accuracy. Since the respondents were not forced to give a response for each item of the survey questionnaire, it was challenging to analyze the data because the data were not available for all the items for each participant. However, the responses for all the individual items were still useful through descriptive statistics. The quantitative analysis in the tables utilizes the descriptive statistics, i.e. mean, and standard deviations (chapter 4).

The descriptive statistics also show the response rate for individual items from survey questionnaires in tables. Most of the data analyses use the descriptive statistics of single items and then the group of items represented by the different sections of the survey questionnaire. For the questions that required the answers to be ranked, the Mean provided the central tendency for each variable of the questions, while the Standard Deviations proposed potential variations for each distribution. In order to sum up the scores for each respondent (the rating average), different rankings have been used in different questions based on the nature of the question e.g. *No contribution* being a "1" and *Very strong contribution* being a "4".

I ordered the means from higher to lower based on the calculated frequencies— the actual response count. For an easy comparison, I added the graphical presentation that displays the results in percentage histograms. The percentage distribution in the histograms shows the relative frequencies of the

responses of novice faculty to the total number of responses recorded for each variable (in this case I derived all the percentages from an absolute total of 100). I ran the significance test including chi-square analysis and multiple Z proportion tests with Bonferroni adjustment were conducted to highlight the differences between/among some items. The results of the chi-square are also presented in table forms.

The qualitative data obtained through the interviews and open-ended questions of the survey questionnaire were coded in order to classify the patterns and themes emerging from the responses of the novice faculty members about the contribution and implication of microteaching practice (Creswell, 2002). More specifically, I started the analysis from the major concepts of the literature review and conceptual framework principles that were related to my research questions. While survey data were initially analyzed independently of the interview responses, due to the similarity of the questions in both of the instruments, some of the categories and sub-categories developed from the survey analysis were considered appropriate for interview analysis. According to Dey (1993) "the decisions about what topics to cover and how best to query people about those topics are rich sources of a priori themes" (p. 98).

I organized the broader categories from my research questionnaire and interview protocol based on the key theme presented in each question. As Coffey and Atkinson (1996) describe "the first pass at generating themes often comes from the questions in an interview protocol" (p. 34). In order to capture different inferences to the views (in the transcribed interviews), I recognized the repetition of

ideas, patterns, and terminologies in each interview used by the novice faculty members and HoDs/Deans. In order to understand how the repeated ideas were related to one another, I wrote them on sticky notes and matched them under each specified theme. Then I organized these relevant themes into consistent categories by assigning them labeled codes across the interviews. I analyzed the transcribed data of every single interview through descriptions of multiple themes as well as through cross-interview themes using NVIVO. This cross interview matching allowed me to explore the supporting and hindering factors to the novices' learning during the participation in MT-FPDP, and during the implementation of this learning in their classrooms. After the initial identification of themes and sub-themes, I arranged the quotes from the interview transcript. I also re-sorted the data received from open-ended questions of the survey questionnaire with the data obtained from interviews. Re-sorting the data into more defined and specific categories provided greater discrimination and differentiation for interpreting the data (Green, 2007; Seale, 1999).

The independent analysis of the quantitative data received on my survey questionnaire not only helped me structure my interview protocol to collect the qualitative data, but also guided the preliminary categories and sub-categories for the qualitative analysis under each theme, which I discussed above. Correspondingly, the interview responses were richer in detail and were used to elaborate on results from the survey questionnaire. The interview responses also helped me cross-check to either confirm or refute the preliminary categories, sub-categories, and priori themes. This crosschecking introduced some themes that I did

not anticipate, but emerged from the data that I discussed in chapter 4. Moreover, I crosschecked the data received from open-ended questions of the survey with the data obtained from interviews. The interview data were deeper in detail and therefore I used these data to elaborate on the results of survey responses. Then I re-analyzed the interview transcripts to identify any evidence that may exist to confirm the themes and categories.

Connecting themes and categories not only helped me to explain and describe the findings of the study, but it also helped me to present the evolving conceptual framework of the various factors and their relationship with data obtained from the novice faculty members and HoDs or Deans (Creswell, 2002). Further, while discussing the results of my research, I interpreted the findings based on the principles drawn from my conceptual framework to make inferences and conclude each category.

Presentation of Data

I presented the analysis of my data in three different sections, primarily derived from the two broader categories of the survey questionnaire: Section A presented the demographics of participants, Section B explores faculty members' experiences of microteaching module, and Section C reported contribution of the microteaching module to actual classroom teaching.

I organized each of the categories starting with a short paragraph that introduces the data point and the rationale for asking the specific question. Then, following the table, I discussed the data, and provided supportive comments of

respondents as well as added the outliers in form of verbatim quotations to back up the response. In order to understand the data and make viable conclusions, it was significant to report the opposing minority responses to the majority voices (Sproull, 20014; Yin, 1993).

Reliability and Validity

During data analysis, Patton (2001) suggests that a qualitative researcher should be concerned about validity and reliability. Lincoln and Guba (1985) entitled these factors as a test of trustworthiness in qualitative research. According to one of the first research work on mixed methods done by Kuhn (1970), in this context of mixed method study, the two research approaches—quantitative and qualitative—are effectively operating with different paradigms. I tried to consider these factors in my study through various means suggested by qualitative and quantitative researchers. Patton suggested, "The credibility in quantitative research depends on instrument construction" (Patton, 2010, p.14).

Considering Patton's claim, I have given particular consideration to my survey construction. I developed my research questionnaire based on the result of a pilot study that I conducted prior to proposing my research. The results of the pilot study validated the content of survey items. I also obtained the opinions of some survey design specialists and methodologists about the design and organization of the survey questionnaire. In addition to these validity measures, before implementing my research, I tested the questionnaire through a pilot test. Confirming my survey design and content through these different methods not only

provided the evidence of consistency and accuracy for my research tool (Seliger & Shohamy, 1989) but also proved that it would measure what I, as a researcher, claimed to measure (Brown, 1996; Wyckoff, 1998).

In the capacity of a qualitative researcher, I established the trustworthiness by incorporating the four measures that Lincoln and Guba (1985) suggested including Credibility (internal validity), Transferability (external validity/generalizability), Dependability (reliability), and Conformability (objectivity).

Triangulation is one of the most noted techniques over time to ensure ***credibility*** and ***conformability*** of a research (Patton, 2010; Winter, 2000; Patton, 1999; Lincoln and Guba, 1985; Denzin, 1978; Webb, Campbell, Schwartz, & Sechrest, 1966).

First of all, the overall (mixed method) approach to my research incorporates the ***Methodological triangulation***. The combination of quantitative and qualitative research method in my research provides me deeper understanding of my data, which I might not have obtained by using a single method. The two different data sets (the quantitative data obtained through survey questionnaire and qualitative data obtained through face-to-face interviews) helped me analyze the consistency of my findings. During my data analysis, I incorporated certain cross checks, including the confirmation of data from the different perspectives of each participant for reliability purposes. Also, I sought to check the validity of my quantitative results by

crosschecking them with the qualitative interview excerpts of faculty and their HoDs and Deans.

I also verified the individual experiences of the novice faculty members against others, which provided me a greater confidence to make claims and ensure my findings.

Secondly, my research study encompasses ***Data triangulation*** because I collected my data at different times (the quantitative phase occurred five months prior to the qualitative phase) and social situations (online and face-to-face data collection) using various sampling techniques (Denzin, 1970). Furthermore, the discussion of various theories/concepts –such as Adult learning theories/concepts, Reflection and reflective practices, and Self-Efficacy— not only provided me a comprehensive conceptual framework but also helped me interpret my data incorporating ***Theoretical triangulation*** (Denzin, 1978; Patton, 2010). This conceptual framework was the best framework to answer my research questions, data collection and data analysis for two main reasons. First, it is particularly relevant to expected and immediate outcomes of the microteaching model. Second, the analysis of adult learning, self-efficacy and reflection theories provided me more than one theoretical position to interpret the results with various principles of how adults learn best.

Member checking was another technique that I used to establish credibility in my research. Before interviewing the sub-sample, I checked the accuracy of my interview protocol through preliminary data analysis of my survey questionnaire.

The interview protocol was designed in the English language, as the medium of instruction at higher education level in Pakistan. Also, I am sure the higher education faculty of Pakistan communicates and understands the language fully. However, due to my familiarity with different languages of Pakistan including: Urdu[11], Punjabi[12], and Pushto[13], participants switched from one language to another during interviews. As a researcher, I did not restrict the language obligation in order to get more authentic data in whatever language they felt comfortable. As a result, I had to both transcribe and translate (completely or parts of) the recorded interviews. Therefore, I re-interviewed one participant after transcriptions to confirm the responses. I asked two other sub-sample participants to read the transcript of their interviews to validate the data. My emphasis on such validations primarily intended to find out if my interpretation of the data they provided me was matching their views they actually shared or not (Miles & Huberman, 1994; Lincoln & Guba, 1985).

Debriefing was another measure that I have taken to ensure the trustworthiness of my data. Lincoln & Guba (1985) define it as "a process of exposing oneself to a disinterested peer in a manner paralleling analytical sessions and for the purpose of exploring aspects of the inquiry that might otherwise remain implicit within the inquirer's mind" (p. 308). First, I had frequent debriefing sessions with my academic advisor where I discussed alternative approaches to my

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[11] Urdu: the national language of Pakistan

[12] Punjabi: the provincial language of Punjab

[13] Pushto: widely spoken language of Baluchistan

research method, data collection, and analysis. Next, the debriefing sessions with my other committee members and their feedback drew my attention to various flaws in the proposed research plans.

In addition, I participated in various dissertation workshops offered by renowned organizations, and presented my research on different forums including the American Educational Research Association (AERA)[14] and Comparative and International Education Society (CIES)[15]. Over the duration of research study, I participated in two different dissertation writing retreats[16] offered at UMass, and sought continuous feedback on research methods and analysis from experts at the Center for Educational Assessment[17], and Institute for Social Science Research (ISSR)[18]. Such debriefings and analytical discussions with the experts in the field and other research participants helped me recognize my biases, assumptions, and preferences.

Transferability and ***Dependability*** of my research is well depicted in my first chapter. My research is about a functional continuous program. Thus, the

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[14] I participated in a two day workshop "PDC06 - Mixed Data Analysis Techniques: A Comprehensive Step-by-Step Approach" at AERA annual conference titled "Education and Poverty: Theory, Research, Policy and Praxis" from April 26 –May 1, 2013.

[15] I participated in CIES/New Scholars Dissertation Mentoring Workshop and also presented my research paper entitled "Microteaching in Professional Development of Novice Teachers: A contextual Analysis" at the forum of 58th Annual Conference of the CIES Toronto, Canada from March 10-15, 2014.

[16] Summer writing retreat from August 4 to August 8, 2014 & winter writing retreat from Jan 12 to 16, 2015 organized by Office of Professional Development UMass, Amherst

[17] http://www.umass.edu/remp/CEA_main.html.

[18] https://www.umass.edu/issr/

results of my study will be helpful for future Batches of MT-FPDP. Also, the findings and implications of my research will be applicable to other similar programs, and could be repeated in different contexts. Lincoln and Guba (1985) refer to such applicability as a measure of transferability. Furthermore, I have discussed enormous amounts of literature to support my study, and discussed the results to examine the compatibility with those of published work in this field about microteaching model as a professional development activity for adult learners with a focus on higher education novice faculty. I have discussed my results (chapter five) in sufficient detail to highlight the explicit details of individual, social, and cultural relationships through my field experience. Also, the crosschecking with the field written notes helped me validate the data to a larger extent. Research refers to this measure as "***Thick Description,"*** which provides the evidence of transferability of results in other settings, contexts, time, and people (Holloway, 1997;Lincoln & Guba, 1985).

In addition to all these measures, as a researcher, my personal background, qualifications, experience, and familiarity to the context were the distinguished characters could that affect the credibility and trustworthiness of research (Patton, 2010). I will discuss my role as a researcher in the following section.

Researcher's Stance

As a Pakistani international student, my doctoral studies voyage has allowed me to observe the development and evolution of teacher training programs at various primary, secondary and tertiary levels. Yet, it was surprising for me to know

that there is minimal effort made for the in-service training of university faculty in the USA as opposed to Pakistan. Van Manen (1990) described something that is significantly related to my experience: "to do research is always to question the way we experience the world" (p. 5). Studying at the Center for International Education (CIE) has exposed me to some of the best theory and practices for teachers' professional development around the world. Having fellows from myriad different contexts with varied experiences broadened my overall vision in general, and my program objectives in particular.

I had a very different interest for my doctoral research before participating in a seminar titled "Microteaching: A Professional Development Activity." This seminar triggered my main interest in knowing more about this model and practice in order to understand how it has been used in the context of the USA along with my other concerns (that I described in chapter one). I discovered that microteaching model was developed in the USA, and has been used here and around the world primarily for the training of elementary school teachers. As opposed to this, LID offers this program for the higher education faculty for over ten years now with the same set of teaching skills and processes. While the microteaching model and its application are not something new in Pakistan, I hope to contribute to its improved use by proposing other skills, new ideas and approaches for implementing this program/model for higher education faculty in Pakistan and other similar contexts.

As a researcher and former employee of LID/HEC, I possessed multiple roles. Albeit the two dimensions of my research have a common goal, to understand and

explore the novice faculty member's perspectives on microteaching model, I had to play the role of a quantitative inquirer as well as a qualitative investigator. According to Reichardt and Rallis (1994), "Qualitative researchers usually seek to explicate meaning of social reality from the participants' perspectives, while quantitative researchers usually seek to understand relationships, often of a casual nature, without particular emphasis on the participants' perspectives" (p.11). Patton (2001) asserted, "The researcher is the instrument" (p.14), particularly in qualitative research. Hence, being a quantitative researcher the credibility of the research was my main concern, while the credibility of qualitative data relied on my personal background, roles and efforts.

For instance, my role was more a collaborator and co-investigator when dealing with the sub-sample of my participants in an interview, on a one-to-one basis to collect data. Rossman and Rallis (1998) called this role that of a critical friend, who not only contributes her research skills but also contributes her knowledge. My role was more to investigate the contribution of microteaching module from a novice faculty member's perspectives without involving my personal opinions or judgments in the entire process of data collection, interpretation and analysis. However, being a novice faculty member at one of the universities of Pakistan, I was deeply interested and, therefore, I may have looked into things more closely and subjectively. Thus, I was afraid that my position might have influenced my data collection and analysis. However, at some points participants of my study perceived my role as a stakeholder (Green, 1989) because of my association with LID/HEC.

Moreover, I assumed, LID has an influence on the universities as all the universities are working under the control of HEC, and faculty highly depend on LID for professional development activities. Also, I was concerned that the sub-sample might have been biased in interview responses, which could have influenced the data collection and the research findings. Thus, for the integrity of data, I focused equally on both my participants' trust in me, as a researcher, and their role in my research as respondents (Alkin, Daillak & White, 1979).

I had to arrange some interviews personally, using my personal and professional relationships with faculty individually, and some interviews through the administration of their institutions. During my data analysis, I noticed that some of the faculty that I contacted through the administration responded to my questions attentively (i.e. gave details, gave examples and were descriptive) while those that I personally/professionally arranged didn't take interviews as seriously (i.e. they were not very focused when responding to questions, didn't provide details or examples). I tried to develop a level of cooperation and trust by probing question differently, which increased genuine interaction, and thus I was successful (to an extent) in minimizing the artificial roles of the participants. Also, the explanation in my request e-mail about the research purpose (dissertation) as a requirement of my degree program at the University of Massachusetts and that the information would be used primarily for research purposes helped me attain the novices' trust on data sharing. I also informed them that the results of this study would be shared with LID and HEC Pakistan, but information would be presented in summary format, and their names or their respective universities would not be

identified. I could not demand honesty from the participants involved in the study but I tried to ensure my honesty in the whole process by being as unbiased and transparent as I could be.

Additionally, some parts of the findings from the quantitative and qualitative study contradicted one another. As a researcher I have been challenged to determine the subjectivity and biases of interviewees, as well as my own position during the data analysis and interpretation of the data. However, consideration of above discussed measures for validity, reliability and trustworthiness of my research helped me minimize my biases and self-influence in the data analysis and interpretation of results. As Seale (1999) pointed out, bias is the greatest threat to trustworthiness. Rossman and Rallis (2003) referred to self- influence of a researcher as "Reflexivity" (p.38) that can compromise the researcher's objectivity—particularly in qualitative research— that can result in the collection of biased data. In short, I admit that such a shift in my roles posed a question of ethics and trustworthiness. However, I tried to avoid my personal biases, opinion, and reflection during the interviews and interpretation of data.

In addition to my role as a researcher, I had to deal with some ethical, political and practical challenges while conducting this research. I am a sponsored student studying on a scholarship, and Patton (2010) stated that in order to discuss the credibility of the research, the researcher should explicitly state the arrangements of funding and approvals for research from an organization and/or individuals. I had multiple issues with the budget and travel plans approval from USAID, my funding agency, which delayed the data collection.

On the same note, it is important to mention that LID considers this training program as one of their best programs for university faculty. I focused my perspectives and experiences on the purpose of the research. I conducted my research with the intentional design to avoid external power influences. However, it was hard to completely be rid of the influences from external powers in a complex context like Pakistan. I truly understood the notion of Smith and Hodkinson (2008) in this regard when they articulate, "academics are micro political" (p. 422) actors. In terms of political and ethical issues it was hard for me to avoid the unconscious pressure while proposing the research I felt from the LID staff (as my previous employer). Nonetheless, when I discussed my research proposal with the higher management of LID/HEC, I received enormous support and encouragement. I tried to take the higher management and project advisor into confidence and develop a trusting relationship in order to ensure that this exploratory study would provide information regarding the improvement of the microteaching model and practice that would ultimately have an impact on the success of the overall program.

Further, it was annoying, tiring and time consuming to visit, get approval, design the individual faculty interview, and then design a follow up interview for the sub-sample faculty's HoD/Deans. Despite this, I appreciated the faculty and HoDs/Deans who agreed to take the time for interviews. It was really hard to follow a schedule in Pakistan's socio-political scenario at that point. I had to fly by the seat of my pants and change my travel accordingly. For instance, one of the participants from Karachi was in Islamabad for training but declined to be interviewed. I did not stay in Karachi after collecting my data from rural Sindh because there were strikes.

According to my timetable, I had to be in Rawalpindi (after collecting data from Sindh)—which is the twin city of Islamabad. Rawalpindi was facing sectarian issues due to killings both pre and post Muharram. Therefore, I stayed in Islamabad. The faculty in Rawalpindi could not meet me due to some personal reasons and she gave me another time and day. Subsequently, I went to Lahore. The only faculty from whom I had the prior confirmation for an interview declined our meeting at the last minute, as he had to be on holidays for an unannounced time. Most of their university faculty had been receiving death threats from the student unions.

I was unable to contact any faculty member from Baluchistan because the faculties were protesting on the roads for their monthly pay. The faculty in Peshawar could not reply because there were shooting incidents in two of the major universities.[19] In such a situation I could understand why my interviews were the least important thing for them to consider. I interviewed people from Baluchistan via Skype after returning to the USA. By the same token, the arrangement for lodging was another challenge. As everywhere I travelled were places where I did not know many people. Therefore, I mostly relied on my personal spot assessment of the place as the sole evidence for a safe stay. I had to almost fight for the receipts, as most of them would ask me for a higher percentage to pay if they were printing a simple receipt for me. Moreover, general cabs in Pakistan do not use receipts. I could still request the drivers to give me one, but many drivers were either reluctant and/or illiterate. I could however, note the amount paid, date and place travelled on

[19] All these incidents could be confirmed

a small logbook, as a reasonable 'second best' solution for the record of budget provision from the World Learning, USAID.

Apart from the interview scheduling, I faced a lot of unexpected challenges from my family—though I grew up with all those limitations and challenges my whole life, which were/are beyond the scope of my doctoral study. I am from a tribal Pakhtoon family, a proud first woman from seven tribes independently pursuing higher education. It is hard to understand what this really means to be the first woman from a tribal family pursuing higher education, and what kind of responsibility and stress I was/am going through (Leathwood, 2005).

In Karachi, I stayed with my family in Metroville S.I.T.E. It is a central point of Pakhtoon Controversial Community in Karachi. During my stay, a search operation was going on in that area from the Government of Pakistan. Unfortunately, it was not USA, therefore, being a single young Pakhtoon woman, it was impossible for me to take a cab from this area alone and visit a place. As Ali (2005) (as cited in Begum, 2006) noted, in some parts of Pakistan "women are not encouraged to leave home, let alone pursue higher education" (p. 3). I required a family member, preferably a male, as a chaperon to travel with me to sites particularly in rural Sindh and in KPK.

Despite all the financial, social and family problems, I am quite confident about the enriched data. I see it as the most influential factor for my dissertation. Consequently, I want to mention that it was one of the best experiences knowing the research culture and its associated factors in my own country. I could see many things that I did not speculate about in advance while designing this research.

However, I look forward to designing the research studies on my position as a professor at Fatima Jinnah Women University, and a managing position at the Higher Education Commission Pakistan.

Delimitations

The major limitation of this study was that the results of this study were delimited to the participants of MT-FPDPs of LID, HEC Pakistan, and the results could be generalized only cautiously to the greater population of higher education faculty members, who participated in the training programs in Pakistan. This exclusivity of study for microteaching usefulness in a specific context of higher education faculty, Pakistan, may pose some challenges for its exact replication in any other context (Creswell, 2003).

Moreover, the results of the study are based only on the experiences, perceptions, views and self-assessment of the selected participants. This study only provided information about one component—microteaching— of MT-FPDP, which may not be generalized for the effectiveness of the whole program (MT-FPDP) or other modules taught during the program.

Despite knowing that mixed-methods is the best approach for me to analyze responses to my research questions, the collected data—particularly through interviews—put me in a tough position. That included using helpful tools not only to analyze data more effectively and in a shorter amount of time, but also interpreting the results through the conceptual framework lens. Coding is simply a slow process in my experience; to do it well takes time. Therefore, I was somewhat selective in

transcribing and translating the parts of HoDs'/Deans' interviews, which were generating insightful data. Therefore, I did not transcribe and code the items, which were not exclusively important for the objectives and goals of my research study.

Also, due to lack of financial resources and time constraints, I could not include all of the faculty members who participated in all 21 Batches of MT-FPDP. The qualitative data derived from the interviews with HoDs and Deans was based upon reflections of the entire MT-FPDP program, not just the microteaching module. There was no mechanism for the HoDs or Deans to use to differentiate the changes they recognized in faculty members' classroom teaching were the result of microteaching module or the entire twelve-week MT-FPDP program.

Keeping in mind the current law and order situation in Pakistan, novice faculty members from Baluchistan and some parts of KPK were excluded from a face-to-face interview as approved originally in the research proposal. I conducted a Skype interview with the novice faculty member and the respective HoDs or Dean, who met the criteria and teach at universities in these provinces.

CHAPTER 4

RESULTS

The purpose of this study was to document the self-reports of higher education novice faculty members about the contribution of the microteaching module to their teaching knowledge, skills, and self-efficacy during participation in MT-FPDP and their actual classroom teaching. In this chapter, I will summarize the collected data—obtained from the survey questionnaire and interviews—in a categorical manner based on different sections of the survey questionnaire.

Section A discusses the various demographic data that I believe could possibly affect the results, and hence the findings of my research. Section B provides an overview of the novice faculty members' views about their experiences during the microteaching module of MT-FPDP, and their recommendations for its improvement. Section C analyzes the faculty members' perceptions about the contributions of participating in the microteaching module to their learning about teaching and the changes they report making in their classrooms. This section also documents the perceptions of the respective HoDs/Deans (of selected participants) about the changes they perceived in the teaching of novice faculty members, and the individual, institutional or other factors that supported or hindered these novice faculty members from using new skills and teaching approaches. Furthermore, I discussed the emergent themes across the categories and within categories. The emergent themes mostly depict the qualitative data.

Each section begins with an overview of the analysis of quantitative data in the form of tables and graphical presentations, along with integrated supporting qualitative data in the form of interview excerpts. In order to avoid the repetition of data in tables and graphs, I presented only Mean and Standard Deviation in the tables without presenting the actual response count of the calculated frequencies. I believe presenting the data this way displays the statistics better and more visibly for each category. It will be easy for the readers to see the breakdown of the percentage distribution in the histograms that shows the relative frequencies of the responses of novice faculty to the total number of responses recorded for each variable (in this case I derived all the percentages from an absolute total of 100). The items in each category (and sub-categories) may not be consistently ordered between tables and graphs, because I ordered tables by the highest to lowest Mean, whereas graphs are ordered from higher to lower frequencies of percentages.

A – Description of Participants' Demographics

This table portrays the descriptive information of the 96 faculty members who responded to the survey, the 16 faculty members who comprised the sub-sample, and the seven HODs/Deans, who were interviewed about their faculty members. The novice faculty members were asked for basic demographic information, such as name of university, province, department/faculty, gender, teaching experience, age, qualifications, and the participated Batch [20]of MT-FPDP.

[20] Batch is a cohort of the participants, who attended MT-FDPD.

Table 4: Demographics

Variables	Category	Quantitative (Survey)		Qualitative (Interview)			
		Faculty (N= 96)		Faculty (N = 16)		Deans/HoD (N = 7)	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Gender	**Male**	60	63%	9	56%	4	57%
	Female	36	38%	7	44%	3	43%
Age	**20 - 25**	4	4%	2	13%	0	0%
	26 – 30	36	38%	6	38%	0	0%
	31 – 35	42	44%	8	50%	0	0%
	36 – 40 (and above)	14	15%	0	0%	7	100%
Batch	**16th**	19	20%	3	19%	1	14%
	17th	16	17%	3	19%	2	29%
	18th	19	20%	4	25%	1	14%
	19th	22	23%	3	19%	2	29%
	20th	20	21%	3	19%	1	14%
Provinces	**Punjab**	26	27%	4	25%	2	29%
	Sindh	24	25%	4	25%	2	29%
	KPK	24	25%	3	19%	2	29%
	Baluchistan	12	13%	3	19%	0	0%
	Federal Capital	6	6%	1	6%	1	14%
	Azad Jammu & Kashmir	4	4%	1	6%	0	0%
Degree	**Doctorate**	28	29%	6	38%	7	100%
	M.Phil. [21]/MS	48	50%	5	31%	0	0%
	MA	20	21%	5	31%	0	0%
Teaching Experience	**Less than a year**	0	0%	0	0%	0	0%
	1 Year	8	8%	2	13%	0	0%
	2 Years	18	19%	4	25%	0	0%
	3 Years	28	29%	6	38%	0	0%
	4 Years	24	25%	2	13%	0	0%
	5 Years	10	10%	1	6%	0	0%
	6 Years	6	6%	1	6%	0	0%
	7 Years (and above)	2	2%	0	0%	7	100%

The table shows that among 96 survey respondents, the participants were predominantly men, with 63% of the sample male. Therefore, I presented both male and female assertions and opinions on the questions related to gender participation

[21] M.Phil. /M.S., is an advanced postgraduate research degree, standing between a Master's and a Ph.D. Master's degrees are the minimum requirement for contract based university teaching in Pakistan.

during the program—and gender roles in implementing new knowledge and skills in their universities.

Almost ¾ of the participants have between 2 and 4 years of experience teaching, reflecting the early career nature of faculty who participate in the training. These demographic data reflect that most of them had similar fears and uncertainties that I have discussed in my literature review. All 16 participants during the interview told me that they were settled on their career and considered university teaching as their occupation, at least for the foreseeable future. Therefore, I assume that their concerns and suggestions would be genuine towards posing recommendations to LID/HEC for the change in microteaching.

Similar range of participant's teaching experiences

82% of the survey respondents and 100% of the interviewed sub-sample were between the ages of 26 and 35, having similar range of higher degrees (or working on their higher degrees). During the interviews, the novices reflected that most of them had similar fears and uncertainties that I have discussed in my literature review. More specifically, the participants realized during the training that all of them (as novices) had similar issues and fears at the beginning stage of their teaching, which helped them participate fully in microteaching process:

> *It was a valuable opportunity to express myself. I was comfortable and enthusiastic because almost all the participants shared nearly the same issues with their teaching. We all were lecturers in public sector universities, which helped us understand one another.* (**Participant 12**)
>
> *Teaching performance was easy in front of our peers instead of solely the supervisor. I valued their participation because I teach students with a similar range of life experiences and therefore, I was interested to know the feedback of*

> *participants on my teaching as compared to the feedback of my advisor.* (**Participant 4**)
>
> *In microteaching, the important push for being confident was the similar years of experiences, we all were new teachers and we perceived that no one would judge one another.* (**Participant 13**)

On the contrary, one of the participants viewed the similar set of experiences as a threat to his learning. He stressed that he would have learned better if there were more than one-experienced supervisor:

> *I would say that peer support contributed during the sessions, but I didn't like the fact that my peers were rating my teaching performance. They were not experienced enough to provide me productive feedback…that I needed being a newly appointed faculty. I would have learned more if some experienced supervisors were there to bring very solid points in front of me on which I needed to work.* (**Participant 2**)

Moreover, the small number of participants from Federal Capital and Azad Jammu & Kashmir was a reflection of the smaller number of universities, thus resulting in smaller number of participants in MT-FPDP. However, based on such demographic variables, I am confident that the data I received was representative enough to draw generalizable results. Such a diverse data set drawing from a wide range of Pakistan's cultural diversity had important implications for my research, particularly when I explored elements of peer collegiality, cultural sensitivity, and professional network building across Pakistan.

B– Faculty Members' Experiences of Microteaching Module

This section presents the reported experience of novice faculty members during the microteaching module of MT-FPDP. More specifically, in this section (B), I will analyze the novice faculty members' views about the microteaching modules' (1) **activities**, (2) **features**, (3) **content**, and their recommendations about (4) **the**

changes that could be made in the microteaching model, based on what participants felt contributed the most and least to their needs as novices. For each of these areas, I first present the results of the survey question(s) and then the qualitative responses from the sub-sample participants interviewed.

Before discussing the priori themes of the analysis, I will discuss the emergent theme about the varied expectations of novices before participating in microteaching module.

Expectations about Microteaching

During the interviews with novice faculty, I came to know that most of the participants of MT-FPDP were not familiar with the whole process, and they had confused expectations about this component. The following interview excerpts documents their expectations:

> *When I went for this training, I was very newly appointed…I earned my first salary. I was expecting that after going through the [microteaching] cycles I would be more proficient and more efficient in my teaching and presenting my content…I would be more confident and more able to motivate my students to learn.* **(Participant 2)**
>
> *I thought it would be a fantastic module and people will learn so much from this module…it [microteaching] will focus on some specific area. But what would be the specific thing? That was not clarified to me.* **(Participant 13)**

In examining the data from the interviews it became apparent that participants' range of expectations about microteaching was depending on their prior knowledge and field of study:

> *Education is my field of study. So I was familiar with the microteaching technique as opposed to many of my colleagues during the program. However, I never had an opportunity to practice the real microteaching to improve my skills. Therefore, when I heard about that module, I was happy about it. The*

> *first thing that I was expecting from the [component of] microteaching was something creative.* **(Participant 12)**
>
> *I had seven to eight months of experience of teaching at the university… I didn't have any training before this. I learned about microteaching in my M.Ed. program but we were not given the opportunity properly to execute our skills. I thought it would add to my knowledge and my skills. I was having high expectations.* **(Participant 14)**

However, faculty members in other subjects had limited knowledge about microteaching and so their expectations were either uninformed or low:

> *I did not have any idea about microteaching. The word "microteaching" was different…micro means something else in Science. But in social sciences, microteaching is something else. As a researcher in biology sciences, I never heard of microteaching before…it was strange to me.* (**Participant 15**)
>
> *Being a teacher of science and of medicine, I didn't know anything about microteaching like this. Seriously, there was no expectation of what we were going to learn because we didn't know anything about it*. (**Participant 6**)
>
> *As soon as we received the information that there is a component of training called microteaching – it was strange to us. Microteaching – we thought it is a demo teaching, but we never knew what it was composed of and what are the contents and syllabus of this course*. (**Participant 1**)

One participant completely confused the concept with a totally unrelated subject (micro-financing) and thus had negative expectations about microteaching:

> I *expected little because I thought it was designed for the economics' teachers as part of micro financing. I thought why would I be wasting my time to learn something, which is not related to my field*. (**Participant 4**)

Microteaching Activities

One question related to the process of the microteaching module was about the relative contribution of various activities within the microteaching module, such as practice teaching, lesson planning, videotaping, or feedback mechanisms (listed in Table 5 below). Participants were asked to respond to 8 items, on a four-point Likert scale with *No contribution to my learning* being a "1," and *Very strong*

contribution to my learning being a "4." I included this question because it is important to know what the participants' felt contributed most and least to their learning needs as novice faculty. These responses helped me identify recommendations for specific changes in the microteaching activities. The results are shown in Table 5 and figure 4 below.

Table 5: Contribution of microteaching activities to faculty members' learning about how to teach

Microteaching Activities	N	Mean	SD
Watching the video of my teaching practice	89	3.1	1.0
Small group discussion	91	2.9	0.8
Feedback from supervisor	91	2.8	0.7
First practice teaching	87	2.8	0.8
Observing other's practice teaching	89	2.7	1.0
Feedback from peers	87	2.7	1.0
Second practice teaching	91	2.6	1.1
Lesson planning	91	2.4	0.9

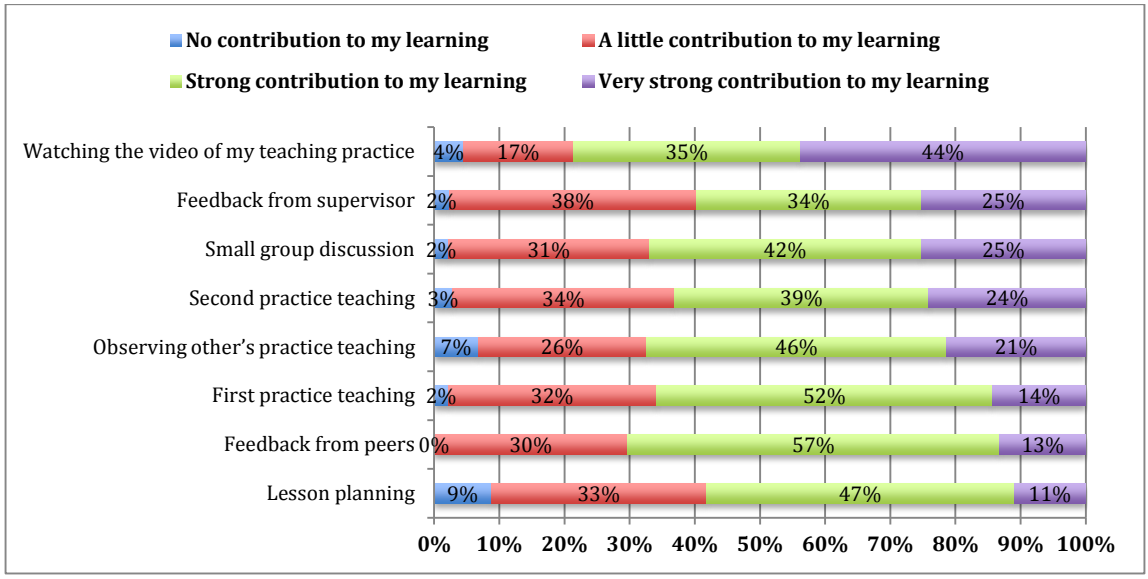


Figure 4: Contribution of microteaching activities to faculty members' learning about how to teach

The data shows that the majority of the participants (roughly 60 – 80%) found every single activity contributed to their learning. Novices perceived, the

microteaching activities promoting self-reflection and collaboration (such as "Watching the video of their teaching practice," "Feedback from supervisor," and "Small group discussion") as the most contributive to their learning during the microteaching module. In order to find out whether these two activities were rated significantly different, I ran a chi-square test.

Table 6: Chi-square test result- Microteaching activities

Activities	No contribution to my learning	A little contribution to my learning	Strong contribution to my learning	Very strong contribution to my learning	Row Totals
Watching the video of my teaching practice	4 (6.34)	15 (23.78)	29 (33.82)	45 (29.06)	93
Lesson planning	8 (5.66)**	30 (21.22)	35 (30.18)	10 (25.94)	83
Column Totals	12	45	64	55	176 (Grand Total)

p = * < 0.10
p = ** < 0.05
p = *** < 0.01

The chi-square statistic is 28.693. The P-Value is < 0.00001. There is a significant difference at $p \leq 0.05$ in the rating between 'Watching the video of their teaching practice" and "Lesson planning." Therefore, in the interviews with subsample participants, I asked specific questions about the differences between these activities.

It is important here to discuss that the aspects of microteaching supervision received very unfavorable responses throughout my quantitative analysis, except for this one question. In order to understand the inconsistency of data about microteaching supervision, I specifically asked the participants to share why they felt that "feedback from the supervisor" was a strong contribution to their learning in response to this question, but they felt it a discouraging factor to their full

participation in the microteaching module (which I will discuss later in the analysis). In response, I observed that most of the participants didn't understand the intent of the question, "To what extent do you feel that each of these activities of the microteaching module contributed to your learning about how to teach?" However, I later supposed they reported the presumed importance of these activities in microteaching process and cycles.

I was afraid that these specific responses would affect my research findings. Therefore, I probed deeply about the contribution of each of these activities during individual interviews. It was interesting to find out that all of the 16 novices agreed with their responses to the other activities such as "Watching the video of my teaching practice," "Small group discussion," "Observing other's practice teaching," and "Lesson planning" except the contribution of "Feedback from supervisor" to their learning about how to teach. Some participants said they don't remember rating "Feedback from supervisor" higher on the survey questionnaire:

> *I don't think I would rate the supervisors' feedback as a contribution. I think I just clicked on an option as this question was the first in the whole survey, and it takes some time to get the sense of each question until you read it very carefully…I developed that interest soon after this question.* (**Participant 4**)
>
> *I thought the supervisor is the key part of microteaching because he or she is in charge of your environment and learning. The supervisor encircles fellows' support–all of this. Like I was expecting maybe a little more from the supervisor. So I expressed my expectation in survey response. I don't agree with my response.* (**Participant 11**)

Alternatively, one of the participants agreed with his positive rating of this activity:

> *When a more experienced person [supervisor] says something to you, it is more important for you as compared to your fellows. It was true - those points that my peers were not able to discuss with me, my supervisor's feedback helped me recognize them...his feedback was good for me.* (**Participant 16**)

Given the unique tensions exposed by the responses to the statement in the above question regarding supervisor feedback, I further explored the implications of this specific aspect (microteaching supervision) in my analysis and discussion in the following categories.

Nearly all of the faculty, 14 out of 16, spoke directly about how watching the video of their own teaching practice had contributed the most to their learning about how to teach:

> *Watching my recorded performance was the best part of microteaching. When I was looking at my video, I came to know that I speak very quickly, and I was staring at the faces of participants. I could see my mirror image to realize how I [appear when I] teach.* (**Participant 10**)
>
> *My [self] assessment through watching my video was something I valued the most…It was my first time being video recorded. I felt like I was the star and everybody around were there to praise me!* (**Participant 16**)
>
> *This was actually different…the first time that [I have participated where] people are watching me while I also watch my video performance [together], and then directing my own learning, which helped me a lot.* (**Participant 6**)
>
> *Self-assessment via recorded video was an excellent part of microteaching. It showed me how much knowledge I have about my passion and profession.* (**Participant 11**)

Although most of the participants valued the role of video camera for their self-reflection and self-assessment, some of them also saw it as one of the causes of their anxiety, particularly in first cycle of microteaching. Anxiety about the video recording during the sessions came forward as one of the emergent themes for my data. Following interview excerpts expresses those viewpoints:

> *Initially, every one of us was really scared to have the camera. When I started teaching during the microteaching component, I felt myself a bit self-conscious because I was afraid to face the camera.* (**Participant 4**)
> *I was confused and nervous to face the camera. In review of my micro lesson, I realized that I could not face the camera. I was looking more at my hands and*

> *slides, therefore many participants rated that as a deficiencies of my non-verbal communication in the written feedback.* (**Participant 11**)

Whether as a way to see their own teaching style for the first time through the eyes of others, or as a method that boosted their confidence, watching videos helped participants assess their teaching skills.

On the other hand, when asked about the lesson planning, 12 out of 16 participants reported that lesson planning was the least contributing activity during the microteaching module. Almost every one of them considered lesson planning the most important activity of the microteaching module, a strategy they needed to learn. However, they reported that they were not given enough time, nor was the activity broken down enough into its component elements for their learning, as compared to other activities in the program. Rather, they were only asked to plan a lesson for their microteaching presentation based on the supplementary material provided. Faculty members described:

> *Lesson planning is a very important activity for microteaching. Being chemistry major, I never learned how to plan a lesson. It was an opportunity for me to learn during the microteaching module; however, there was no focus on this except the supplementary notes.* (**Participant 9**)
>
> *I always used to plan my class in my head because I felt somewhat prepared that way. I was expecting to learn lesson planning in microteaching, through which I could have been able to transform abstract ideas into a documented journal*. (**Participant 14**)
>
> *Lesson planning is the most valuable component of microteaching, but I believe planning and implementation of a complete lesson in a short period of time was impossible* (**Participant 2**)

Microteaching Features

This category presents the views of novice faculty members about the various features or processes of the microteaching module, such as feedback mechanism, peer collaboration, supplementary material, and microteaching guidance etc. The survey asked participants how strongly they felt each of the features shown in Table 7 helped or hindered their participation during the program using a four-point Likert scale, with *Strongly disagree* being a "1" and *Strongly agree* being a "4".

The microteaching features/processes included in the table below are drawn from the literature that recommends these specific elements to be included in a microteaching module aimed at novice faculty PD. Therefore, the data received from this question will also help me interpret the extent to which the higher education faculty of Pakistan felt the microteaching module addressed their specific needs as novice faculty members. The results of this particular question will guide LID to employ future strategies for improving the microteaching component of MT-FPDP to better respond to the needs of novices, and the features that comprise it. The results are shown in Table 7 and Figure 5 on next page.

Table 7: Faculty members' perceptions about the features/process of microteaching module that helped them participate fully and/or hindered them from participating fully.

Microteaching Features	N	Mean	SD
Self-assessment helped me **build my confidence**	89	3.2	0.8
It was **helpful** having my Microteaching **observed by my peers**	90	3.1	0.8
I had a **self-assessment**, or self-evaluation opportunity through **recorded videos**	88	3.1	0.9
Participating in Microteaching module helped to **develop a professional network**	86	3.1	1.0
Opportunity to **review and re-teach** helped me **identify strengths and weaknesses** of my teaching	87	3.0	0.9
It was a **safe learning environment** (with **mutual respect**)	90	3.0	0.8
Peer's feedback provided me with some **helpful** ideas on my teaching	85	2.9	1.1
The **content** (theory of Module) was closely **related to classes I teach**	85	2.9	0.9
I had **peer support** during the program	82	2.9	1.2
The **Microteaching lab** (venue) was **equipped** with required audio/visual aids	88	2.8	0.9
I was **provided** with **supplementary material** (handouts, articles etc.) about teaching skills	86	2.8	1.0
It was **easy to participate in group activities**	78	2.8	1.3
The teaching **activities** were **relevant to classes I teach**	88	2.8	0.9
The practice teaching was relevant to my teaching experience	83	2.8	1.1
There was a specific **mechanism of immediate feedback** on teaching practice from a variety of sources (Supervisor feedback, peers' feedback and self assessment)	80	2.8	1.2
The **environment** was **responsive** to my **learning** needs	83	2.7	1.1
I had an **opportunity to review and re-teach the lesson**	84	2.7	1.1
Supplementary material of the teaching skills **was adequate**	80	2.6	1.1
Feedback from **supervisor** was **helpful**	81	2.5	1.1
Supervisor had a full **understanding** of **microteaching purpose**	90	2.2	0.9
I had the **opportunity** to **interact** frequently with other **participants after sessions**	79	2.2	1.1
There was a **mentoring relationship** between participants and **supervisor**	85	2.1	1.0
Supervisor had a full **understanding of** proposed **teaching skills**	86	2.1	1.1

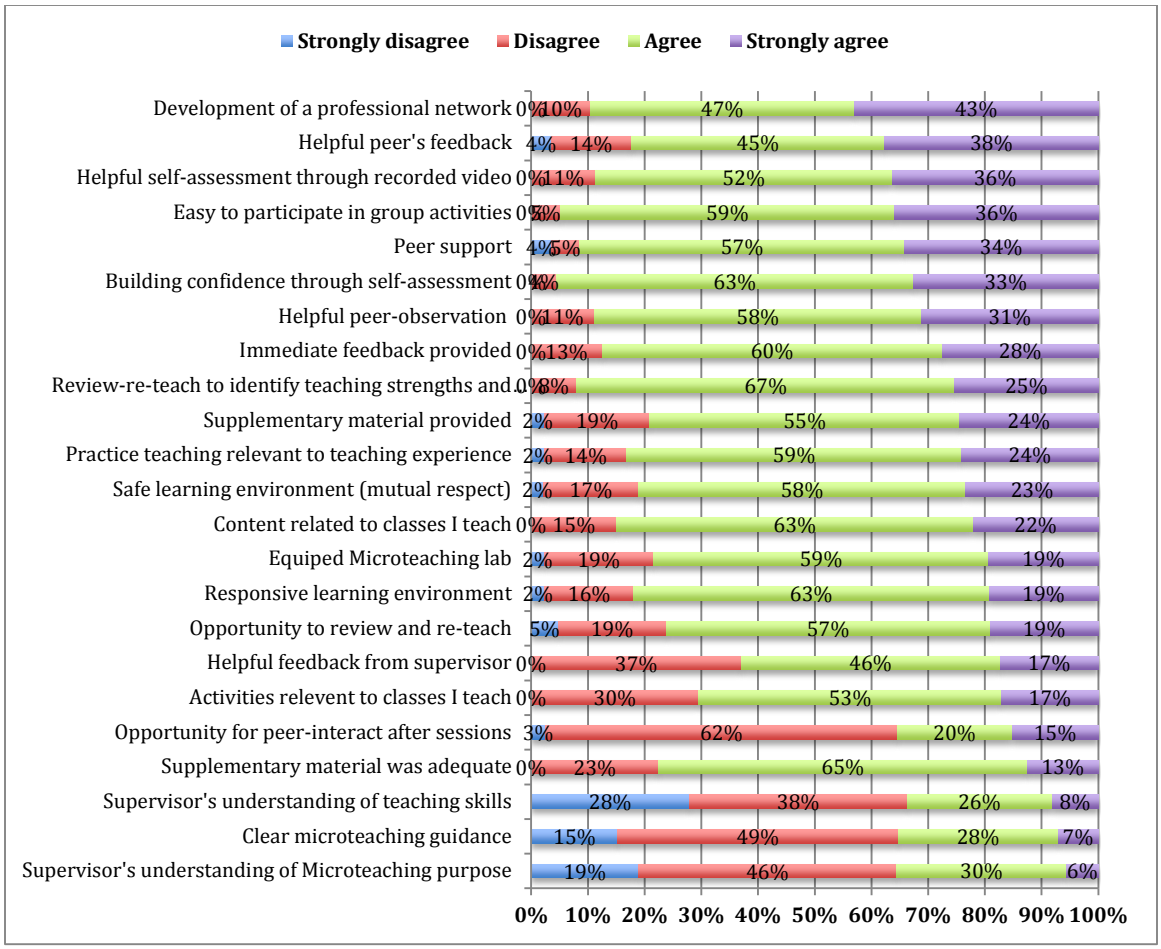


Figure 5: Faculty members' perceptions about the features/process of microteaching module that helped them participate fully and/or hindered them from participating fully

The survey data in table and Figure indicate that most of the microteaching features helped novices to participate fully (19 out of 23 features of the microteaching module received at least 60% "Agree" or "Strongly Agree" responses). The vast majority (90 %) of the faculty agreed that participation in microteaching module helped them to develop a professional network. Moreover, the majority of the novice faculty believed that the other remaining aspects related to peer collaboration and support, self-reflection, and feedback mechanism helped them participate fully during the program. On the contrary, a majority of the participants are least in agreement with the items related to microteaching

supervision ("supervisor's understanding of teaching skills," "mentoring relationship between participants and supervisor," and "supervisor's understanding of microteaching purpose"), which received unfavorable responses indicating it hindered the participation of novices during the microteaching module. In order to understand the participants' views on each feature, I asked some specific interview questions about these features of sub-sample participants.

Both in my quantitative and qualitative data, the novices agreed and/or disagreed with the various features and processes, which I found were categorically related and relevant to the priori sub-themes. Specifically, the data received from interviews informed me about the associated factors among the features/processes presented in above table 7 and Figure 5. Therefore, I consolidated such related items that helped or hindered their participation— during the microteaching module—into seven distinct and/or consolidated sub-themes. I also discussed the two emergent sub-themes ('Gender Issues that Affected Participation' and 'Cultural sensitivity around Participation') under the hindering factors.

The following table shows the helping and hindering factors specifying the individual sub-theme and the items comprising it.

Table 8: Helping and hindering features to participation during microteaching

Microteaching features that helped the novices participate fully	Microteaching features that hindered the novices participate fully
1. Development of a professional network • Participating in microteaching module helped to develop a professional network	***1. Microteaching Supervision*** • Supervisor had a full understanding of microteaching purpose • Supervisor had a full understanding of proposed teaching skills • There was a mentoring relationship between participants and supervisor
2. Building confidence • Self-assessment helped me build my confidence • Opportunity to review and reteach helped me identify strengths and weaknesses of my teaching • I had an opportunity to review and re-teach the lesson	***2. Relevancy to the Context*** • The content (theory of module) was closely related to classes I teach • I was provided with supplementary material (handouts, articles etc.) about teaching skills • The practice teaching was relevant to my teaching experience • The teaching activities were relevant to classes I teach • Supplementary material of the teaching skills was adequate
3. Peer support • It was helpful having my microteaching observed by my peers • I had peer support during the program • It was easy to participate in group activities • I had the opportunity to interact frequently with other participants after sessions	***3. Emergent Theme*** • Gender Issues that Affected Participation • Cultural sensitivity around Participation
4. *Feedback mechanism* • Self assessment through recorded videos helped me revise my lesson to reteach • Peer's feedback provided me with some helpful ideas on my teaching • Feedback from supervisor was helpful to the ideas on my teaching	
5. Microteaching learning environment • It was a safe learning environment (with mutual respect) • The microteaching lab (venue) was equipped with required audio/visual aids • The environment was responsive to my learning needs	

I will present the qualitative data received from the open-ended survey questions and interview responses in the below categories. I will first present the categories of features or processes that helped participants (going from most

supportive to least supportive). Then I will provide the qualitative evidence about the features or processes that hindered participation (going from most hindering to least hindering).

Development of a Professional Network

In my pilot study, most of the faculty members viewed it (Development of a professional network) as one of the most critical features of the microteaching component of MT-FPDP. Therefore, I asked the participants in a survey questionnaire to report their agreement or disagreement about it. Ninety percent of the survey respondents agreed that microteaching helped them develop a professional network. Upon asking about this particular feature during the interviews, 13 out of 16 participants confirmed the quantitative findings:

> *People from the same places were not allowed to live in the same room… most of us didn't like this [strategy] at first, but it was one of the best ways to develop the collegiality and harmony among us.* (**Participant 3**)
>
> *It was the first time that I was in training with people from all over Pakistan. I shared the microteaching practice with my roommate from Punjab…to be honest being a Baluchi; I was always biased about people from Punjab…you know they get more privileges than us. But she is one of my best friends now.* (**Participant 16**)
>
> *We are connected on the Facebook page of LID, and share the challenges and achievements of our learning, and trying to find the similar peer support that we had during microteaching.* (**Participant 16**)
>
> *I found my best professional friends after microteaching session…compared to the rest of the time that I spent in LID…because I came to know about our common interests, strengths and weaknesses in our teaching. Now I have my professional buddies all over Pakistan.* (**Participant 7**)
>
> *Normally in Pakistan we don't have much interaction with people from other provinces. After attending microteaching session and preparing lessons together, I found how important it is for us to work mutually. It was not really easy to share but the interaction during the learning process of microteaching was helpful more than participating in other modules.* (**Participant 5**)

Now I discuss my concerns and research plans with my friends from MT-FPDP via Skype, and seek their suggestions and insights about those issues. (**Participant 14**)

Now we communicate with each other about cascading the program at our universities and asking one another to serve as supervisors. (**Participant 7**)

Building Confidence

Most of the participants (14 out of 16) viewed microteaching practice as a confidence-building component of the MT-FPDP:

*I was confused about the fact that participants of the microteaching session, being university teachers [adults], have similar sets of experiences and levels of understanding as I do. I was confused and nervous when I was delivering my microteaching lesson in cycle one. But in the second cycle, after watching my recorded video, I performed unbelievably…I set up my presentation, welcomed the participants, and involved them in my teaching***. (Participant 2)**

*Microteaching was an excellent opportunity to overcome my doubts about my teaching. I learned the teaching competencies outlined for the microteaching component. But I learned an extraordinary skill of self-assessment…a skill of controlling my weaknesses and perceiving myself as a champion with full confidence. (***Participant 12)**

I was always a shy person. I thought I would be unable to teach in front of teachers from different disciplines and different parts of Pakistan. However, after the presentation of some participants, I realized we all are in the same boat. We are new teachers and most of them also don't have the specific microteaching skills, so it gave me a boost. **(Participant 10)**

Peer Support

All 16 participants agreed that the active participation of their peers was supportive for their own full participation during the program:

Participants in this training played a huge role. I never had such an environment to freely discuss my fears and weak points with my fellows. **(Participant 5)**

In the whole period of MT-FPDP, we came to know many things about one another, but microteaching was the most effective component that brought us very close. Feedback from our peers developed a strong connection among the whole group. **(Participant 12)**

> *My peers discussed and analyzed my weaknesses in a very positive way. They put forward good suggestions and I believed they understood me more than our supervisor, and helped me learn effectively*. **(Participant 3)**

Since 62% of the participants reported in the survey questionnaire that they did not have enough time to practice the material being taught they were not provided with an opportunity for peer-interaction after sessions, I probed in my interviews about the most valuable time with peers, either during the sessions and/or outside the microteaching venue:

> *The whole training was a great opportunity, but planning our micro-lessons in late evenings… just hanging out for lunch or dinner…when having tea in the evening…when going outside with friends or when we had field trips, which was limited…provided us a great opportunity to discuss our professional lives in different universities of Pakistan.* (**Participant 8**)

Teach-review-and-re-teach

Participants viewed the teach-review-and-re-teach cycles of microteaching as a very supportive factor in their full participation in this component of training:

> *I did not work very hard on my first cycle micro-lesson because I wanted to improve my teaching and wanted to review flaws in my teaching. However, in the re-teach cycle I tried to show an improved version of my teaching.* (**Participant 11**)
>
> *I enthusiastically participated in second cycle compared to the first cycle because review of one's own teaching and opportunity to re-teach was an open option for everyone.* (**Participant 7**)

Feedback Mechanism

Thirteen out of the 16-sub-sample participants agreed that they received immediate feedback from supervisors and peers during the microteaching sessions, which contributed to their learning. The participants agreed that microteaching

feedback mechanism (which consisted of the three separate channels of supervisor, peers, and video recording) was helpful to their participation during the module:

> *Microteaching provided me the prospect of recognizing my weaknesses and strengths from feedback of supervisor, fellows, and video recording. Sometimes you cannot fix your weak points in such a short period of time between teach and re-teach cycles. But it really helped me to effectively use my strengths, and cover my weaknesses in the re-teach session.* **(Participant 3)**

Most of the participants (9 out of 16) agreed that peer feedback was very helpful:

> *My peers identified my weak and strong points on the given evaluation form, and I also received very productive oral feedback. It gave me a chance to work on my weaknesses and improve them.* **(Participant 12)**

In regards to the results about feedback mechanisms—specifically, having three separate channels of feedback from supervisor, peers, and video recording—15 out of 16 participants expressed their dissatisfaction with feedback from their supervisor:

> *The supervisor was not very encouraging. He emphasized to improve the skills of microteaching, but did not have much knowledge to share when it came to productive feedback.* **(Participant 4)**
>
> *I felt that the feedback of my supervisor was overlooking the skills we learned and improvement we made… his feedback mainly focused on highlighting the shortcomings.* (**Participant 16**)

Microteaching Learning Environment

Nine out of 16 participants agreed that the safe and conducive learning environment of the microteaching influenced their participation positively:

> *The sessions were planned really well…the super supportive team and leadership of LID, Ms. Noor Amna Malik's personal interest and daily visit made the environment super encouraging and really helpful to us.* **(Participant 14)**

One of the participants highlighted how mutual respect among participants made the learning environment safe to perform without fears of being wrong:

> *It was a very friendly environment without the fear of a stark criticism from other faculty members particularly when a novice teacher like me wanted to apply and practice a new teaching technique or methodology.* **(Participant 2)**

Another participant shared his view about the artificial environment:

> *We were asked to observe the teaching practice of our peers as if we are real students sitting in a real classroom in a university…so sometimes we became nasty students…I personally learned a lot acting like a real student. It would have been difficult with real students.* (**Participant 8**)

However, another participant felt that acting like a student in peers' presentations was the hardest thing for him. He added:

> *We were supposed to act like students…Some faculty members were offending others…It was hard for me to understand the concept of fake students…why couldn't we observe the sessions like peers?* (**Participant 10**)

In general, participants felt that the physical environment (facilities, the microteaching lab, equipment, etc.), did not support their learning:

> *The seating arrangement was in round table small groups, we had to move chairs or tilt our head all the time to hear the presentation…it was problematic for my learning.* (**Participant 16**)
>
> *The electricity was poor. It was a big hall and we were just offered a place on one side of the hall. It was not at all a purpose built room.* (**Participant 3**)

Microteaching Supervision

In this category I will discuss the features related to supervisors understanding of the microteaching's purpose and activities, mentoring the novices, and their expertise in the microteaching skills. Participants showed disagreement in regards to all of the questions asked in the survey about microteaching guidance (see Figure 5).

Fourteen out of 16 sub-sample participants pointed out that the supervisor did not have the required level of expertise to teach microteaching skills:

> *The supervisor did not know how to teach microteaching skills…or to supervise and review the whole process. She had crammed a few sentences about pitch of voice, eye contact, and time limitations…she was telling everyone the same thing instead of guiding the participant about the specific skill he/she was presenting.* (**Participant 15**)

When asked about the supervisor's understanding and purpose of microteaching, one of the participants stated:

> *I was very confused about the feedback of the supervisor. It was mostly irrelevant from the purpose of microteaching...I doubt if he has ever studied about microteaching*. **(Participant 6**)
>
> *Our supervisor was a professor of English literature I believe. Her main focus was on drama and poetry. Every example, every suggestion, every piece of feedback was related to literature and drama and English language, which were not related to our subjects. Every teacher cannot talk like an English teacher in the class to engage the students…that was the main difference. She applauded the presentations of English department faculty more as compared to our presentations…she even bribed us at the end with gifts expecting us to give good feedback about her.* **(Participant 1**)
>
> *My supervisor didn't like my Pushto accent, and I felt she made fun of it in front of everyone. She said, "I don't understand most of the things you say in English." To be honest, when I was giving the second presentation, I was confused about what I should do to impress her, so that she would give me some good marks…it was all about a game of marks… there was minimum learning.* **(Participant 14**)
>
> *We are not used to speaking English in class, so in the middle of the presentation I lost tempo to speak English... So I stopped speaking English. This was the main reason my supervisor rated my performance negatively.* (**Participant 7**)
>
> *The supervisor was a discouraging factor for me because I wanted to present in re-teach cycle, but he did not allow me. I knew that I need improvement and my peers pointed out the same thing, but he resisted. Therefore, I was interested least to participate in the second cycle of microteaching.* (**Participant 4**)

As opposed to the expectation of mentorship for novices by supervisors during microteaching module, many acted in ways that gave a more dictatorial impression to them, thus discouraging their participation:

> *The first day of microteaching, my supervisor said, "I am a mentor, and I am not here only to supervise…rather my job is to keep encouraging all of you and help you learn…she said you can share any concern"…later she would say…you are a higher education faculty …you should understand it…Really!!!...I was looking forward to having a mentor.* **(Participant 8**)
>
> *She just gave us an idea about the teaching skills. When I asked for some detail or use of the particular skill, she become very rude with me…I asked her for written feedback and she refused.* (**Participant 2**)

<u>Relevancy to the Context</u>

In this category, I will document how the novices viewed the relevancy of microteaching content, activities, supplementary material, and practice teaching (during the MT-FPDP) to their actual classroom teaching.

Twelve out of the 16-sub-sample faculty members affirmed that they found the content of the microteaching module irrelevant to their teaching context:

> *The content of the module and supplementary material about different teaching skills was designed for elementary school teachers mostly in a European context. It was from 1960's. I think LID ignored the fact that we are teaching adults in 21st century…teaching of adults is different…My supervisor probably studied in the 1960s'…and I agree she didn't want to come out of that era.* (**Participant 7**)
>
> *For me, whatever was written in the content was not important because I thought I'm not going to, you know, learn it by heart. I just wanted to get the sense of why they are teaching us these kinds of skills.* (**Participant 5**)
>
> *It is not like where you study [in USA]...where a teacher plans, delivers, and evaluate without being afraid of having a bomb blast the next morning or road blocks and check points…I did not learn from the US adapted content of the skills.* **(Participant 12)**

Ten out of 16 participants perceived the microteaching **activities** as inappropriate to their application at the higher education level:

> *The activities were definitely not for the higher Ed. teachers. It didn't add any new information to my knowledge.* (**Participant 13**)
>
> *The supervisor was treating us like secondary school students; she took spelling tests from us…she was an English linguistics professor, but I didn't understand the logic of doing the spelling test activity with higher education faculty.* (**Participant 1**)

Gender Issues that Affected Participation

Participants (both male and females) touched on gender issues that affected their full participation:

> *I observed that female participants were not very comfortable while presenting in front of the whole group, who were very energetic and participative in small group activities.* (**Male: Participant 6**)
>
> *One of our peers was presenting and some of the other participants were acting like mischievous students of the class by asking some silly questions. They might be trying to establish a real classroom situation, but for that particular participant, that could be a hindrance particularly from female participants*. (**Male: Participant 13**)
>
> *When I thought of teaching the micro lesson in front of the male fellows, it became a burden on my mind. I was afraid of facing silly gestures or gazing, but I did not confront anything like that*. (**Female: Participant 8**)
>
> *In the start, everyone is nervous, but the feedback especially from male fellows was biased. Being a woman of Pakistan, you must know it is a big factor.* (**Female: Participant 7**)
>
> *In those two months I kept my face covered. I would totally not agree with people, who say that it [a veil] is a hindrance in communication. Because I don't remember that I felt uncomfortable…I was not gender conscious...everyone was comfortable with it…in fact they respected me more than other female participants.* (**Female: Participant 4**)

In contrast a participant felt uncomfortable with her presence, and specified it as a hurdle in group work:

> *In our group there was one lady whose face was always covered and none of us [males faculty] would agree to work in a small group with her. We were unable to take pictures…she refused to record her lesson, and still expected us to provide her feedback as we provided to other participants after watching their recorded videos... It was psychologically uncomfortable for me.* (**Male: Participant 16**)

Both male and female participants considered the biased role of supervisors as a reason for creating such an environment:

> *There is a list about the code of conduct that we followed throughout the program, and we did not feel anything like this in other sessions. However, the supervisor announced in microteaching session "I will not tolerate silly gestures and comments towards females." We were surprised as to why we were discussing it.* (**Male: Participant 5**)

> *The supervisor asked the female participants if they are not feeling comfortable, they can refuse to do video recording, but I did not agree. I was there to learn the teaching skills, and I had it as a golden opportunity of self-assessment.* (**Female: Participant 3**)

<u>Cultural Sensitivity around Participation</u>

Seven out of 16 participants touched the issue of "cultural sensitivity" during the whole program and more specifically during the microteaching module.

> *I felt like our [provincial] backgrounds were neglected during MT-FPDP, but I felt it more in microteaching. Each of us came from a different part of the country…we were raised up differently…we studied in different environments…but when judged by a supervisor from a different background he/she fails to understand the participant's point of view.* (**Participant 7**)

> *The supervisor asked us to dress up professionally for presentation…I am proud of my cultural identity…they should not specify such things*. (**Participant 13**)

More specifically, some novices felt uneasy in peer interactions with those outside their own normative cultures:

> *It was very difficult for me to know how I should interact with people from different provinces. Because sometimes in one culture, one thing can be nothing and in another culture [of another province] it can be extremely bad.* (**Participant 8**)
>
> *I knew my Punjabi fellows didn't like me…it was difficult for me to participate…I was offended when they passed some racial comments…they were making fun of me speaking Urdu and English…and the supervisor was not responsive to it.* (**Participant 11**)

In response to the open-ended question on the survey, a female participant shared her concern:

> *Learning Innovation Division sent all of us the CD's of our [microteaching] performances through the courier. I don't want everyone to have my recorded video. Its not appropriate in my culture…I am teaching in a university, but they should understand the risk of it.* (**Participant 4**)

Microteaching Content

The survey asked respondents to specify the relative contribution of the content to their learning —the acquisition of ten teaching skills (that they practiced during microteaching sessions of MT-FPDP)—on a five-point Likert scale where '*Very much*' (being a 5) indicates that the microteaching module has prepared them for the specific skills and '*Not at all*' (being a 1) indicates that the microteaching module weakly prepared them for the specific skill. This question is primarily related to the purpose of the microteaching model—"***Acquisition of teaching skills."*** The intent of this question was to recognize how much novice faculty felt microteaching module aided them in the acquisition of these specific teaching skills. The results are shown in Table 9 and Figure 6 on the next page.

Table 9: Faculty members' perception about how well the Microteaching sessions helped them acquire the following teaching skills (practiced in microteaching sessions)

Microteaching Skills	N	Mean	SD
Communication	92	4.2	0.9
Presentation	92	4.2	0.9
Ending or summing up[22]	89	4.2	1.0
Questioning	90	4.1	1.1
Exemplification[23]	92	4.1	1.2
Setting induction[24]	92	4.1	1.0
Encouraging the students to question	92	4.1	1.1
Methodology	92	4.1	0.8
Judging the students' problems	92	4.1	0.9
Planning[25]	92	3.8	1.1

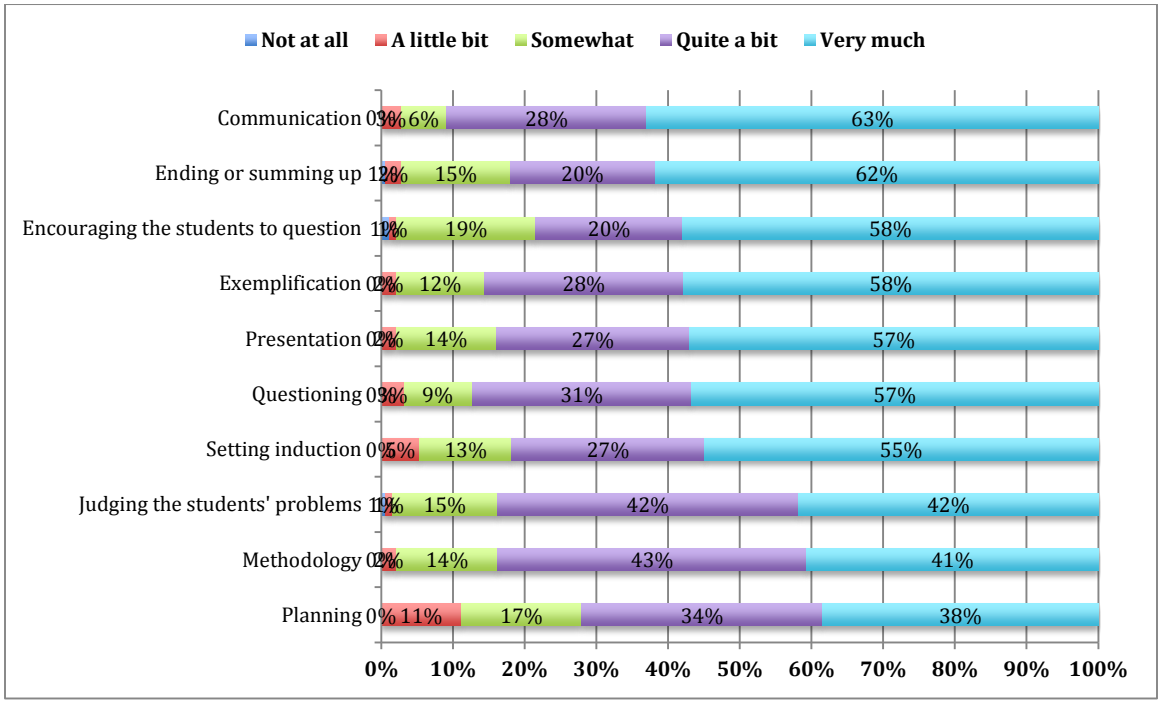


Figure 6: Faculty members' perception about acquisition of microteaching skills (practiced in microteaching sessions)?

[22] Exemplification is a process to connect what has been learnt, and what still needs to be learned.

[23] Setting induction is verifying the concepts being taught by beginning with simple examples and progressing to evermore-complex ones.

[24] Ending or summing up is a process of closure to an activity.

[25] Planning (Objectives vs. Contents, Gathering the sources, Outline from A-to, Expected questions, Methodology, Evaluation of success through feedback)

Overall these data tell us that the novice faculty felt that the microteaching module has helped them acquire most of the teaching skills that they were practicing during the microteaching sessions. However, there is a marked difference between the degree of favorability in the rating of communication (91%) and planning (72%).

Table 10: Chi-square test result- Microteaching skills

Results						
	Not at all	**A little bit**	**Somewhat**	**Quite a bit**	**Very much**	***Row Totals***
Communication	1 (1.12)	6 (12.29)	9 (13.97)	30 (30.17)	54 (42.46)**	100
Planning	1 (0.88)	16 (9.71)	16 (11.03)	24 (23.83)	22 (33.54)	79
Column Totals	2	22	25	54	76	179 (Grand Total)

p = * < 0.10
p = ** < 0.05
p = *** < 0.01

The chi-square statistic is 18.4359. The P-Value is 0.001014. There is a significant difference at $p \leq 0.05$ that indicate that participants felt the microteaching module was most helpful in developing their communication skills in teaching.

Twelve out of 16 novices considered a positive and high perception of gained skills:

> *I was excited to participate in microteaching sessions because I believed after learning about all those microteaching skills, I will be better able to manage the classroom time and deal with students' individual learning problems, which were major issues for me in early months of teaching.* (**Participant 2**)
>
> *My communication skills were considerably changed in those three days. When I presented the micro-lesson during the second cycle [Re-teach]…lecture, I remembered the feedback from my microteaching peers. They asked me to use hand gestures and have direct eye contact...I suppose I was learning every day.* (**Participant 11**)

However there were sessions with significant minorities of up to 34% voting unfavorably. Only "Planning" was rated unfavorably (not at all or a little bit) by as much as ten percent of the respondents and had the lowest mean at 15.6. The data indicate that content and/or the practice of "planning" might not be as responsive to the needs of novices as the other microteaching skills. Therefore I asked the novice faculty to share their views in detail during the interviews. When asked specifically, what was lacking in the teaching or learning of "planning" that made them feel less prepared for this skill as compared to the other skills, they shared multiple concerns:

> *I don't know if it was a skill…I was confused about the lesson planning activity and planning as a skill…The discussion, the lecture, even the written notes [supplementary material] for "planning" a lesson or a class…were not realistic…they were not about our issues…the issues of Pakistan.* **(Participant 12)**

Some participants stated that planning being used as a microteaching skill-MT-FPDP-is not a single skill, but a goal with a set of processes for lesson planning:

> *I learned from the participants' presentations that I should do my job, I should plan before coming into the class, and I should execute that in a proper manner. I have to prepare myself; I have to know what I should do after 15 minutes, after 20 minutes, and what I should do in the last minutes so that nothing comes like an accident for me…however I didn't feel that planning was just one skill…it was a lot.* **(Participant 16)**
>
> *For me all the skills were very big to grasp. I don't think anyone of us could have learned those skill sets in such a short period of time…Especially planning was beyond what was a reasonable expectation to master in that time as a single skill.* **(Participant 8)**

"Setting induction" had the second lowest rating in regards to those who felt it contributed only "a little bit" in the survey data. I asked sub-sample interviewees why setting inductions was not rated as highly as other skills, but none of the 16

sub-sample participants spoke negatively about it." Even so, a majority of 9 out of 16 participants felt positive about the building of this particular skill during the program:

> *Setting induction was one of the most interesting skills for me to learn. I delivered my microteaching lesson focusing on this skill, and I knew at that time that I would use this skill a lot in my classroom teaching…I did not experience that thing before*. **(Participant 1)**

In relation to the content or skills taught during the microteaching module, I also asked survey respondents to indicate the priority they would now (currently) place on 15 of those different teaching skills that literature recommends for higher education teaching (such as "Developing critical thinking" and "Fostering inquiry learning") for inclusion in microteaching module. The question asked participants to rank each of these 15 skills on a four-point Likert scale with *No priority* being a "1," and *High priority* being a "4." The intent of this question is to identify participants' perceptions about the remaining teaching skills novice faculty now feel they need to obtain that they did not acquire during the microteaching module. Also, it is important to get the participants' opinions, in hindsight, of the teaching skills most important to them so that changes may be made to the microteaching module, if necessary. The results are shown in Table 11 and Figure 7 below.

Table 11: Faculty members' recommendations for prioritizing the higher education teaching skills to include in the microteaching module

Recommended Teaching Skills	N	Mean	SD
Developing critical thinking	86	3.6	1.0
Fostering inquiry learning	90	3.5	0.7
Diagnosing difficulties	87	3.5	0.9
Encouraging self-reflection	85	3.4	1.1
Counseling individual students and groups	86	3.4	1.0
Improving grading and feedback skills	86	3.4	1.0
Coping with diversity issues of students	86	3.3	1.0
Encouraging students to evaluate and make judgment	82	3.3	1.2
Structuring the classroom environment	85	3.3	1.1
Handling disruptive and uncooperative behavior	85	3.3	1.0
Giving small group guidance and supervision	87	3.2	1.0
Fostering Conflict resolution skills	80	3.1	1.3
Developing self-knowledge and self-discovery skills	78	3.0	1.4
Design collaborative learning activities	77	2.9	1.0
Supervising lab sessions	87	2.8	1.4

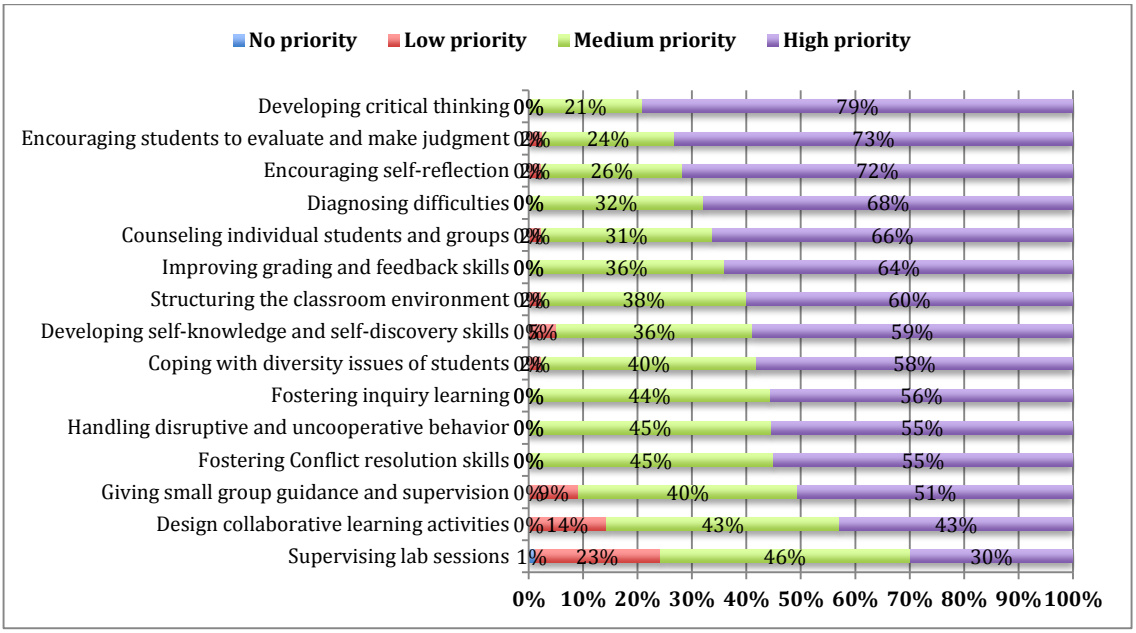


Figure 7: Faculty members' recommendations for prioritizing the teaching skills to be included in the microteaching module

The table shows that almost no participants feel that any item should be given "no priority", and the majority of the participants gave either medium or high

priority to all of the skills. Respondents prioritized learning teaching skills for improving students' cognitive skills of critical thinking, evaluation and making judgments. The skill least important to participants for inclusion in the microteaching module is supervising lab session activity (which nonetheless still had an overall 76% positive rating).

However, as the expression says, "when everything is a priority, nothing is a priority". Therefore, I ran a chi-square test to see the differences between the most prioritized (Developing critical thinking) and least prioritized (Supervising lab sessions) recommended skills.

Table 12: Chi-square test result- Recommendations for prioritizing skills

Recommended Skill	No priority	Low priority	Medium priority	High priority	Row Totals
Developing critical thinking	0 (0.64)	8 (16.04)	60 (60.30)**	68 (59.02)	136
Supervising lab sessions	1 (0.36)	17 (8.96)	34 (33.70)**	24 (32.98)	76
Column Totals	1	25	94	92	212 (Grand Total)

p = * < 0.10
p = ** < 0.05
p = *** < 0.01

The chi-square statistic is 16.843. The P-Value is 0.000761. There is a significant difference at $p \leq 0.05$ in the priority level given between 'Developing critical thinking' and 'Supervising lab sessions' skills.

For further exploration, I asked the sub-sample participants in their interviews why they recommended including specific skills:

> *I felt that most of the teaching competencies they taught in microteaching do not fulfill the requirements of higher education faculty. There is a need for more higher order skills.* (**Participant 3**)

Now, I encourage students to be involved in teamwork and discuss their concerns in small groups, which helped me fill the communication gap that I always had with my students. But I really want to teach them how to reflect on their own learning…I need to learn some specific skills for cultivating their own reflectiveness. (**Participant 1**)

I teach adults, who have a lot more to share in the classroom, but I am struggling with their lack of interest…I am unable to develop learning habits where they can see their pluses and minuses…I want to teach in a way that develops their curiosity to learn…that forces them to think critically. (**Participant 15**)

Students come to me with all kinds of issues…I want to hear their problems…but I don't know what I will tell them as solution…so I indirectly discourage them. Microteaching should also add the counseling skills. Maybe it will take two or three days, maybe it will take some extra time in the evening, but it's worth it. (**Participant 12**)

I teach the students, who are grown up…some are older than me… we teachers never try to provoke them to share; rather we come deliver the lecture and leave. I would highly suggested that LID should include skills that teaches us [faculty] how to involve students in their learning, to be curious…to influence their sharing. (**Participant 13**)

Recommendations for Changes to Microteaching Experience

In addition to novice faculty members' opinions about the experiences of the microteaching module (content, activities/process, and features), I also asked survey participants to respond to a simple three-point Likert-type scale about their recommendation for changing if they were given an opportunity to repeat the experience of microteaching module. The results are shown in Figure 8 below.

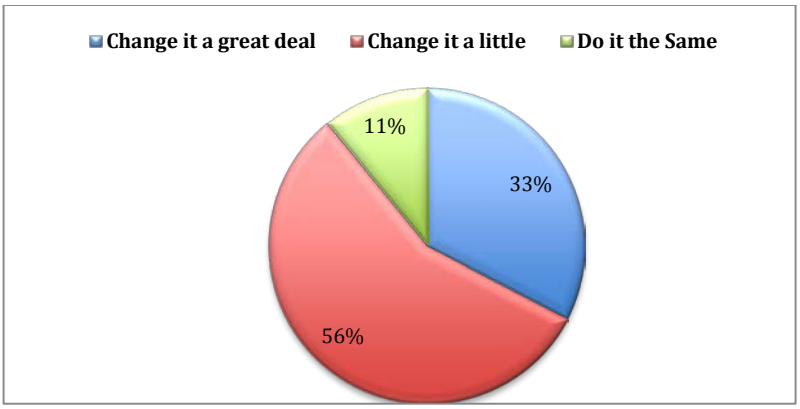


Figure 8: Recommendations for changing the experience of microteaching module

These results were surprising, as they seemed contradictory to participants' high ratings given to differing aspects of the module, as represented in the data on previous tables and graphs. Respondents were three times as likely to suggest a great deal of change rather than no change. The majority of participants appear to feel that the microteaching module should be changed somewhat but not a great deal. It is not clear whether the difference between their overall recommendation for change and their views about specific microteaching content, activities and features are significant or why they are present.

A second survey question about which specific components of the microteaching module participants would recommend for change provided more data for understanding their recommendations. In the survey, I asked about the specific features, content, or activities (listed below in table 10) in the design of the microteaching module they want to change. It was a multiple-choice question in which they could simultaneously select more than one answer (e.g. supervision, microteaching lab, and small group discussion all being selected by 'participant 2'). Therefore, as seen in the data below, there are numerous participants who choose

more than one option in response to this question. The results are shown in Table 13 and Figure 9 on next page.

Table 13: Recommendations for changing the specific aspects of microteaching module (N= 76)

Aspects of Microteaching	N
Supervision	37
Feedback mechanism	34
Supplementary material	33
Microteaching lab (Venue)	30
Content of the teaching skills	27
Practice teaching	24
Lesson planning	23
Video recording practice	22
Small group discussion	19

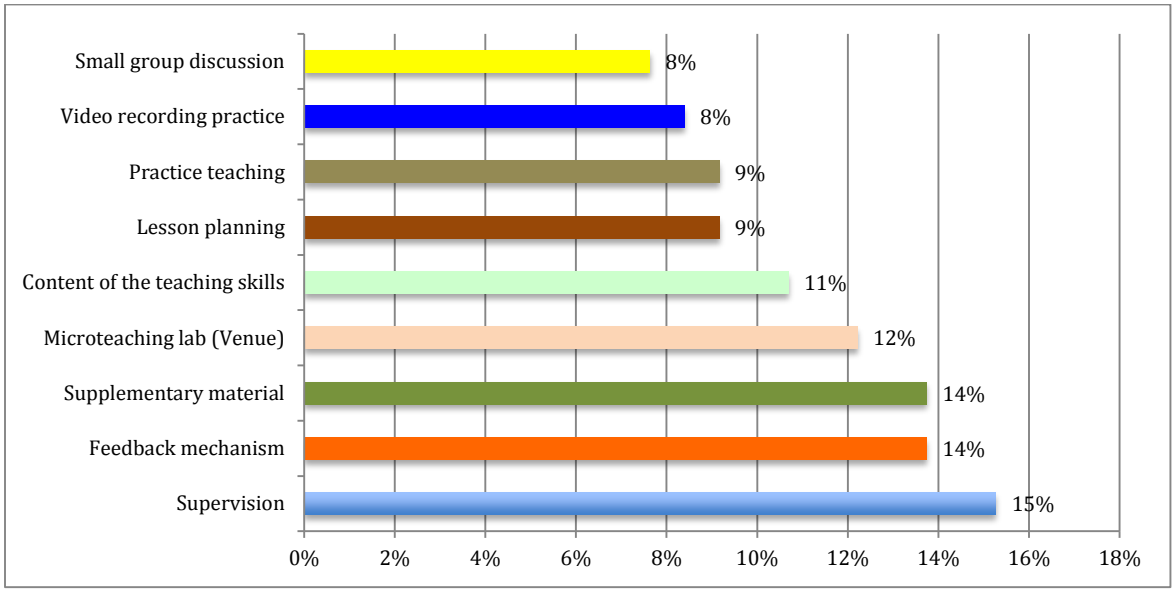


Figure 9: Recommendations for changing the specific aspects of microteaching module

These results indicate the specific aspects that participants would like to change in the microteaching module. A change in supervisors' role and in feedback mechanisms (including getting feedback from supervisors) were the components participants felt most needed to be changed. In addition, "supplementary material" and "microteaching lab (Venue)" also received poor ratings. Before analyzing and reporting the qualitative excerpts (in-depth responses of the novices) about

recommendations for changing the microteaching module, I will disaggregate the results about the participants' views on scope of change to the microteaching module and its specific aspects by Batch.

Disaggregation by Batch[26]

I analyzed the responses of the novice faculty on the basis of their participation in individual Batches of the MT-FPDP. This table provides us more specific information about each Batch, and how the faculty feels about changing the microteaching module. In the table below I re-numbered the Batches such that the 16th Batch is 1st, the 17th is 2nd, the 18th is 3rd, and so on. The results are shown in Figure 10 below.

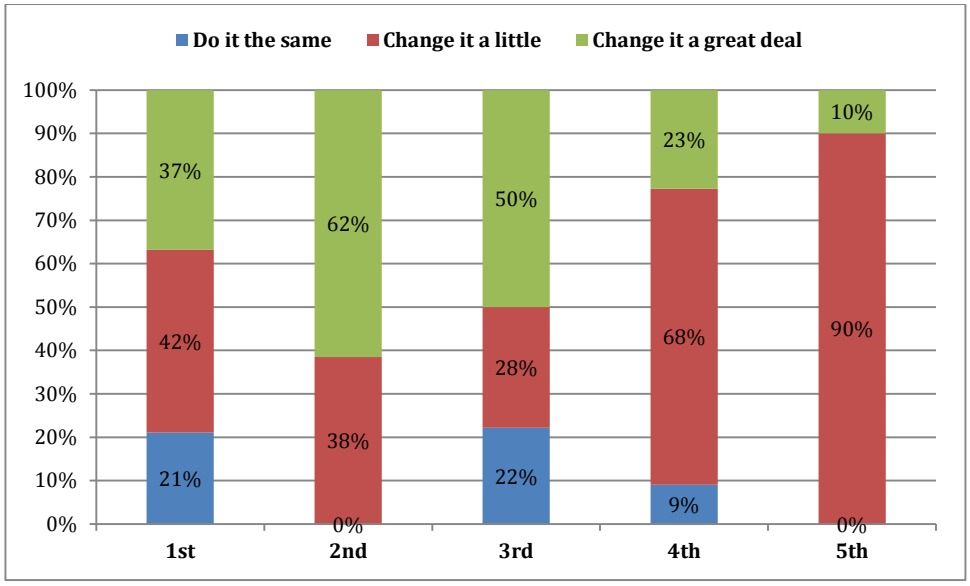


Figure 10: Faculty members' responses about changing the experience of microteaching module by Batch

The Figure shows that there were differences by Batch. If they were given a chance to repeat the program they would request changes be made. We see a particularly strong change in the number of participants requesting a great deal of

[26] Batch is a cohort of the participants, who attended MT-FDPD.

change between the 2nd and 5th Batches, as the percentages are cut down by more than 80%. In order to find out whether these differences of opinions for change were significant, I applied a chi-square test to see if the proportions are different from each other overall. The results are shown in the table 14 on next page.

Table 14: Chi-square test result-Disaggregation by Batch

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	48.221[a]	8	.000
Likelihood Ratio	55.904	8	.000
Linear-by-Linear Association	.179	1	.673
N of Valid Cases	163		

The Pearson chi-square test is significant with a chi-square value of 48.22 and degrees of freedom of 8, with a p value of 0.00. Therefore, at least two proportions are significantly different from each other among the three categories of the attitude variables 'Do it the same,' 'Change it a little,' and 'Change it a great deal.' To find which two pairs of proportions are significantly different from each other, multiple Z proportion tests with Bonferroni adjustment were conducted.

Table 15: Chi-square test result within a Batch, across categories for change

Batch * Attitude Cross-tabulation[27]						
			Attitude			
			Do it the same	Change a little	Change it a great deal	**Total**
Batch	1st	Count	12_{a}[28]	16_{b}	$7_{a, b}$	35
		% within Group	34.3%	45.7%	20.0%	100.0%
	2nd	Count	0_{a}	$10_{a, b}$	8_{b}	18
		% within Group	.0%	55.6%	44.4%	100.0%
	3rd	Count	12_{a}	10_{b}	9_{a}	31
		% within Group	38.7%	32.3%	29.0%	100.0%
	4th	Count	6_{a}	30_{a}	5_{a}	41
		% within Group	14.6%	73.2%	12.2%	100.0%
	5th	Count	0_{a}	36_{b}	2_{a}	38
		% within Group	.0%	94.7%	5.3%	100.0%
Total		Count	30	102	31	163
		% within Group	18.4%	62.6%	19.0%	100.0%

It appears that there is a significant difference in views of novices demanding for change on the attitude variables.

For the first Batch, we can see that the proportion of participants endorsing "A little change" is significantly larger than that of those endorsing "Do it the same" (45.7% vs. 34.3%), while the proportion of participants endorsing "Change it a great deal" is not significantly different from either participant endorsing no change or participants endorsing little change.

Batch 1 and 3 are equally demanding little or no change over other Batches, and are significantly different from Batch 2 and 5. Batch 2 and 5 are demanding a

[27] Each subscript letter denotes a subset of Attitude categories whose column proportions do not differ significantly from each other at the 0.05 level.

[28] Each subscript letter denotes a subset of Group categories whose column proportions do not differ significantly from each other at the .05 level.

change in the program and are both significantly different from Batch 1 and 2. Looking at the patterns asking for a change, these findings potentially paint a picture of a largely dissatisfied participant pool (for example even in the fifth Batch, all participants felt there should be at least some change). It is obvious that overall the faculty recommended a change in their experience of the microteaching module.

I also analyzed the aspects for changes further. The results, by Batch, for specific components to change are shown in Figure 11 on next page.

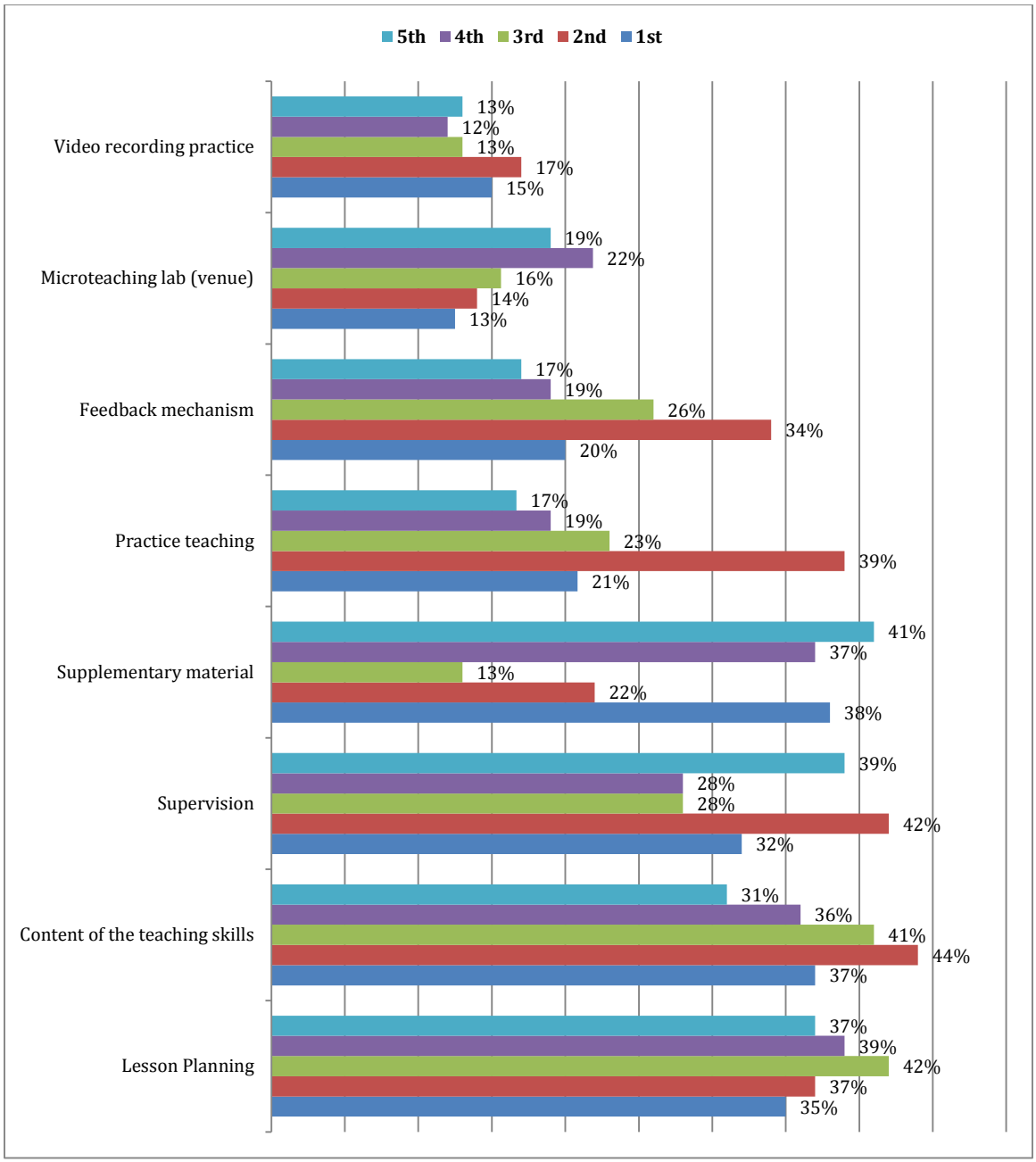


Figure 11: Recommendations for changing the specific aspect of microteaching module by Batch (76)

This Figure illustrates that there were differences between the specific aspects of microteaching that participants suggested for changes among the Batches. Lesson planning, content, and supervision all had the most requests for change, whereas video recording practice and microteaching lab had the fewest. Further, we can see several of the microteaching aspects had widely varying

percentages from respondents (among different Batches) suggesting change. For example, feedback mechanism and supplementary material showing lows of 17/13% vs. highs of 41/34% among different Batches suggests change.

I applied a Chi-square test to further explore these differences and to see if the proportions are different from each other overall. The results are shown in the table below.

Table 16: Chi-square test result-Aspects for change

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	129.595[29]	28	.000
Likelihood Ratio	138.730	28	.000
Linear-by-Linear Association	.647	1	.421
N of Valid Cases	1018		

The Pearson chi-square test is significant with a chi-square value of 129.6 and degrees of freedom of 28, with a p value of 0.00. Therefore, at least two proportions are significantly different from each other among the three categories of the attitude variable. To find which categories for change are significantly different from each other on each aspect of microteaching, multiple Z proportion tests with Bonferroni adjustment were conducted. The results in Table 17 show that the differences among the demands for change in each particular aspect of microteaching module are not significant. Chi-square test results across the Batches for Change in Microteaching aspects (*see appendix H for the specific result*) also confirm these findings.

[29] 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.09.

Table 17: Chi-square test result within Batches, across the aspect for change

Batch * Aspect Crosstabulation[30]											
			Aspect								Total
			Lesson planning	**Practice teaching**	**Feedback mechanism**	**Video recording**	**Microteaching Content**	**Supplementary Material**	**Supervisor**	**Micro Lab**	
Batches	1st	Count	8_{a}	35_{b}	42_{b}	20_{b}	28_{b}	$15_{a, b}$	$10_{a, b}$	$4_{a, b}$	162
		% Within Batch	4.9%	21.6%	25.9%	12.3%	17.3%	9.3%	6.2%	2.5%	100.0%
	2nd	Count	48_{a}	70_{b}	$72_{a, b}$	$40_{a, b}$	$32_{a, b}$	24_{a}	16_{a}	4_{a}	306
		% Within Batch	15.7%	22.9%	23.5%	13.1%	10.5%	7.8%	5.2%	1.3%	100.0%
	3rd	Count	40_{a}	14_{b}	54_{a}	$15_{a, b}$	8_{b}	24_{a}	$18_{a, b}$	$5_{a, b}$	178
		% Within Batch	22.5%	7.9%	30.3%	8.4%	4.5%	13.5%	10.1%	2.8%	100.0%
	4th	Count	$48_{a, b, c, d}$	$21_{c, d, e}$	24_{e}	$25_{a, b, c, d, e}$	$12_{b, d, e}$	$21_{a, b, c, d, e}$	24_{a}	$7_{a, b, c, d, e}$	182
		% Within Batch	26.4%	11.5%	13.2%	13.7%	6.6%	11.5%	13.2%	3.8%	100.0%
	5th	Count	48_{a}	$28_{a, b, c, d}$	$24_{c, d}$	$10_{b, d}$	32_{a}	$24_{a, b, c, d}$	$12_{a, b, c, d}$	12_{a}	190
		% within Batch	25.3%	14.7%	12.6%	5.3%	16.8%	12.6%	6.3%	6.3%	100.0%
Total		Count	192	168	216	110	112	108	80	32	1018
		% within Batch	18.9%	16.5%	21.2%	10.8%	11.0%	10.6%	7.9%	3.1%	100.0%

[30] Each subscript letter denotes a subset of Attitude categories whose column proportions do not differ significantly from each other at the 0.05 level.

Intriguingly, these data show that "Practice teaching" and "Lesson planning" received the lowest ratings from participants when asked (in earlier questions above) about their relative contribution to their learning about how to teach, but these two aspects received less emphasis from participants in their responses to what should be changed. Similarly, "Feedback mechanism" was rated as a helpful feature to the full participation in microteaching sessions, but was listed by 14% of the total 34 participants as needing change.

These inconsistencies required further investigation, so during my interviews, I asked sub-sample participants' for their recommendations for change.

In addition to the "lesson planning" activity being poorly implemented during the training, the participants also viewed the supplementary material, content for lesson planning, as irrelevant to their own teaching in Pakistan. Therefore they asked for changes:

> *Planning is very difficult in Pakistan. The implications of supplementary material do not fit in our context. We have different issues in Pakistan. Sometimes there are public protests; sometimes there are bomb blasts; sometimes the university buses are on fire; sometimes students boycott the classes; sometimes teachers don't want to teach because they are not getting paid; and there are many other things that cannot be expected…I would be more interested in learning how I can plan a lesson in such a given situation.* (**Participant 12**)
>
> *This is Pakistan, not Australia, USA, UK or Japan, about which I read in the supplementary material provided by the supervisor…I like the references to read and learn but how can I contextualize them for my own usage is a challenge… Here we have to change the lesson planning for multiple reasons because of the electricity outage…we have to plan the whole class because of university shut down…you know there are protests and killing everyday in the city.* (**Participant 13**)

In response to my probe about supplementary material, a participant said:

> *I felt disconnected while reading the supplementary material...I needed more books and more resources to prepare better for microteaching. I couldn't find many resources to prepare a lesson for chemistry…they really need to provide us contextual and relevant material [to our field of study].* (**Participant 9**)

A change in supervisors' roles and in feedback mechanisms (including getting feedback from supervisors) were the components participants felt most needed to be changed. In an open-ended survey question about this, a participant said:

> *"The supervisors in HEC should be more than one person in order to have a mixture of both or all of the guidance which may help more as compared to only one person."* (**Survey Response**)

Participants pointed out that the supervisor did not have the required level of expertise to teach microteaching skills. Ten out of 16 participants suggested:

> *If you want to truly improve the microteaching session, you need to have an expert resource person. This is the most important factor.* (**Participant 6**)
>
> *You are training the university teachers who will teach adults…I need to mention that the resource person of my Batch did not have the expertise to teach the microteaching skills…We had to remind her that the training was not offered for teachers who would be teaching English in an elementary school.* (**Participant 1**)
>
> *I think they should choose resource persons not only based on the years of teaching experience they have but if they really know about teaching these skills at higher education level…who know about microteaching process.* (**Participant 10**)

While discussing the features related to supervisors' understanding of the microteaching's purpose and activities, mentoring the novices, and their expertise in the microteaching skills, the novices also shared:

> *I wish they provided supervisors with a score sheet to mark the points for our lesson plans along with the microteaching presentations.* (**Participant 12**)

> *There should be some guidelines from LID for dressing, use of language... you know, acknowledging our cultural differences…that can obligate us to respect one another's cultural differences.* (**Participant 14**)

Another participant suggested in survey response:

> *The participants get personal and biased while asking questions. This behavior should be discouraged. The supervisor should be culturally receptive to such kinds of comments.* (**Survey Response**)

Nine of the sub-sample novices suggested that LID should offer *training for HoDs and Deans* about the facilities and support required to implement the microteaching skills in our classrooms:

> *LID should train the department heads, rather than training only us [faculty]. It would be great help for new faculty like me.* (**Participant 4**)
>
> *I would recommend training for my Dean and HoD about innovative classroom teaching strategies…they should know…what we expect from our department…they should be offered with some mentoring workshops.* (**Participant 4**)

Another participant, on the open-ended survey questionnaire about what needed to be changed, suggested:

> "The *microteaching venue should be improved…it was very uncomfortable."* (**Survey Response**)

Moreover, the novices also reported other changes (emergent views) about changing the microteaching experience. These recommendations were mostly distinct and/or individual rather than unanimous by a sense of a majority:

> *I'm a person who cannot live at ease in extreme weather. So, I could not adjust to hot and humid weather of Islamabad...how could I focus on learning…I always felt uncomfortable during the presentation, and other participants thought I was not attentive. I wish they installed air conditioning in the hall.* (**Participant 5**)
>
> *I think it would be best if they include the real learners during the practice teaching…teaching real students, getting their perspectives, feedback of supervisor and peers will help us learn effectively…it will teach us how to understand our students psychologically.* (**Participant 10**)

Six out of 16 participants felt that LID should offer *separate practice teaching sessions in groups* of social sciences, pure sciences, and management sciences:

> *People were from different backgrounds…there were mechanical engineers, civil engineers, educators, pharmacists, managers, and artists…so for me it was very difficult to imagine or to draw a baseline for providing them feedback or getting their feedback. I think it will be best if we have separate sessions for each fields of study.* (**Participant 5**)

> *I liked the strategy of teaching all of us in one big group just for friendship purposes or social networking. But I think I would have been more comfortable participating if I knew everyone understood when I was lecturing on Nano particles.* (**Participant 9**)

Three out of 16 participants complained about the *tedious schedule* of the microteaching module and suggested:

> *It was very hectic to sit every day from 9:00 to 5:00 and continuously learn about new skills. I had a headache on the third day…it was hard to concentrate.* (**Participant 2**)
>
> *They [LID] should arrange some refreshing activities between the sessions. It is not just difficult to focus, but it gets boring to remain in the same hall.* (**Participant 16**)

Four participants viewed the *number of participants* as being larger than desired for training like microteaching:

> *It is frustrating to hear and watch 28 to 30 presentations…it is unrealistic to expect that we were able to provide productive feedback. It was something new and exciting on day one, but then everyone was yawning in all the other presentations.* (**Participant 3**)
>
> *28 people were too much for the microteaching module. They should have 12 or 15 participants or else increase the number of supervisors...they can teach us in groups or something. Because I think that at times it became hectic.* (**Participant 7**)

Two of the participants reflected upon the *artificial role of their peers vs. real students* in the microteaching sessions:

> *It's good that my peers were playing the role of students, who were almost in the range of students' age…and the set of experiences were also similar… I enjoyed it because they could analyze things…encode them, and then present something on the basis of that...just like my students. LID should continue the same strategy in future.* (**Participant 12**)

C – Reported Contribution of the Microteaching Module to Actual Classroom Teaching

In this section I presented the reported contribution of microteaching module to the perceived change in self-efficacy for novice faculty to use the learned skills and reflective practices in the real classroom setting. I also discussed the supports and challenges to the application of their learning both in views of the novice faculty and their HoDs/Deans.

Acquisition of Classroom Facilitation Knowledge

I asked the participants to report the extent to which they feel their participation in the microteaching module has increased their KNOWLEDGE of how to make classroom teaching more interactive: understanding the students' concerns, promoting collaboration, and applying innovate teaching methods. The items were designed on a five point Likert scale, ranging from '*Not At All*' (being 1) to '*Very Much*' (being a 5).

The self-reported changes the faculty perceived in their own teaching would help me highlight the contributions of the microteaching module to their classroom facilitation. I would be able to access the impact of the microteaching module in the real classroom teaching. Thus I am confident to put forward recommendations to

suggest changes in the content and practice of microteaching that assure improved classroom teaching and learning. The results are shown in Table 18 and Figure 12 below.

Table 18: Perceived contribution to knowledge about classroom facilitation after participating in microteaching sessions

Variables	N	Mean	SD
Understand the importance of peer relationships to establish a positive climate for learning	88	4.0	1.5
Design activities that promote shared learning	89	3.6	1.5
Design activities that promote shared learning	82	3.6	1.8
Apply innovative teaching techniques	84	3.5	1.6
Design lessons that help your **students to identify their strengths and weaknesses**	89	3.4	1.4
Encourage students to be independent learners	82	3.3	1.8
Understand students' problems	86	3.2	1.6
Use different methods in different circumstances	73	2.9	2.0

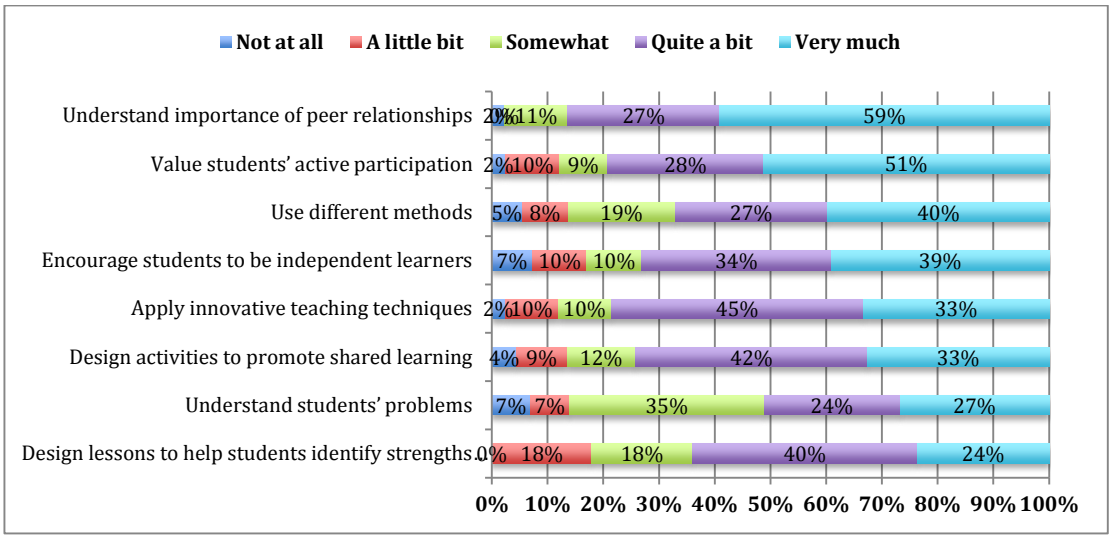


Figure 12: Perceived contribution to knowledge about classroom facilitation after participating in microteaching sessions

The data shows that at least half of the respondents (and generally two-thirds or more) felt that participation in the microteaching module has significantly increased their knowledge with respect to each different classroom facilitation strategy, such as understanding the importance of peer relationships, valuing

students' active participation, application of innovative teaching methods and productive student assessment. Less than 20% of the respondents felt that the module had increased their knowledge only a little, if any. These data tell us that the faculty now facilitates students' learning in a more involved and participatory environment.

Application of Innovative and Varied Teaching Methods

All but one of the of novices (sub-sample) reported how participation in the microteaching module increased their knowledge of how to apply various innovative teaching techniques to make classroom teaching more interactive:

> *I think after participating in microteaching [module], I realized it is not difficult to utilize different teaching methods. Now I am better able to choose the teaching method and activity that best serves the purpose of teaching a particular lesson.* (**Participant 4**)
>
> *I was a teacher who was famous for his lecturing techniques among students, but now I want to be more creative and use different teaching strategies and conduct interesting activities in the classroom.* (**Participant 12**)

One of the participants felt that he now designs interactive lessons to help students identify the strengths and weaknesses of planned lesson and activity:

> *I conduct activities and use different teaching styles, but most importantly, at the end of every class, I ask them what they liked and what they disliked about these strategies. I ask them to write what was the strength and what was a weakness they observed during the lesson.* (**Participant 8**)

Valuing Student-centered Teaching-learning

Fourteen out of 16 faculty members described the focus of their teaching-learning practices changing from teacher-centered to more student-centered facilitation:

I make my classroom an enjoyable place for my students by asking them for innovative projects. I ask them to enjoy what they learn and present in the classroom the way they want. (**Participant 11**)

Microteaching has taught me to have an idea of what I am delivering, and strategies to be sure that students will learn. I ask students to come prepared with one point about the topic that we are supposed to discuss in the next class…I ask them to lead the discussion…I want to be the facilitator not the dictator. (**Participant 8**)

I forgot how to feel like a student when I became a teacher…but during microteaching sessions, I realized how important it is to teach my students in a way they can have command of their own learning…now I ask them if you want to say something and you want to make sure it can be heard or understood, you have to go out of your boundaries…I ask them to interact with me like adults…its their right to ask questions…I never stop them from asking anything while lecturing. (**Participant 15**)

Some of the participants said that participation in the microteaching module helped them understand their students' concern:

When our advisor was giving us examples that were not at all relevant to my field of study, I wanted to leave the [microteaching] session. It taught me a great lesson…now I can read the exhausted and burdensome faces of my students. I ask them if they want me to explain it differently…I ask them how do they want me to involve them in a proactive discussion. (**Participant 1**)

Now when I go to my class, even at the start of the lecture…I tell them "you are free to share anything with me, in the class or outside the class" So the students come to me and share their problems…even their domestic problems…this is why I recommended counseling skills. (**Participant 6**)

Fostering Collaborative Learning

Twelve out of 16 participants reported that after participating in the microteaching module, they promote peer interactions and shared leaning in their classrooms:

After observing the performances of others and mine through recorded video [during microteaching session], I pointed out completely new things about my teaching style... I learned from my peers and now I ask my students to do the same…I ask them to assess one another's performance when they are presenting in the classroom. (**Participant 13**)

I apply individual, small group and large group teaching activities in different ways, I ask my students to make circles, and I ask them to work in pairs. I encourage them to use multimedia, board, colors, charts etc….but be connected and learn from one another. (**Participant 6**)

Ability to Overcome Fears of Novice Teaching

Fourteen out of 16 sub-sample participants acknowledged that, after facing the video camera and assessing their own teaching performance in front of other participants, they have overcome fears involved in classroom teaching:

I believe that now I can keep good eye contact with students and can restrict my body movements easily. Unconsciously, I feel the presence of the camera all the time in my class, and therefore I perform to my level best. (**Participant 6**)

I assess that my teaching behavior has been changed after participation in microteaching training because I do not use rostrum now, which I use to have in front of me to hide my nervousness. (**Participant 2**)

I always hid my fears by posing as a very strict teacher in the classroom. However, after participating in microteaching sessions, the cold response of my supervisor forced me to think about my teaching manners. Now, I try to be as polite and responsive towards my students as I expected from the microteaching supervisor during the training. (**Participant 12**)

I cannot believe that I can crack jokes with my students, and can maintain such a lively class. My microteaching fellows gave me feedback that I am a good teacher, but I have to reduce the disconnection with my audience. Now I am more inclined to my students' interests rather than what I want them to do. (**Participant 11**)

Recognizing the Shared Learning Attributes of Students

One of the most interesting findings that emerged from the in depth interviews with participants is that after participating in the microteaching module shared that now they understand why they should change the teaching strategies to better accommodate the needs of university students in order to provoke their desire to learn:

> *I used to treat my university students in the same way I used to handle the disruptive behaviors of my middle class students [before joining the university]. But now I really understand the problems of my adult learners. I recognized it when I had to act like a student during microteaching sessions. I understood how I was reacting to my supervisor…adult learns differently.* **(Participant 12)**
>
> *I teach the students, who are grown up…some are older than me… all of them in one-way or another have mastered something in their lives. Maybe one is good at talking and communication, other are good at riding a bike or driving…so they have mastered something, and they know the technique to learn but when it comes to the education or learning something professionally, students get disconnected from their real life experiences… now I think more deeply about the learning problems of my students.* **(Participant 1)**
>
> *Participation in microteaching taught me to value the experiences of adults…and how do a teacher needs to focus on those experiences to connect the dots of learning…now I know I am teaching the same age group as I am…they correspond differently to every topic we discuss. They analyze things, they reflect on things and it's different in many ways.* **(Participant 7)**
>
> *I have experience of teaching at school level and then at the university level …both of the levels have a difference of miles. At the university level you are dealing with adults. So when I attended the microteaching module, it helped me a lot to learn how to manage and teach the adults…it is a really hard task.* **(Participant 15)**

On the contrary to such data, another participant stated:

> *Now I feel more nervous and under pressure…when it comes to giving a presentation in front of my students, it gives me a burden on my mind. I sometimes feel discouraged or ashamed if I recognize a shortcoming…I never felt this way before participating in microteaching module.* **(Participant 6)**

Use of Reflective Strategies

I asked the novice faculty to report the frequency they have observed in their use of the reflection strategies for their classroom teaching. I asked this question because the literature highlights promoting reflection and reflective teaching as one of the most attractive features of the microteaching module. I gained some specific data— on a five-point Likert scale where *Not At All* is a '1' and *Very Much* is a '5.' I assume the responses will help me understand how the faculty felt participating in

the microteaching module helped them become more reflective practitioners about their knowledge and skills. The results are shown in Table 19 and Figure 13 on next page.

Table 19: Frequency of using reflection strategies in classroom teaching after participating in microteaching module

Variables	N	Mean	SD
Modifying teaching and learning strategies **based on students' assessments**	87	3.9	1.5
Assessing your **teaching** strategies in **response to students' feedback**	84	3.4	1.5
Reflecting on the **strengths and weaknesses** of your **teaching**	75	3.4	2.0
Practicing self-reflection in your professional learning	86	3.2	1.4
Taking **contextual considerations** (i.e. individual student interests and university resources) into account **in planning instruction**	80	2.7	1.6

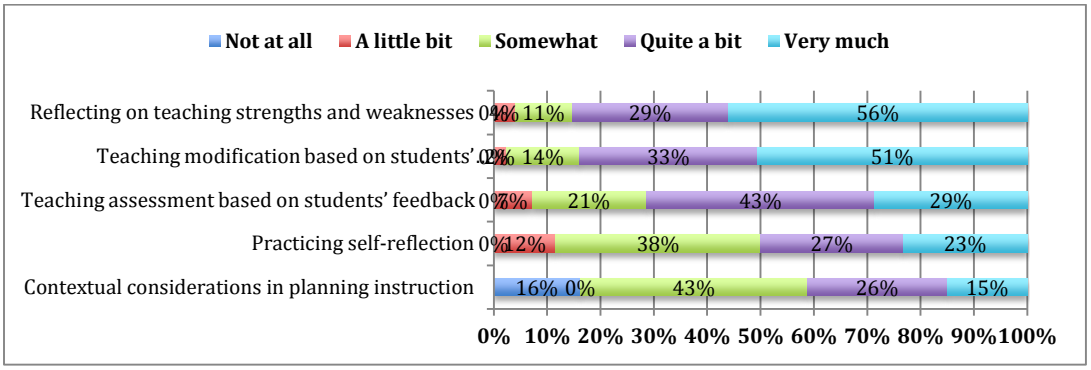


Figure 13: Frequency of using reflection strategies in classroom teaching after participating in microteaching module

The data show that 72% or more of the respondents reported significant use (quite a bit or very much) of the student related reflective strategies, such as "Reflecting on teaching strengths and weaknesses," "Teaching modification based on students' assessments," and "Teaching assessment based on students' feedback." Half of the respondents reported significant use of "Practicing self reflection." These data tell us that participants felt that microteaching has helped them acquired the self-reflective practices to assess their teaching. However, the "Contextual

considerations in planning instruction" had as many as 16% of respondents reported no usage at all.

This indicates that the novices still have problems incorporating the assessed changes in planning, and implementing those changes in their classroom instruction. In light of this, I asked the sub-sample interview questions regarding implementing these changes in their classrooms.

Utilizing Students' Valuations to Reflect

Thirteen out of 16 faculty members reported that they now assess their teaching based on students' feedback and modify their teaching strategies based on students' assessment on a regular basis:

> *I follow up on the benefits of microteaching strategies by getting students' feedback at the end of every class. Now I am better able to choose the teaching method and activity that best serves the purpose of teaching a particular lesson.* (**Participant 2**)
>
> *I ask my students the same thing in different ways and different situations and then I have to analyze all those answers that I took from them over a week…and then I reflect on their feedback to prepare things differently.* (**Participant 14**)
>
> *After observing and reflecting on the feedback in microteaching [sessions] I don't just evaluate for the sake of evaluation. I evaluate to know how next time I will be able to teach the same students the same thing…I tell myself, "okay, I was unable this time but next time I will be able to teach it better."* (**Participant 5**)
>
> *I asked my students to write three things down on the paper on the first day of the semester. "What are your expectations from me as your teacher? What are your expectations from the course? What do you want to learn that you didn't know before?" At the last day of the semester, I give them back the same papers to write how their expectations were met. So I compare the things of where I am lacking, where I should improve, what is okay, and what is not okay.* (**Participant 2**)

Observing Deeply: Self-reflection

Eleven out of 16 novices reported that participation in the microteaching module influenced their practice of assessing their own teaching:

> *When I come back to my office from teaching a class, I see the lecture again and I see what portions I covered quickly and what portions I went over very slowly. And then I assess what are the reasons that I couldn't accomplish it? Maybe I haven't prepared enough… So I assess myself.* (**Participant 4**)
>
> *I taught for a year before participating in MT-FPDP…I never recapped a class…but it is different now. Teaching the whole syllabus in a semester is not my priority, rather, I evaluate, assess and reflect on my teaching…I always recap an activity or topic until I am sure that my students have learned it.* (**Participant 13**)
>
> *Now I reflect on strengths and weaknesses of my classroom teaching. I never forget to assess my teaching, and I ask students "what was the positive and negative about the class" as we were asking from peers in microteaching [session]. I write these in my daily journal and note down my weakness to reflect on them, and to work on my strengths.* (**Participant 9**)
>
> *I was astonished when I watched the recorded video of my microteaching performance in the review part. It was amazing; I could see many things...I never knew that I speak very fast and I observed in my recorded video that I was not using any hand gestures, and my eye contact was very poor with the audience. Therefore, I worked a lot on my non-verbal communication skills…now my students point it out and tell me how much I have improved.* (**Participant 5**)

The participant's Dean confirmed theses changes:

> *He was very shy, or may be he was not confident…but he has completely changed now. He has recently conducted a session on communication skills for other faculty members at the university…I was in that training and I was surprised to see his confidence and hand gestures.* (**Dean 5**)

Listening Patiently to Students' Concerns

Deep listening and being more patient towards students' behavior in the classroom is another interesting characteristic that faculty have grown to embrace as a result of participation in the microteaching module. Five of the sub-sample

participants reported that microteaching feedback mechanism taught them to listen and be patient:

> *I think I learned to be patient…I am very conscious about it during the classes and to adjust myself to the students… sometimes I have 80 students in my class…we [teachers] go with our own objective and they come with their own objectives. Therefore, I ignore many ill-behaved things of students, which resulted in a good relationship with my students.* **(Participant 8)**
>
> *The most positive thing that occurred to me is that I listen actively now. I need to work more on my counseling skills…it would not be hard, I already developed some of them.* **(Participant 10)**

Self-efficacy—Reported Confidence in Using Microteaching Skills

I also asked survey respondents to indicate the extent to which they feel confident in their own ability to implement each of the microteaching skills in their classrooms on a five-point Likert scale ranging from '*Not at all confident*' (being 1) to '*Very confident*' (being 5). I included this question because it is important to get the participants' opinions about the level of self-efficacy they believe they have to implement each of these teaching skills in their classrooms after participating in microteaching component of MT-FPDP. Also these data helped me compare their perceptions during the program of preparedness to implement these skills (the data shown in table 9) with their self-efficacy while implementing these skills in real classrooms. The results are shown in Table 20 and Figure 14 on the next page.

Table 20: Perceived level of self-efficacy to use new teaching skills after participating in microteaching sessions

Microteaching Skills	N	Mean	SD
Communication	83	4.0	1.7
Encouraging the students to question	84	3.7	1.6
Methodology	74	3.5	2.0
Questioning	75	3.3	1.9
Planning	74	3.3	1.9
Setting induction	83	3.3	1.6
Presentation	80	3.2	1.7
Exemplification	66	3.0	2.1
Ending or summing up	60	2.5	2.1
Judging the students' problems	61	2.0	1.8

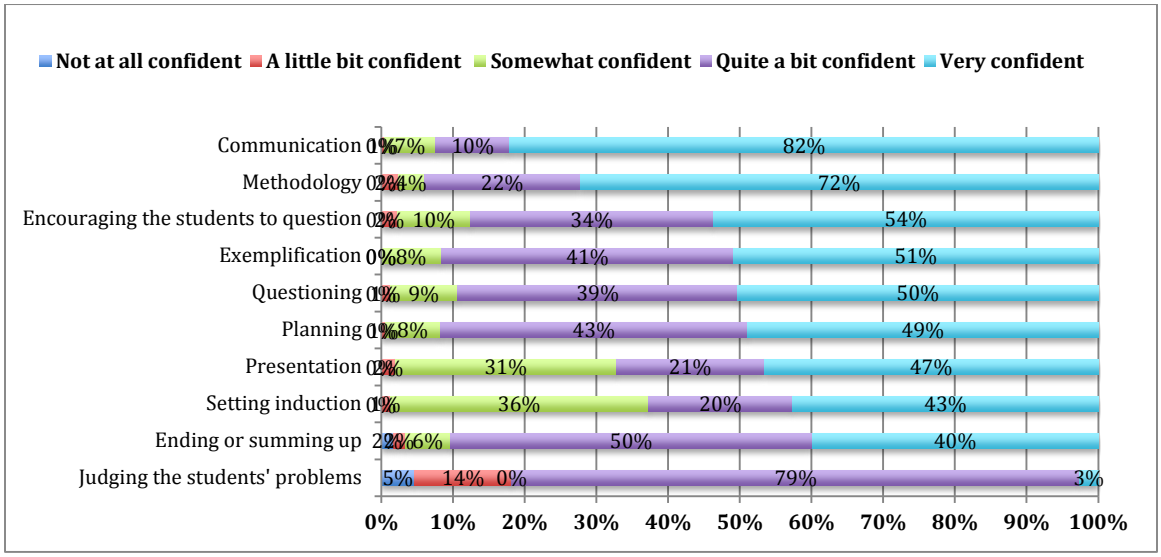


Figure 14: Perceived level of self-efficacy to use new teaching skills after participating in microteaching sessions

These data underscore that at least half of the respondents reported "quite a bit confident" or higher for using all the microteaching skills. 80% of the respondents reported having some measure of confidence to use nine out of ten teaching skills. It provides credibility to the success of microteaching objectives. However, "Judging the students' problems," and "Ending or summing up" were the two lowest scorers, respectively. It is interesting to note that participants felt least

prepared for the "planning" skill (Table 9). Contrary to this finding in Figure 6, the same skill 'planning' received a favorably high score here. This finding implies that the novice faculty unexpectedly found themselves confident to plan a lesson for an actual class setting in their universities than they presumed they would during MT-FPDP.

Moreover, a similar pattern emerged here regarding "judging the students' problems," which received a low rating on the preparedness scale (table 9)— two people even felt that this skill was not at all a contribution to their learning. This could be a consequence of a gap in response rate. 92 participants responded to that item in table 8 whereas the same skill received 61 responses here. I ran a chi-square test to further explore the differences between the skill novices felt most confident and the skill novice were least confidant to apply in their classroom teaching.

Table 21: Chi-square test result-Confidence in using new teaching skills

Skills	**Not at all confident**	**A little bit confident**	**Somewhat confident**	**Quite a bit confident**	**Very confident**	**Row Totals**
Communication	0 (5.19)	1 (8.07)	9 (5.19)	10 (27.67)	63 (36.89)	83
Judging the students' problems	9 (3.81)	13 (5.93)	0 (3.81)	38 (20.33)	1 (27.11)	61
Column Totals	9	14	9	48	64	144 (Grand Total)

p = * < 0.10
p = ** < 0.05
p = *** < 0.01

The chi-square statistic is 103.7419. The P-Value is < 0.00001. The difference is significant at $p \leq 0.05$. I further explored these inconsistencies through face-to-face detailed interviews.

Ten out of 16 sub-sample participants talked about their confidence and comfort in applying their teaching skills:

> *I believe, and my students also mentioned, that now I can better manage the classroom time and deal with students' individual learning problems, which were major issues for me in early months of teaching.* (**Participant 13**)
>
> *I was just hired for six months at my job, so it was very helpful for me to improve my teaching skills and my communication skills… I learned how to do the gestures and how to react and communicate to the students.* **(Participant 2)**
>
> *Now I can communicate through eye contact and through the movements of my head or hands…I feel very confident when I am doing a presentation.* **(Participant 11)**
>
> *I always used to plan my class in my mind, however, after lesson planning for microteaching in MT-FPDP, my classroom lesson planning has transformed from abstract ideas to a documented journal*. (**Participant 9**)

In response to the open-ended question of survey questionnaire, one of the participants reported:

> *My teaching skills in terms of questioning and confidence building among students have changed through microteaching; however, my method of teaching has not changed much through microteaching. I was working with my students in the lab in the same way I work now.* **(Participant 6)**

Acquired teaching skills—frequency of use

Having asked the question about the acquisition and self-efficacy to use the microteaching skills, I felt it necessary to ask the faculty how often they have actually *USED* each of these teaching skills in their classrooms. I used a six-point Likert-scale that systematically assessed the use from '*Don't remember'* if they have used the skill in classroom as '1' and using the skill '*Daily'* as '6.'

Much of the data in section B—that reports the experiences of the faculty during the program, and their learning of specific microteaching skills— provided me enough data to understand their experiences of the microteaching module.

However, in order to assess the contribution to the actual teaching—the long-term outcome—I asked this specific question, which I believe also provided an opportunity to the novices to reflect on their practices vs. beliefs. The results are shown in Table 22 and Figure 15 on next page.

Table 22: Frequency of use of acquired teaching skills in classroom teaching after participating in microteaching module

Variables	N	Mean	SD
Questioning	86	4.9	1.9
Presentation	85	4.7	1.9
Communication	80	4.6	2.2
Planning	84	4.6	2.0
Encouraging the students to question	77	4.6	2.4
Methodology	80	4.4	2.2
Exemplification	78	4.3	2.4
Judging the students' problems	75	4.2	2.4
Ending or summing up	71	4.1	2.5
Setting induction, using effective introductory procedures	66	3.4	2.5

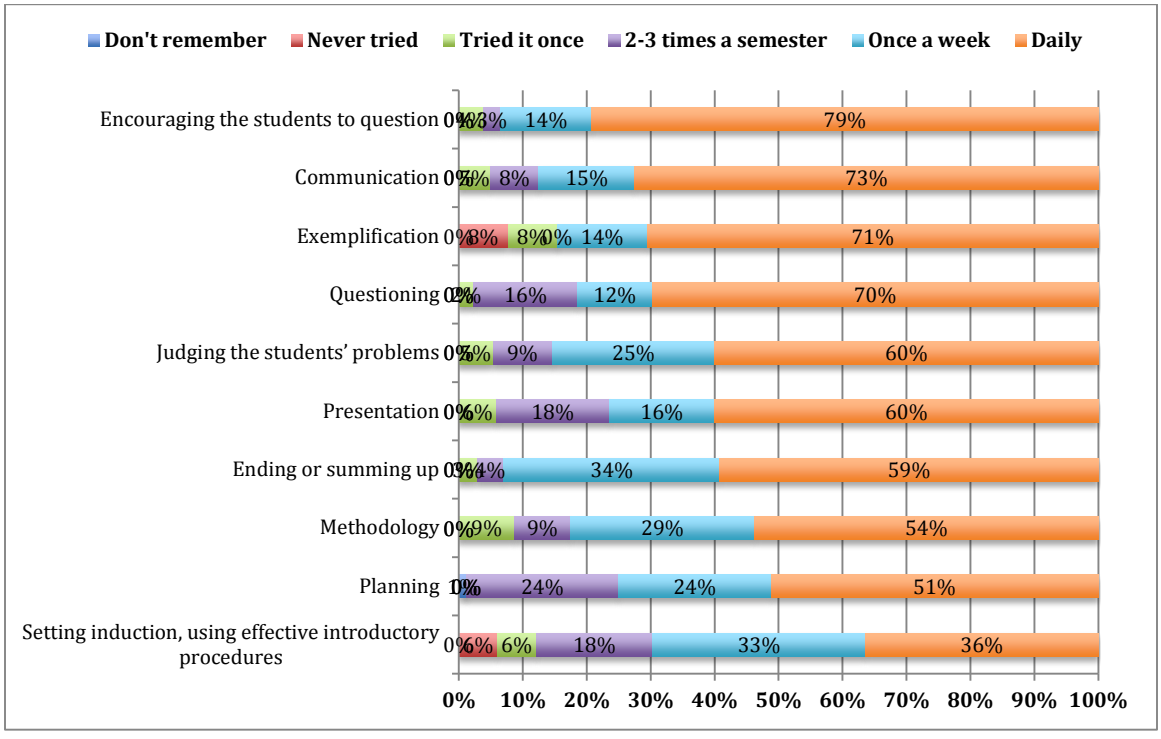


Figure 15: Frequency of use of acquired teaching skills in classroom teaching after participating in microteaching module

These data illustrate that at least 69% of respondents reported a use (daily or weekly) of all the microteaching skills. It reveals that the self-reports of novices favor the skill acquisition during the microteaching module and its perceived contribution to the real classroom teaching. Comparing to Figure 6, "Judging the students' problems" was reported with an average frequency of 4.2 on a scale of 1 to 5, although it was the skill in which respondents reported the lowest degree of confidence to use in their classroom teaching. Moreover, of the three skills respondents reported the least confidence in table 20, only "Setting induction" was reported as the least used skill during the classroom teaching.

This comparison of faculty members' perceived self-efficacy in using certain skills as compared to their actual implementation of those skills shows some disparity. Taking this into account, I tailored the interview questions in qualitative data collection to explore this further.

Eight out of 16 novices agreed that they do not feel confident or well prepared for "Judging the students' problems," but that skill is a requisite for them to reflect their teaching. One of the faculty members shared:

> *Judging the students' problems is practiced more or less by all teachers everyday. How can one avoid it…it is frustrating being a new teacher. Therefore, I am asking questions from the students to know to what extent students have learned.* **(Participant 4)**

> *Now when I enter into the class, I remember how to begin a class using the skill of setting-induction – before this, I didn't know. I would just go in and start. But now, these are the things that should be preparation of the mind by giving them a general induction, specific induction, and then set their minds and then we can start our lecture.* **(Participant 16)**

Institutional Factors - Supports and Barriers

In order to further investigate the contribution of microteaching in actual classroom practices of the novice faculty, I was curious to ask what factors in their teaching environment have supported or hindered them in applying what they learned from participating in the microteaching module. I classified the items into six broad categories—Individual, Institutional structure and policies, Leadership, Facilities and resources, Colleagues, and Students—both in terms of supportive factors and constraining factors.

Table 23: Institutional factors - supports and barriers

Institutional Support	Institutional Barriers
1. Individual • My confidence to use new teaching skills • My enthusiasm to use instructional technologies (i.e. multimedia, internet, other AV aids etc.)	**1. Individual** • My anxiety to use new teaching skills • My fear to use instructional technology (i.e. multimedia, internet, other AV aids, etc.)
2. Institutional structure and policies • Organizational culture that promotes learning of new practices • Incentive system that supports new practices • An atmosphere of mutual respect • Curricular freedom • Enough time to plan and collaborate • Facilitation of team teaching	**2. Institutional structure and policies** • Lack of respect among faculty and administration (HoD or Deans) • Overwhelming department demands (of paperwork, committees, and extracurricular assignments) • Non-collaborative work routines • Policies that discourage new practices • Lack of incentive system to support new practices
3. Leadership • Guidance from Head of Department or Dean • Feedback on my teaching from Head of Department or Dean	**3. Leadership** • Lack of guidance from HoD/Deans • Lack of feedback on my teaching from HoDs/Deans
4. Facilities and resources • Sufficient classroom space • Access to technology (availability of Multimedia, internet and AV aids) • Reduced class sizes	**4. Facilities and resources** • Insufficient classroom space • Inadequate resources for lesson planning • Overcrowded class sizes
5. Colleagues • Access to sharing ideas with colleague • Cooperation from my colleagues	**5. Colleagues** • Difficult interactions with colleagues • Lack of cooperation from colleagues • Lack of feedback on my teaching from colleagues
6. Students • Students' cooperation • Student's interest to learn	**6. Students** • Students' disruptive behaviors • Lack of students' interest

While I will discuss the quantitative findings in two separate themes (supporting factors and constraining factors), I analyzed the qualitative data in one broad category. This will be followed with an analysis using different specific themes. Ideally, this manner of organizing the data will help the reader understand how the same factors were supportive for some faculty and barriers for others.

Supporting Factors

I asked the participants to identify the supports in terms of institutional factors such as individuals' confidence to bring new changes, incentive system, guidance from leadership, access and resources, and collegial and student support. I wanted to understand the degree to which these factors were a major (3), minor (2), or not at all (1) a SUPPORT in helping them implement the changes they wanted to make in their teaching after participating in microteaching sessions. I also added a response rank of '*Not applicable*' to the Likert scale in order to allow participants to opt out of the ranking. My purpose for asking this question was to suggest if HEC might influence promoting such institutional dynamics in the universities for the continuous support of teaching learning processes. The results are shown in Table 24 and Figure 16 on next page.

Table 24: Teaching environment factors that SUPPORTED the practice of the acquired knowledge and skills after participating in microteaching module

Variables	N	Mean	SD
My **confidence to use new teaching skills**	80	2.4	1.2
My **enthusiasm to use instructional technologies** (i.e. multimedia, internet, other AV aids etc.)	79	2.4	1.1
Guidance from HoDs/Dean	73	2.4	1.5
Access to sharing ideas with my colleague	78	2.2	1.2
Incentive system that **supports new practices**	79	2.2	1.5
Facilitation of team teaching	76	2.1	1.6
Cooperation from my colleagues	79	2.1	1.3
Organizational culture that **promotes** learning of **new practices**	76	2.1	1.2
Student's interest to learn	80	2.1	1.4
Students' cooperation	72	2.1	1.3
An **atmosphere of mutual respect**	72	2.0	1.3
Access to technology (availability of multimedia, internet and AV aids)	78	2.0	1.2
Curricular freedom	62	1.9	1.2
Sufficient classroom space	75	1.8	1.2
Feedback on my teaching **from Head of Department or Dean**	80	1.8	1.4
Access to **resources** for **lesson planning**	80	1.8	1.4
Enough time to plan and collaborate	69	1.7	1.2
Reduced class sizes	72	1.7	1.1

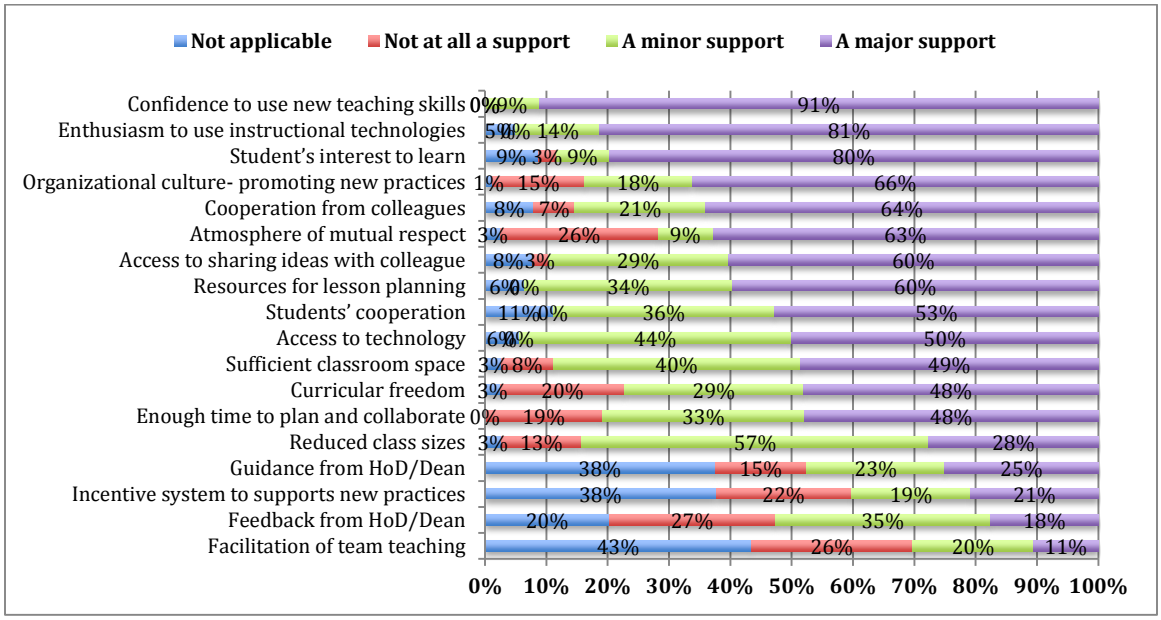


Figure 16: Teaching environment factors that SUPPORTED practice of the acquired knowledge and skills after participating in microteaching module

These data show that the individual factors (that affect novices' individual self) are more supportive. Thus, the participation in the microteaching module has helped them gain the confidence and self-efficacy to use the interactive teaching methods in their classroom teaching. However, a large percentage of respondents (38%) reported no incentive system being in place (n/a), and no guidance from HoDs/Deans, which shows faculty do not have some of the most basic supports, whether extrinsic or intrinsic. The data also show that collegial support among the faculty, provision and access to resources, and positive attitude of students towards learning are some of the supportive factors that helped the faculty implement the learning they gained after participating in the microteaching module.

Hindering Factors

With a similar approach as used in table 16, to explore the supportive institutional factors, I asked the novices to recognize the barriers in terms of institutional factors such as fear to use instructional technology, anxiety to use new teaching skills, lack of collegial and leadership support, discouraging policies, and students' disruptive behaviors etc. I asked this question because I wanted to understand the degree to which these factors were a major (3), minor (2), or not at all (1), a BARRIER from implementing the changes they wanted to make in their teaching after participating in microteaching sessions. The results are shown in Table 25 and Figure 17 on next page.

Table 25: Institutional factors that HINDERED practice of the acquired knowledge and skills after participating in microteaching module

Variables	N	Mean	SD
My **fear to use instructional technology** (i.e. multimedia, internet, other AV aids etc.)	74	1.9	1.3
My **anxiety to use new teaching skills**	70	1.8	1.3
Policies that discourage new practices	66	1.8	1.4
Overwhelming department demands (of paperwork, committees, and extracurricular assignments)	70	1.8	1.2
Lack of guidance from HoDs/Deans	74	1.8	1.2
Difficult interactions with colleagues	69	1.7	1.1
Lack of incentive system that **support new practices**	64	1.7	1.1
Lack of cooperation from my **colleagues**	72	1.7	1.0
Inadequate resources for lesson planning	68	1.7	1.3
Lack of respect among faculty and HoDs/ Deans	59	1.6	1.2
Lack of feedback on my teaching **from HoDs**	78	1.4	1.2
Overcrowded class sizes	66	1.4	1.3
Lack of feedback on my teaching **from colleagues**	72	1.3	1.2
Students' disruptive behaviors	79	1.3	1.1
Non-collaborative work routines	82	1.3	1.0
Lack of students' interest	70	1.2	1.2
Insufficient classroom space	79	1.1	1.1

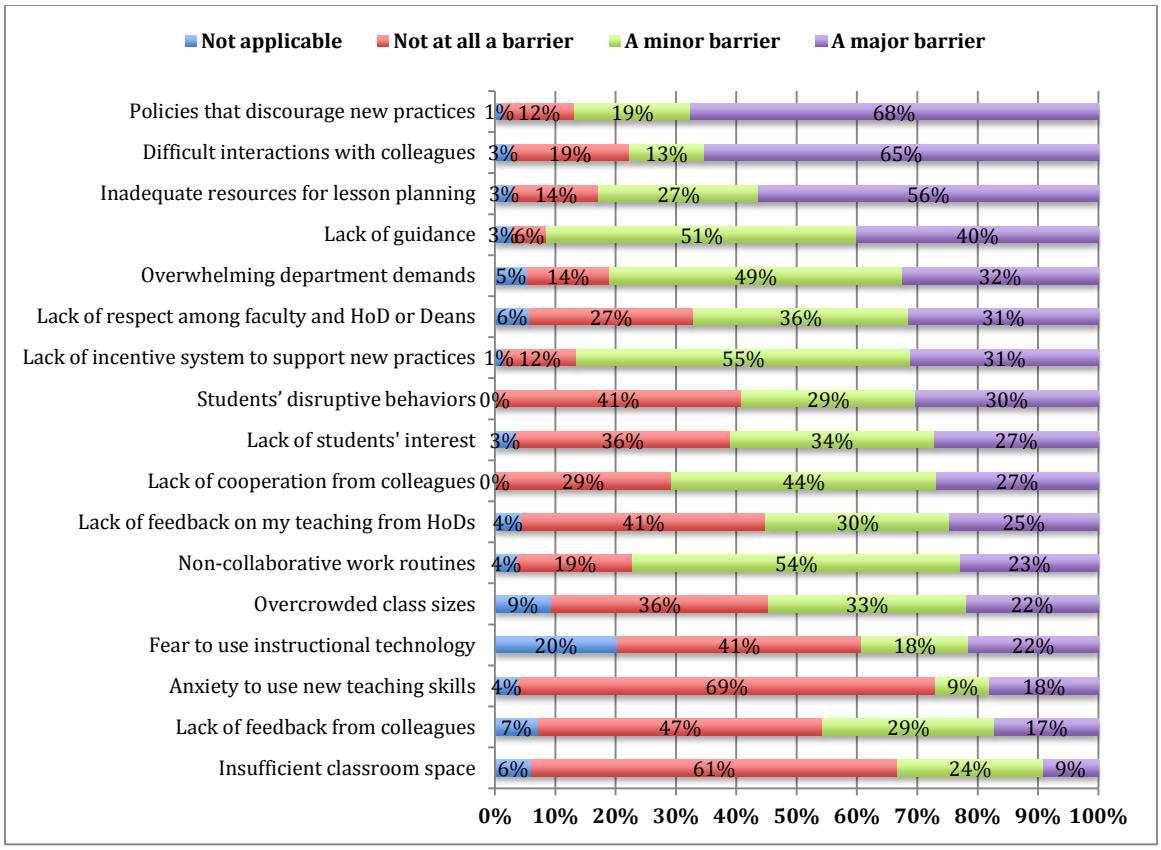


Figure 17: Institutional factors that HINDERED practice of the acquired knowledge and skills after participating in microteaching module

The data show that over 80% of the participants reported that there are institutional policies that discouraged new practices and served as a major barrier to implementing the knowledge and skills they gained from the microteaching module. This is consistent with the fact (highlighted in Figure16) that no incentive system exists in most of the institutions.

The participants found difficult interactions with colleagues a barrier. However, a similar percentage of the novices reported that cooperating and sharing ideas with colleagues was a source of support. Interestingly, while 85% of respondents reported collegial support a supportive factor in Figure 16, 71% of those same respondents reported that a lack of such support was a barrier (See

Figure 17). These inconsistencies required further exploration during qualitative data collection.

Views of Novices about Institutional Supports and Barriers

In this category, I analyzed and compared the viewpoints of faculty members and their HoDs/Deans about institutional level supports and barriers in terms of factors related to: Individual, Institutional structure and policies, Leadership, Facilities and resources, Colleagues, and Students.

Individual Factors

During the interviews, I specifically asked the faculty about the support they felt they gained from their individual teaching. Twelve out of 16 faculty members viewed participation in the microteaching module as a way to build their confidence of teaching new skills:

> *Microteaching was an excellent opportunity to overcome my doubts about my teaching. I learned the teaching competencies outlined for the microteaching component. But I learnt an extraordinary skill of controlling my weaknesses and presenting myself as a champion with full confidence.* (**Participant 13**)
>
> *I still remember my first day in the university. The same thing happened when I was delivering my microteaching lesson in cycle one at LID. But I now feel very confident to listen to my innovative ideas hidden in my head and apply them…I apply new methods and use technology.* (**Participant 2**)
>
> *One thing that I gained from microteaching [module] is the self-confidence in my classroom teaching…I feel that I have grown so much. I think that I have those things that most teachers don't have. So I feel more confident about my teaching.* (**Participant 8**)
>
> *I always condemned my students to use a laptop in the classroom, but now I ask them, "anyone who has a laptop should bring it to the class, we will watch videos in small groups"…it helps when there is a power outage… I give them different examples to find books on the Internet...there are different websites for good online presentations.* (**Participant 12**)

None of the faculty members reported fear to use instructional technologies in their classrooms. However, in contrast to the above supportive comments about application of new teaching skills, one of the faculty members felt that he has developed an anxiety:

> *I think it was easy for me to teach before participating in microteaching module. I was applying most of the skills one-way or the other. It's a headache…I cannot completely concentrate on the topic…I am more conscious and feel pressured to plan, use setting induction etc.* (**Participant 6**)

One of the HoDs described that she observed many changes in her faculty member's teaching after participating in MT-FPDP:

> *He is involved in many activities in the department on his own. He organized [recreational] field trips for students. He also asked permission from the department to provide him with a video camera and a stand in the classroom, which is weird…but I observe him conducting different activities now…though other teachers complain about the seating arrangement when he leaves a class*. **(HoD 4)**

> *I have observed an aptitude from the students, who didn't get along with their teacher very well… I had few complaints about his teaching in the past…after getting his training at LID, his reports from QAC [Quality Assurance Cell] are also getting improved.* **(Dean 7)**

<u>Institutional Structure and Policies</u>

In terms of institutional policy factors, most of the faculty referred to their learning and participation in the whole program of MT-FPDP. Majority of the faculty members (13 out of 16) shared that institutional structure and policies were discouraging:

> *Overwhelming department demand of paperwork, faculty meetings, committees and extracurricular assignment are the major barriers for me. I really don't have time to focus and apply the skills and knowledge I gained from the training.* (**Participant 4**)

> *Usually we have to do the clerical work in my university. Making the admission list of the students, programs for different ceremonies…filing papers at the administrative office. We do not find much time for planning. But in spite of that we try to manage all the things because whatever the organization demands of us, being loyal and being dutiful, we are required to perform all these things.* (**Participant 11**)
>
> *There are days when there is a call from administration or head of department for an urgent meeting. They just say, "Okay, you need to finish this class quickly…" It is frustrating.* (**Participant 1**)

In the light of this theme, one of the HoDs said:

> *My faculty could focus on their teaching if they are only teaching. But they are managing the administrative things as well. They don't have time to interact with the faculty, to plan, and to discuss.* (**HoD 2**)

Another participant complained about the lack of incentive system to support new practices:

> *I cannot count the constraints to my teaching and learning because of the organizational policies. They never appreciate what I have learned and how I can help other faculty learn all the skills. There is no incentive. I don't have job security. So, honestly, I least care about implementing what I learned at MT-FPDP or microteaching.* (**Participant 15**)

In contrast five out of 16 participants viewed incentive systems of their institutions supportive to their new practices:

> *I felt a difference in administrative attitude towards my teaching. I found it helpful when my HoD pays me regard for attending MT-FPDP in department meetings…they validate that I have knowledge of teaching skills that other faculty do not have…it's a good policy to appreciate training of a faculty.* (**Participant 12**)
>
> *It is too difficult to live in Pakistan now…everything is so expensive. My university has a policy that specifies those faculties who have received training can teach in the evening classes…we get extra paid.* (**Participant 7**)

I asked the novices about curricular freedom they have in their departments. Six out of 16 agreed that it's a supportive factor:

At my university it is good to know that I can adapt the courses, as I like. I submit a course outline and then each of us presents it to the Dean. But we have freedom to change the way we want. (**Participant 9**)

I am in charge of my class and my curriculum. I can modify it…I can add to it, and this gives me a liberty to do whatever I want to. In this way, I can choose the latest topics and incorporate them to my classroom teaching. (**Participant 2**)

However, another faculty member said:

They send us a course...and they say, "This is the course content you need to start the course according to it." How am I supposed to show any interest to teach what someone else has designed for me? (**Participant 11**)

Institutional Leadership

Faculty members reported mixed feelings about the role of their HoDs and Dean. A majority of the sub-sample participants (10 out of 16) shared that their HoDs and Deans do not observe their teaching:

I miss the support of LID, I wish that was my department, and I would have taught my students in that environment. Believe me the students would have ranked me the best teacher. But in my department my learning is paralyzed because of my head of department's role. (**Participant 6**)

How can I bring change in the learning environment of my department if my head of department will decide even the seating arrangements for my class? (**Participant 13**)

I want to be innovative, something that I learned in LID through microteaching practice. I want to take my students for a field trip. I wanted them to visit and see the practical implication of the theory we learned in the class, but never had an approval from the Dean. (**Participant 3**)

I requested my Dean and head of the department if I can plan and teach a course with the faculty member, who was one of the fellows at microteaching, of another university, which is in the same city and commuting wouldn't have been a problem for us. But he refused it, and I was really discouraged. (**Participant 5**)

We have this generation gap…we are working with people that are from another era, the professors, and they have their own mindset. And you can see this in every department in Pakistan that there is this gap. Older people cannot

relate to the younger ones. They find them too enthusiastic…they would never support us. (**Participant 16**)

Five out of 16 participants discussed the high power distance between the new faculty and their leadership of the universities:

I am a new faculty member, and I will not take any risk of creating a tension with other senior faculty members and my HoD…I may be better able to implement what I envision when I am a full professor and be able to have the control and power to deal with these challenges. (**Participant 3**)

I don't feel empowered to utilize my creativity and learning in my university…there is an enormous pressure from the leadership…my chairperson, and the senior faculty feel that I am trying to prove myself superior to them. (**Participant 11**)

I would like to recommend the HEC establish a system of evaluating the leadership of the head of departments as well…HEC can use the same approach they use to evaluate our teaching through asking students to fill quality assurance surveys…it's unfair that the faculty cannot report about their deans and HoDs…it's all about power. (**Participant 6**)

In contrast to the claims about leadership as a hindering factor, a participant said:

When I came back from MT-FPDP, my principal ordered a senior teacher to observe my teaching…it was a scaffolding type practice…I tried my best to show how much I learned. I appreciated it. (**Participant 4**)

When I asked the HoDs and Deans about their role in supporting the implementation of specific examples of the microteaching skills they often avoided giving me a direct answer to my probing questions:

*I am a head of department, I cannot observe the teaching of all my faculty…I am not here for policing rather supporting them...my office has an open door policy, if the faculty has a problem they can come and share. (***HoD 6)**

*She asked me to sign a memo for her requesting a camera from the administration…it is a university…this is not the theater. They were in HEC… they can afford, we can't. It is my responsibility to help them teach the practical implications of teaching. (***HoD 4)**

I agree that the training was helpful to learn different teaching skills and new methods…but my faculty member…I admit she is a novice faculty…she just believes that she can do magic in the classroom if she change the mere seating

arrangement. I taught for 17 years, I know all the tactics. How can moving the chairs help students learn? **(Dean 7)**

I can imagine the pressure these new faculty have…the lack of resources and the desired support from the department…I am trying to be there as an advisor and a mentor…I like when my young faculty bring new changes in their teaching style…we discuss it on coffee hour every Friday. **(Dean 2)**

Facilities and Resources

During the interviews, I found that institutional facilities, infrastructure, and resources were the major constraining factors for the novices in order to apply the new techniques they acquired from the microteaching component of the program:

Whatever I learned during microteaching [module] is not 100% executable in the institution where I teach…I even discussed with the head of my department. She was really interested to execute what me or my colleagues have learned through that program, but she was really helpless because we did not have enough classrooms. (**Participant 4**)

In my university, we need to improve the basic infrastructure…some of the teachers don't have their offices, some don't have their own equipment -this is the problem. (**Participant 12**)

Some of the participants shared that they have overcrowded classrooms:

We teach 200 students that come every day. So I don't have a chance to interact with them. In three hours I have to deliver what I plan. So I don't see their faces, I don't know who they are. (**Participant 9**)

I am teaching an "introduction to computer course" this semester to 88 students. We don't have working computers in the lab and there is no electricity…I cannot teach them the basics of using a computer merely using a whiteboard. (**Participant 5**)

Time for one class is 40 minutes. In 40 minutes I don't have time to concentrate on all of my students and teach them at the same time. It makes it hard to focus on the skills I am interested to apply or at least have a good relationship with all of my students. (**Participant 1**)

Some of the participants, who had their higher degrees from more economically developed nations, cited how the lack of adequate resources in their institutions is a barrier for them:

> *When I went to China I saw that every classroom had an air conditioner, computers and speakers installed. I never understood why they have speakers installed…but I really need them in my classroom because here in my classroom I need to speak with a very loud voice. When I come back to my home, I speak very loud…and my wife always complains, saying, "Why are your always screaming loudly?"* (**Participant 11**)
>
> *I wish we had clickers…when I was in Australia; my teachers had clickers… everyone had a chance to participate. But here the teachers are responsible for students' participation.* (**Participant 3**)

The participants cited the lack of technical support as another barrier:

> *Technology plays an important role for the implementation of innovative techniques in the classroom, but our department has only one multimedia projector and most of the time it's not available.* (**Participant 7**)
>
> *Power outage is the major problem for the use of technology. I wish our university can have an alternative to tackle this issue, and can buy some powers generators.* (**Participant 2**)

I also asked the HoDs and Deans about the resources and facilities of their institutions and how they saw them as supportive or inhibiting of faculty's ability to implement their learning. Their responses were largely consistent with the standpoints of the faculty:

> *How can I expect my faculty to be productive, when they go into classrooms, which are destroyed so much, there is no proper seating...there is no electricity… especially in the summertime, it is hot and humid…how can I expect that a student will listen to them and they [faculty] will be able to apply what they learned?* (**Dean 5**)
>
> *I think it is not possible for the faculty to practically apply all the innovative ideas in our university. It's a new university with big classrooms and other facilities, but Internet and multimedia facilities are not properly provided.* (**HoD 3**)

Collegial Aspects

Among all the issues raised during the interviews with the sub-sample participants, lack of collegial support was one of the frequently mentioned issues. Twelve out of 16 faculty members mentioned that they lacked cooperation and feedback from their colleagues:

> *I can apply most of my learning from microteaching component, such as application of different skills, teaching strategies, and activities. But I miss the peers' feedback that I had during the training in LID.* (**Participant 4**)
>
> *I felt very comfortable during the training because I had the other participants as a major driving force to learn and reflect on my learning. But now in the university, I cannot discuss my teaching problems or get the same peer support from my colleagues in the department.* (**Participant 13**)
>
> *We were from different parts of the country, with diverse personalities, languages and even dress codes, but we were a unanimous continuous support for one another. I miss that support in my university*. (**Participant 16**)
>
> *Before me, there were three other teachers, who participated in the same training, but when they came back they didn't apply their learning. I was the first one who wanted to apply this in my university and I was criticized for this a lot by my colleagues.* (**Participant 8**)

Contrary to these comments, some of the faculty shared that they have collegial support in their institutions:

> *We have a faculty feedback session in our department…its not non-formal chitchats about teaching styles and processes. We share our problems with the senior faculty members and they are really helpful.* (**Participant 2**)
>
> *I really appreciate my colleagues when they come to my classroom and observe me and make me aware of my weaknesses. And even some of my colleagues observed a great difference in my teaching from before attending the training and after.* (**Participant 14**)

Students' Role

Eleven out of 16 participants agreed that students' cooperation and their interest to learn supported them to be interested and enthusiastic about application of their knowledge and skills:

> *When my students have a desire to learn and they show their interest in a particular teaching method, I try to excel in it… If as a teacher, I have nothing new to offer every day, it will hinder my students' learning capacity.* (**Participant 3**)
>
> *The active participation of my students triggered my aspiration to apply innovative teaching methods…my objective is to teach them and I have to remove each and every obstacle and everything - if it comes from the administration or from my teaching style.* (**Participant 5**)

On the contrary some faculty members shared:

> *If my students don't want to really explore new things...I cannot force them into it. It demotivates me when I see their only concern is everything related to their papers, their coursework, and their grades, but not learning. They just want their degree in the end.* (**Participant 10**)
>
> *My students don't answer; they don't help me to teach them. And this is what I'm totally against and I am working more on strategies to reinforce their involvement.* (**Participant 1**)
>
> *If I am not satisfied with my students' role in the classroom, I know I have to change it. Because I want to teach them… even if they don't want, because it is my duty… This is what I am there for.* (**Participant 15**)

The novices also shared their experiences in the capacity of master trainers about cascading the similar training (MT-FPDP) or the similar model of microteaching in their respective institution and the challenges they face.

Delivery of the Microteaching Module

Six out of 16 (sub-sample) faculty members shared that they delivered the microteaching (training) module in their institutions to their fellow faculty

members. They said that, as a master trainer, it is one of their responsibilities to implement the same program as MT-FPDP did, except now in their own institution. They shared that they observed themselves as better supervisors to facilitate the training than their microteaching supervisors during the program. Most of them chose to cascade the microteaching module out of eight other MT-FPDP modules:

> *When I conducted the microteaching…I observed that most of the participants were not confident…they would just shiver. So I told them that I would make a video of the presentation and then we would observe and get feedback from one another…I told them that I felt the same way facing the camera for the first time.* **(Participant 4)**
>
> *I have cascaded the microteaching model as a supervisor in my university…a good deal of my teaching; I have taught microteaching skills to my fellow members; they really appreciated it. They are new to the university teaching…I feel I did a good job to understand their concerns than my supervisor…I could imagine their concerns. I may also give another training on the communication skills.* **(Participant 14)**
>
> *I have coordinated a three-day workshop on communication skills and another three-day workshop on microteaching skills…my fellow faculty enjoyed it…I felt very confident…I tried not to act like my supervisor did.* **(Participant 11)**

Another faculty delivered the microteaching activity for her students in a classroom:

> *I learned different skills and then I tried to implement it in my classroom. I ask my students to prepare a presentation and then give feedback and then ask them to do the same presentation after a few days just to see the differences.* **(Participant 1)**

I further probed about the challenges or issues they faced when they coordinated or implemented the microteaching module at their universities in terms of the resources, the reaction of the participants, the learning environment, the teaching materials, their level of confidence, and the video recording facilities etc.:

Most of my colleagues did not agree to participate in the microteaching training I conducted in my university…they didn't want to give their time. They thought it's a useless effort and it doesn't pay off…they thought that it doesn't relate to their fields of teaching…I had to explain the whole process to them. **(Participant 11)**

There was no incentive for teachers in attending my training at the university compared to getting certified training from HEC. Even when they came to the training session, they had to miss their classes. There is a lot of pressure and a lot of burden. Even the university sometimes doesn't give them relaxation. They need to take a break from classes. **(Participant 14)**

Teachers were not supportive of my offered training because most of them had a burden to reteach their classes and make up for all of that they were suppose to miss while attending my training program. The HoDs and Deans said, "You are not on a holiday"… this is the biggest hindrance. **(Participant 7)**

CHAPTER 5

DISCUSSION OF RESULTS

In this chapter, I discuss and analyze the findings of my research by describing each major category of the results (chapter 4) and organizing them from the more general to the specific. In order to analyze the contribution of the microteaching module and practice in the higher education context of Pakistan, I compared the expected and immediate outcomes of microteaching (which extant literature and theory predict) against actual short and medium-term results generated from my research. I also touched upon potential relationships of my research findings with the expected long-term outcome of microteaching—improved student learning—which is beyond the scope of this dissertation.

I first discuss the relevant results for each of the main research questions. I then cite both contrary and supportive literature regarding my arguments. These references from the literature are then followed by an analysis of whether the findings of my research support or go against the principles of my conceptual framework for adult learners (novice faculty members) in Pakistan. Upon identifying the possible limitations of my research, I discuss how these constraints could impact the validity of my research findings. Consequently, I evaluate the unexpected (emerging) conclusions and conflicting explanations of the results in order to explain how my research findings are important. I also discuss how they can contribute to the existing knowledge or theory (including adult learning theory)

underlying the use of microteaching in professional development programs for novice teachers, particularly in a higher education context.

Faculty Members' Experiences of the Microteaching Module

Drawing on my analysis of the novice faculty members' experiences of the microteaching module during MT-FPDP, I will here discuss and interpret their manifested views about the relative contribution of its activities and content as well as the helpful and hindering features to their participation.

Conforming to the previous research studies about the contribution of microteaching activities, the results of my research affirm that microteaching activities, such as review of the recorded videos and collaborative activities with their peers, contributed the most to their insightful learning and constructive self-analysis capabilities (Donnelly & Fitzmaurice, 2011; Kpanga, 2001; Stevens, 2007; Jacques, 2000; Minardi, 1999; Joshi, 1996; Wilkinson, 1996; Gross-Davis, 1993; Olivero, 1970). However, as an emergent theme from qualitative data, the results indicate that participants were anxious about being taped during their teaching performance, and shared similar concerns about their possible fears and insecurities (He & Yan, 2011; Stanley, 1998; Carlson, 1996). This finding endorses the principles of my conceptual framework: 'Adults are self-directed and internally motivated' and 'Adults learn best when the learning activities foster critical reflection.'

Contrary to the effectiveness of video recording, the participants felt the activity of "lesson planning" contributed the least to their needs as novice faculty.

They widely reported that supervisors assumed that higher education faculty, by virtue of their position, are versed in pedagogical theory and best practices for basic teaching skills such as lesson planning (Cooper, 2004; Gibbs & Coffey, 2004; Gilbert & Gibbs, 1999). Also, they viewed the supplementary material for lesson planning as contradictory and irrelevant to the context of living and learning in Pakistan.

Furthermore, participants identified specific features (such as feedback mechanism, microteaching learning environment, supervision, and peer support etc.) of the microteaching component that helped or hindered their full participation. Depending on the intersection of such positive or negative experiences, during the microteaching, the novice faculty had corresponding levels of attainment (or lack thereof) in relation to the expected/immediate outcomes of the microteaching.

The literature on the microteaching model does not provide a reference or evidence that claims "development of a professional network" could be a feature of the microteaching model. It was thus an unexpected development that the collaboration among teachers in microteaching helped inspire and establish a national professional network that supports the leadership of LID/HEC. The faculty members valued MT-FPDP as a central core program as opposed to the devolution of HEC to provinces. They appreciated the role of LID/HEC, and believed microteaching was an opportunity to spend time together reviewing their teaching and discussing their concerns and prejudices with faculty from other parts of Pakistan. As a result, it developed social networking, allowing for a beneficial discussion about events and behaviors that occurred in the normative

teaching/learning environment. My results confirm that microteaching helps novice teachers find professional counterparts with whom to share their experiences. The novices have started to transform their learning (Mezirow, 1997) by developing the professional network through social media such as Facebook and Skype that can provide new prospects for working together on different projects, designing courses, and writing research papers. Introducing the idea of learning experiences such as the central MT-FPDP in which exposure led to change—faculty around Pakistan overcame and/or dealt with their provincial biases—thereby increased an attitude of community across such borders within Pakistani culture. The finding endorses Dr. Nabi's presumed challenge to the devolution of HEC. My research reports that a central unit (HEC) controlling the Higher Ed. of Pakistan can promote national cohesion and "cross borders/collaboration in sharing knowledge" (Nabi, 2013).

Moreover, the novices viewed the whole process of teaching, reviewing, and re-teaching as a helpful opportunity to their full participation. It helped them to find out their weak points, to work on those identified flaws, and to recognize the changes in those particular areas of teaching. Validating the idea of "self" by Markus and Nurius (1973), theoretical perspectives of Knowles's andragogy (1970) and Mezirow's theory of transformational learning (2000), it is evident that the process of teach-review-re-teach provided novice faculty an opportunity to observe not only modeling of others but also to observe their own modeling through recorded videos. This ability to recognize strengths and weaknesses of one's teaching style validates that participants' reflective practice has increased, and thus, helped the novices gain

confidence during the participation in microteaching sessions of MT-FPDP. This finding corresponds to the adult learning principles of my conceptual framework: **'**Adults explore options for new ways of acting,' 'Adults learn and transmit knowledge efficiently when they observe modeling' and **'**Adults learn best when they are provided with future-oriented professional development opportunities that represent individual ideas.'

The novices considered the role of self-reflection, peer collaboration, and their peers' active participation as substantially helpful microteaching features to their full participation. According to Triandis (1995) learning new concepts in a more collectivist social setting provides an opportunity of sharing life experiences with others that promotes cohesion and diversity. As opposed to the concerns in the literature that microteaching ignores the social context of teaching (Nash, 1972), reduces diversity, and promotes standardized teaching (Wolfe, 1970), the results of this study demonstrate that microteaching may serve as one of the most effective teaching models to increase diversity, collaboration, and teamwork. Novice faculty called their peers "professional buddies" in order to grow in their respective fields by discussing the diverse notions of learning. The results affirm the principles of my conceptual framework: 'Adults learn best when they develop an organizational culture of collegiality and shared learning.'

The novices also reported a presumed importance within the microteaching feedback mechanism: that is, the three separate channels of supervisor, peers and self-reflection, as a very helpful and valuable experience (Zepeda, 2008; Koran, 1969; McDonald, 1973). However, the implementation of this mechanism during

MT-FPDP was flawed. The participants testified that while the critical feedback of their peers and their self-reflection were a continuous support for their practical learning, the supervisors' feedback largely contradicted the feedback received from their peers and/or it did not reflect what they concluded from viewing their self-recorded videos. This finding accepts the proposed adult learning principles of my conceptual framework: 'Adults learn best when learning activities foster meaningful observation and reflection' and 'Adults learn best when their peers observe their performance and give them reflective feedback.'

In addition, the qualitative findings also exposed that it was not just a peer interaction or collaboration with other faculty during the microteaching module that generated a positive experience and helped them participate fully. Rather, the novices realized that all of them having a considerably similar age range, qualifications, years of teaching experience (as novices), similar uncertainties (mainly given they are at the beginning stage of their teaching career), as well as teaching students at the same level (Higher Ed.) made the learning environment safe to participate without fears of being wrong. Such a disclosure about *artificial role of peers vs. real students* in microteaching sessions of MT-FPDP in Pakistan, contradicts the research claims of Bell, (2007), Metcalf (1993), and Perlberg (1970). This finding validates the principle of my conceptual framework: 'Adults learn best when they develop an organizational culture of collegiality and shared learning.'

Such an artificial environment (a feature of microteaching model described by Allen) where faculty members acted as real students with mutual respect affected their mutual relationships, created a collaborative and collegial atmosphere

among the whole group that helped them participate fully. The key to this process was a friendly, safe, and responsive learning environment of MT-FPDP that supports the extensive research of Amobi and Irwin (2009), Higgins and Nicholl (2003), Metcalf Hammer & Kahlich (1996), Minton (1997), Brown (1975), and Politzer (1969). When novices made recommendations for how to improve the microteaching lab, equipment, and facilities, they credited LID's management for providing them with a responsive learning environment that influenced their participation positively throughout the program. This finding confirms the adult learning principle of my conceptual framework: 'Adults learn best when the learning environment is safe and supportive.'

Contrary to the above discussed features, the supervisor' lack of expertise regarding microteaching content, processes, and mentoring were some of the most hindering features to the participation of novices during the program. The novice faculty concurred, in accordance with the prevailing wisdom of the existing literature, that microteaching guidance is the most critical of the various vital features of the microteaching processes and cycles (Brown & McGarvey, 1975; Koran, 1969; Dussault, 1970). More specifically, my research data describe that the lack of expertise and capabilities among the supervisors about microteaching objectives, content, activities, and skills demotivated the novice to participate.

Furthermore, the novice faculty supported the research findings of Blumberg (1970) that the supervisor should be supportive and emphasizes guidance in their roles rather than dictatorial. As a result of the participation in the microteaching module, the novices learned how to mentor adults and considered the various

supervision concerns they had during the program. While delivering the similar training at their universities, the novices observed themselves being better supervisors in facilitating the training than their microteaching supervisors. Novices strongly agreed that better mentorship and supervisory feedback would have been helpful to their learning of microteaching. Given that the novices advocated a collaborative and supportive mentoring relationship, it is concerning that the majority of them failed to experience this in practice. I deduced from the results how microteaching guidance could impact the outcomes of microteaching as a PD approach (Harman, 2010; Brad, 2007; Cooper, 2004; Gibbs & Coffey, 2004; Hunt & Michael, 1984) in the higher education context of Pakistan. This inference supports the principle of my conceptual framework: 'Adults learn best when they establish a mentoring relationship where the supervisor observes, reflects, and gives feedback on their learning to promote reflective practice.'

Moreover, the results demonstrate that the microteaching content, activities, supplementary material, and practice teaching were lacking rigor due to the irrelevancy of the content, particularly considering, who they are teaching and the amount of experience they are bringing with them (Tarrant, 2013). In such cases, even if the microteaching activities had the potential to significantly contribute to the learning by faculty, it was often inhibited due to boredom or frustration at the irrelevancy of the content. Such dissatisfaction by the participants substantiates the adult learning principle outlined in my conceptual framework that could make the microteaching experience most contributive: 'Adults learn best when they are involved in goal oriented and relevancy oriented activities.'

Participants regarded microteaching as an effective and efficient way of acquiring teaching skills in a short duration of time (Saunders, Nielson, Gall, & Smith, 1975). They considered it beneficial to advance their previously acquired teaching skills of methodology, communication, and presentation, with the exception of "planning." The teaching and/or learning of "planning" left them feeling less prepared as compared to the other microteaching skills. Such perceptions of novices about the acquisition of microteaching competencies/skills validated the principle of my adult learning: 'Adults learn best when the activities incorporate experiences from the past as an effective way to build their competence level.'

Moreover, the results also showed that novices found these skills, more specifically "planning," to be very broad and they hardly remembered what their names, purposes, subparts, and usages were. They discussed that they did not have sufficient time to practice all of these subparts. Microteaching as Allen and Ryan (1969) described is a process of breaking down complex teaching methods into specific, simple teaching skills. In this regard, the microteaching skills practiced in Pakistan do not strictly conform to the "scaled-down" approach of simplification of teaching challenges for novice faculty.

In addition, my research findings correspond with the research findings of Turney, Clift, Dunkin, & Trail (1973) Freiberg (2002). The skills borrowed from Stanford Model are useful, but they are not sufficient for training the higher education faculty. In a similar vein, the novice faculty recommended that microteaching should prepare them to foster students' cognitive skills i.e. developing critical thinking, encouraging students to evaluate and make judgments,

encouraging self-reflection, counseling individual students and groups, and improving grading and feedback skills. They feel such teaching skills are more important than classroom management skills; such as giving small group guidance, supervising lab sessions, and/or handling disruptive behavior (Tarrant, 2013; Ryan & Fraser, 2010; Moore, 2010; Zepeda, 2008; Gibbs & Coffey, 2000; Lyons, 2006; Savin-Baden, 2000; Ramsden, 1992).

In addition to the contribution of microteaching activities, skills and features (that responded to my primary research questions), the findings also reveals that most of the participants of MT-FPDP Batches were not introduced to the microteaching module, its processes, or activities ahead of time. For this reason, they had concerns varying from the whole process to a specific microteaching activity. As adult learners, they were anxious to know the rationale for participating in microteaching prior to its implementation in the program (Knowles, 1990). The social science faculty, who were familiar with this teacher training technique, had high expectations. On the other hand, the pure sciences and management faculty tended to have more ambivalent and/or lower expectations about the microteaching component of the program. Novices' views comply with the andragogical beliefs of self-directed learning that stimulate inspiration to engage in a learning activity (Brookfield, 1986; Knowles, 1990). This finding endorses the principle of my conceptual framework: '<u>Adults are self-directed and internally motivated.</u>'

The research findings of Young and Young (1968) and Kallenbach and Gall (1969) viewed a similar set of teaching experiences as a potentially intimidating

factor to teachers' learning, and stressed the value of experienced teachers or supervisors in PD activities. On the contrary, my research illuminates that similar ranges of teaching experience motivated the novices to work better with one another; to more prominently peer-model and learn from one another's varied experiences. Hence, improving creativity, innovation, and practicality of their teaching activities (Vander, Kloet & Chugh, 2012; Clifford, Jorstad & Lange, 2011; ŞEN 2009; Bell, 2007; McLean, 2006; I'anson, Rodrigues, & Wilson, 2003; Wilson & Berne, 1999; Farris, 1991; Napier & Vansickle, 1981; Pereira & Guelcher, 1970; Huber & Ward, 1969). Such a transformation in individual perspectives of the novices on the transmission of knowledge substantiates the conceptual framework principle: 'Self-defined learning coupled with a collaborative peer relationship encourages adults to develop new strategies and improve their practice.'

Interestingly, nowhere in the literature has gender been discussed as an issue in microteaching practice. It became evident in my study that it was a distraction that could be an impediment to performance and ultimate success of the program. Both male and female faculty mentioned gender issues. However, they expressed it through different angles; some (both male and female) viewed it as a challenge for females to participate with confidence in a gender-mixed space, some viewed it as a challenge for males as well, and some shared the biases of the supervisor towards female and male participants. The novice faculty questioned the biased role of supervisors (both male and female) for raising the gender of a faculty member as an issue to be considered. I, as a Pakistani female novice higher education faculty member, can see how this 'bias' was interpreted differently by

different genders. Nonetheless, I presumed that the female supervisor's explicit mentioning of gender in a mixed gender setting was aimed to address this issue openly in order to support women's participation. Bradley (1989) asserts that the dominance of one gender on the other determines how the group views the role of genders. Some female faculty voiced their concerns about sharing their recorded video to the whole group. The findings indicated that such hindrances raised the question of "cultural insensitivity" during the program.

Given Pakistan's enormous demographic range of languages, race, class, religious sects, and geographic cultural zones, it is not surprising that "cultural sensitivity" (Siddiqui, 2012) came up as a major issue to the participation of novices during the microteaching module. Faculty observed such biases, both explicitly and in more subtle and subverted forms, during microteaching. Some novices bonded across identity barriers they had not previously encountered. For others, the experience of encountering 'others' from different provinces and cultures for the first time often resulted in discomfort. As a consequence of this discussion, I undertake the notion that such discomforts due to the cultural insensitivity among the novices could serve as a potential threat to the long-term connectivity of the professional network they developed during the program. Lawson (2015) accentuated it excellently "shared identity and interdependence are especially important because together they provide a kind of bounded solidarity without which collective action is difficult to mount and sustain" (p. 8).

The data collected through my research survey questionnaire reported that novices were three times as likely to suggest a change rather than no change in the

microteaching module of MT-FPDP. Further breakdown analysis of (both quantitative and qualitative) data indicated that some Batches asked for a "Change in a great deal" in their experience compared to others. These differences should be of interest to LID/HEC as a national body responsible for a nationwide training. Although as a national level program it is not easy to keep the quality of the program consistently high, LID/HEC should conduct evaluations exploring these differences. There are always different dynamics that could affect the quality of the program including the participants' background, the environment, and other geopolitical problems, particularly in the context of Pakistan. However, LID/HEC should enhance their formative and summative program evaluations.

Reported Contribution of the Microteaching Module to Actual Classroom Teaching

My research also reported the findings about the perceived contribution of microteaching module to the actual classroom teaching. The novices considered that participation in microteaching was an effective bridge to practice their theoretical knowledge received from all the other modules offered at MT-FPDP. The HoDs/Deans confirmed these findings. The triangulation of data received from HoDs or Deans with the data received from faculty members helped me understand the definite state of power relations and support system for faculty in the institution. Moreover, different points of view and perceptions of both sets of samples validated the data and helped me recognize the factual challenges and issues that hindered the faculty's attempt to adapt and implement their learning of microteaching.

Overall they reported that the microteaching component was a beneficial experimental avenue to gain mastery in teaching, and to apply that learning by beginning to implement interesting and engaging classroom activities (Putnam & Borko, 2000; Guskey, 2000; Farris, 1991; Kallenbach & Gall, 1969). Echoing Knowles' (1970) notion of andragogy, one particularly interesting finding that emerged from the in-depth interviews with novice faculty is that after participating in the microteaching module they realized how adult learners are different. The novices also observed that the microteaching experience improved their ability to establish effective direct contact with students by; fostering students' active participation, facilitating the independent learning, and promoting shared learning through peer interactions in their classrooms (Kilic, 2010; Fernandez, 2010; Post & Varoz, 2008; Parks, 2007; Fernandez & Robinson, 2006).

My research evidence about successful implementation of reflective strategies in the classroom teaching substantiates the research, affirming that adults learn through reflection as a process through which they critically analyze and develop their knowledge, practice, and experiences (Illeris, 2007; Stevens, 2007; Lyons, 2006; Kreber, 2005; Hoyrup, 2004; Jacques, 2000; Fenwick, 2001; Minardi, 1999; Wilkinson, 1996; Joshi, 1996; Gross-Davis, 1993; Boud, Keogh, & Walker, 1985; Olivero, 1970). However, my research findings oppose the viewpoints of Stanley (1998) and Carlson (1996) that the engagement of novice teachers in self-reflection may result in painful experiences (because self-scrutiny is a difficult task) when teachers are inclined to learn new things. In contrast, the novices believed that self-reflection helped them bring a change in their teaching behavior, and to

handle their insecurities as a novice teacher in a real classroom setting (Freiberg, 2002; Cooper, 1986; Young and Young, 1968).

The novices described themselves as *'reflective practitioners,'* being more likely to ask students for feedback about their strengths and weaknesses (Benton-Kupper, 2001; Amobi & Irwin, 2009; Castellanos & Gloria, 2007). The novices also appraised the self-assessment strategies they absorbed through the teach-review-re-teach cycles of microteaching as a valuable means for reflecting on their knowledge, disposition and classroom teaching. Subsequently, my research demonstrates that such a reflective practice in the classroom helps novices foresee their possible future teaching issues and overcome the insecurities and shortcomings connected to their present and past teaching experiences (Illeris, 2007; Benton-Kupper, 2001; Jacques, 2000). This finding verifies the principle of my framework: 'Participation in reflective practices fosters meta-cognition leading to insightful applications of their learning.'

They considered the acquisition of teaching skills, in particular communication skills, as the strongest factor in changing the way they teach in their real classroom situations (McGarvey & Swallow, 1986; Brown, 1975; Huber & Ward, 1969), contradicting the stance of some research in this regard (He & Yan, 2011; Wagner, 1973; Nash, 1972; Nash & Agne, 1971; Seidman,1969). Such utilization of new strategies in classrooms provides credibility to the success of microteaching objectives and verifies the principle of my conceptual framework: 'Adults utilize their learning successfully when they are able of using their learning in their practice.'

Nevertheless, the findings indicate that faculty still needs to strengthen their classroom planning and management skills. More specifically, when faculty relate to the teaching methods, activities, and the results achieved from participating in microteaching module. When we consider the myriad of skills and competencies that novice faculty must learn to become master teachers there is seemingly no limit to evermore-new skills to acquire in order to improve teaching practice. While teaching these skills as theoretical abstractions are often an easy way for faculty to learn new skills and techniques, actually practicing the microteaching skills in the classroom was reported to be difficult (Weiner, 2001). The findings indicate a substantial use (daily or weekly) of all the microteaching skills. It reveals that the skill acquisition during the microteaching module is contributing to the real classroom teaching. The novices described they needed more expertise to successfully acquire and implement all the teaching skills (Sadker & Sadker, 1975; Saunders, Nielson, Gall, & Smith, 1975; Peterson, 1973; Young & Young, 1968). They considered that the improved communication skills helped them address certain challenges associated with 'adults-teaching-adults' in the Higher Ed. Context (Castellanos & Gloria, 2007; Moore & Rísquez, 2007; Gibbs & Coffey, 2000; Lyons, 2006; Petty, 2006; Higgins & Nicholl, 2003; Laurillard, 2002; Savin-Baden, 2000; Evans, 1970). It confirms the expected/immediate outcome of the microteaching proposed in my theoretical framework, 'Adult are best capable of implementing new strategies and skills, when cognitive dissonance is fostered, leading to improved andagogy.' However, the recognition of communication skills, more than any other

teaching skill, can also be a confounding factor in the findings of this research because MT-FPDP offers a three-day separate training on communication skills.

In order to understand the contribution of the microteaching module in the actual classroom teaching, I felt it essential to explore *the institutional level supports and barriers to use the microteaching knowledge and skills*.

They felt that being novice faculty 'adults-teaching-adults' was the most challenging task for them. However, they reported increased confidence in teaching their (adult) students in the big lecture halls (ŞEN, 2009; Castellanos & Gloria, 2007; Copeland & Doyle, 1973). Some of them also regarded microteaching as an effective practice that encouraged them to apply their innovative teaching skills into their syllabi discouraging the fears they had in their classrooms teaching. As opposed to the research critique of artificial roles of peers in microteaching—i.e. the absence of real students do not reduce the fears of real classroom teaching—reported by Bell (2007), Metcalf (1993), and Perlberg (1970), the Pakistani Higher Ed. faculty perceived that their peers served the best role as the audience for the microteaching model, particularly for higher education training. This finding underscores the principle of my conceptual framework: 'Adult's confidence is boosted when the factors leading to fear and anxiety that would impede confidence are reduced.'

On another note, Ahmed (2012) asserts that the Internet access and the use of ICT have provided enormous access to students' knowledge in Pakistan, reducing the exclusive access and power faculty previously held. This low power dynamic has in turn affected the role of Higher Ed. faculty, not only putting more pressure on

them to develop students' interest and engagement but also to foster a friendlier learning culture. Novices recognized that the lack of a mentoring relationship with their supervisors during the program helped them realize how their students may feel when they find themselves without clear guidance. They observed that understanding their students concerns helped them develop a substantially more friendly relationship with their students as compared to the previous reality (before participating in microteaching module). As a result, students' cooperation and their interest to learn encouraged the novices to implement the new strategies they learned through microteaching module (Johnson, 2007). This finding supports the principal of my conceptual framework: *'Adult are best capable of implementing new strategies and skills when safe spaces and supports are maximized.'* Astin (1999) stated that such a student-faculty interaction in higher education had a very substantial impact on students' success and satisfaction. He further recognized

> *Students who interact frequently with faculty members are more likely than other students to express satisfaction with all aspects of their institutional experience, including student friendships, variety of courses, intellectual environment, and even the administration of the institution. Thus, finding ways to encourage greater student involvement with faculty (and vice versa) could be a highly productive activity on most college campuses (p. 525).*

Thus, I can accept that this finding supports the long-term outcome of (microteaching): "improved student learning" of my conceptual framework that I previously specified is beyond the scope of this study.

The novices reported that a lack of incentives and organizational policies dispirit them from 'knowledge sharing and [bringing] change' [in their classroom teaching] (Wenger & Snyder, 2000). They shared that they cannot find enough

freedom to express their views about their teaching or to critique their peers' performances in a collaborative learning environment. Such lack of collegial interaction is in opposition to the research that suggests institutions provide faculty collaborative spaces and activities where they can mutually get involved in discussion about planning, teaching, researching and evaluating (McGregor, 2003). In addition, Tarrant (2013) believes that novices are better able to transmit their knowledge and skills when they have supportive organizational policies and when upper management keeps track of individual's performances, recognize their efforts, and provide them opportunities to reflect on their development paths.

The faculty attested that they need a social pursuance in terms of mentoring support from their HoDs and/or Deans, which according to Ali (2011) is a common issue for novices in contexts such as Pakistan. The existing mentoring literature related to higher education faculties successful implementation of knowledge indicates that mentoring relationships with institutional leadership is an essential factor for preliminary academic success for Higher Ed. faculty (Brad, 2007; Moore & Rísquez, 2007; Merriam, 1983; Hall & Sandler, 1983; Hunt & Michael, 1983; Shelton, 1982). According to Hill, Bahniuk and Dobos (1989) mentoring relationship of the faculty with their administrative leadership is "positively related to perceived success, satisfaction with the work itself, and supervision" (p.10). In contrast, the results of my study demonstrate that the HoDs/Deans and senior faculty consider the new agency and confidence (as a presumed impact of participating in microteaching) of the novices as a threat to their existing power. Research suggests that in the context of Pakistan there is a very unequal power dynamic between

faculty members and their upper administration and/or management (UNESCO, 2006; Aslam, 2011; Chaudary, 2011). Hashmi (2007) asserts that Pakistani society in general and organizational structure recognizably depicts *Hofstede's concept* of high power distance. As a Pakistani woman working in an academic organizational setting, I can attest to Hashmi's description of this cultural dimension. Aslam (2011) stated that in the context of Pakistan

> *"Whatever, the method or approach of professional development may be adopted it should be supported by upper management. Because teachers will be ready to adopt change and improvement plans, only when, their efforts of making suggestions and improvements will be realized and appreciated by the upper management" (p. 101-102).*

In such power settings, the effectiveness of professional development programs' implementation in the institution is highly dependent on the support and role of management. The novices underscored this notion and asserted the lack of support from upper management in terms of appreciation and recognition of their efforts, mentoring, and departmental coordination. Hall (1969) describes that in a high-power distance culture, such coordination is unclear. The individuals do not have clarity and management support, which results in non-effective practices. In such an organizational culture, common in Pakistani universities, the novice faculty tend to accept the hierarchical nature of power, and thus find it difficult to implement their new knowledge, skills, and creativity. LID/HEC expects the novices to implement similar training in their institutions and hope that cascading the training will have a trickle-down effect on the teaching-learning processes of other faculty members. However, LID/HEC completely ignored the existing power dynamics in higher education institutions.

In terms of collegial factors, the novices felt the overwhelming demands of the department as responsible for not having enough time to plan and collaborate effectively with other faculty. They [novices] indicated that they feel isolated in their individual spaces that discourage them to share their concerns being novices. Johnson and Johnson (1991) apprehend this concern and describe that individuals cannot practice effectively if they do not have a mutual support and sharing of their learning with their colleagues. The research of Hill, Bahniuk and Dobos (1989) about the impact of collegial support on faculty success concludes, "The most helpful communication support in terms of performance indicators seems to be collegial task support. Working closely with colleagues on projects, sharing research ideas, etc.…predicts high-performance indicators" (p. 17). Wenger (2000,) calls such a collaborative practice of collegiality a 'community of practice' (p. 139), which according to Wenger & Snyder, (2000) "promises to complement existing structures and radically galvanize knowledge sharing, learning, and change" (p. 139). Ali (2011) accentuated a similar concept for a productive collegial environment and improvement of the classroom teaching in Pakistani institutions.

Moreover, the novices also identified challenges in applying techniques in their teaching to overcrowded and technology-deficient classes, tight schedules, and overambitious syllabi as threatening factors at the beginning of their teaching career. In a similar vein, Rogers (2000) highlighted that lack of technology use in Higher Ed. classrooms might not be connected to mere faculty members' anxiety to use the instructional technologies. But it could be linked to the "institutional norms relating to teaching methods, faculty autonomy, and notions of productivity" (p.20).

Some novice faculty described the inadequate resources for lesson planning as a barrier to planning a lesson. Notably, due to the frequent power outages, they were unable to plan and conduct the activities requiring the use of instructional technologies (Huma, 2014).

The novices also highlighted the prevailing situation due to the terrorist attacks, civil protests, and the shutting down of universities for unexpected amounts of time, as affecting their confidence and interest to use innovative teaching lessons for their classrooms (Huma, 2014). As a result, the novices shared that some days they end up involving students in aimless activities. According to Eraut and Jones (1976) aimlessness is "the most important single cause of ineffectiveness in teaching and of frustration of educational effort" (p.39).

When novices spoke in their new capacities as master trainers (one of their responsibilities being to implement the same program (MT-FPDP) within their home institutions) the novices shared similar concerns when discussing the delivery of microteaching and/or other MT-FPDP modules.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

The literature about microteaching reports several concerns related to its scope, reduced class size, content, artificial learning environment, lack of attention to the diverse needs of teachers, and risk of creating teaching robots. However, these criticisms are not substantiated in my research with as much evidence as compared to the literature showing acquisition of skills and improved teaching through microteaching. The discussion of my research findings, deduced from the thematic analysis of results, validated the contribution of microteaching module of MT-FPDP both in its design (during the training) and in its application (in the real classroom situation) to the knowledge, skills, and self-efficacy of novice higher education faculty of Pakistan.

In the table below, I will report the specific conclusions and related recommendations for each of my research questions. The recommendations are posed to different stakeholders including LID/HEC, microteaching supervisors, university leadership (HoDs/Deans), and novice faculty (participants of MT-FPDP). These recommendations are based on my research conclusions and the reported recommendations of novice faculty (in the survey questionnaire, and those that emerged during interviews) for changes to microteaching experience—both in its design and practice—in the higher education context of Pakistan.

Table 17: Conclusions and Recommendations

Research Questions	Conclusions	Recommendations
RQ 1. What are the views of novice faculty members about their *experience in the microteaching module* of MT-FPDP?		
a. What was the relative contribution of the various microteaching *activities*—such as practice teaching, lesson plan writing, videotaping and *content*—ten teaching skills to participants' perception about how much they learned from participating?	• "Review of recorded videos" provided novices a self-reflection mechanism that motivated them to learn the most, while the activity of "lesson planning" contributed the least to their learning as novice faculty. • The novices found the acquisition of microteaching skills (with the exception of "Planning") in a short duration of time to be contributive to their learning. • The novices raised a desire to further incorporate some higher-level teaching skills (fostering students' cognitive skills) requisite for higher education learning. • Microteaching skills (content) utilized during MT-FPDP often has very broad, and at times disconnected, subsets of skills embedded within their larger skill set, as opposed to the Stanford Model, which has highly targeted skills that are more narrowly defined and concrete.	**LID/HEC:** • Given the high proportion of novice faculty, who assessed each microteaching activity as a substantial contribution to their teaching learning, all the activities should be retained in the microteaching module of MT-FPDP. More specifically, lesson planning (both as a microteaching activity and skills) should be strengthened. • Given the microteaching "scale-down" approach, LID/HEC needs to focus on specific and concrete skill sets that could easily be acquired during the five-day component of MT-FPDP. • For a measurable impact of the microteaching model and practice, LID and HEC should ensure that microteaching prioritizes teaching skills (fostering students' cognitive skills) that higher education faculty need the most. More specifically, LID can adapt the Dynamic Skills Model (University of Chicago) and the Component [Micro] Skill Approach (University of Sydney) for revision of skills. **Microteaching Supervisors:** • The supervisors of the microteaching component of LID may use the results of this study to design the relevant activities reflecting the needs of faculty as 'adults-teaching-adults.'
b. What microteaching features or processes within microteaching module (e.g. peer support, feedback	***Features that helped novices to participate fully:*** • An unanticipated result of having a centralized core program for microteaching module (MT-	**LID/HEC:** • LID/HEC may design activities (academic and/or recreational) that encourage the novices to

Research Questions	Conclusions	Recommendations
mechanism, self-reflection, microteaching supervision, and environment) helped the novices to participate fully and what hindered them from participating fully?	FPDP) with faculty from across Pakistan's many identity borders led to a collective, reflective, and collaborative cohort that helped inspire and establish a non-formal professional network at the national level. Such collaboration and socialization during the program further empowered novices to fully engage in microteaching processes. • In the process of teach-review-re-teach, novice faculty gained greater confidence through self-reflection, peer support, peer observation, and feedback (that occurred in a responsive environment), which helped them participate fully during the microteaching module. ***Features that hindered novices to participate fully:*** • Self-reflection and peer support reinforced the productive feedback. However, it failed to establish the recommended mentoring relationship with supervisors during the microteaching module, thus hindered the participation of novices. • Lack of supervisors' expertise to facilitate the microteaching content and activities, review the teaching of higher education faculty, and mentor the novices during the microteaching process, discouraged the participation and hence impacted the outcomes of the microteaching module. • Novices recognized the importance of a combined role of supervision and mentoring required for facilitating the microteaching processes (bi-product of participating in the microteaching module). They reported their	collaborate and socialize with faculty from other provinces. • LID/HEC should ensure a safe and responsive environment that emphasizes peer-collaboration, self-assessment, and mutual respect during the teach-review-re-teach processes. **<u>Microteaching Supervisors:</u>** • Supervisors should engage the participants in small group collaborative activities that could help them coordinate with other novices to maintain mutual respect across their many identity borders. **<u>LID/HEC:</u>** • LID/HEC should change the criteria of supervisors' selection. The supervisors should not only be knowledgeable experts in microteaching skills, but also have the experience of mentoring other faculty to teach better in their institutions. • LID needs to appoint expert, unbiased, and culturally sensitive supervisors, who can provide novices more self-directed, transformative, reflective, and productive learning opportunities through the process of teach-review-re-teach. • Given the disconnect between supervisors' and participants' expectations and experiences during the microteaching sessions, LID/HEC may consider hiring the participants of the previous batches to facilitate the microteaching module for the new batches offered at MT-FPDP. Hiring the previous graduates/participants of MT-FPDP will not only encourage the participation, but also improve the processes of teach-review-re-teach

Research Questions	Conclusions	Recommendations
	change of notion while delivering the microteaching module in their institutions.	because of the commonality of experiences. • LID/HEC may also offer training for the selected supervisors to provide them similar experiences of participation that can help them recognize their role as a mentor vs. dictator. **<u>Microteaching Supervisors:</u>** • In order to provide effective adult learning experiences and constructive feedback that could ensure the full participation of the novices, the supervisors might be interested in adapting the 2 + 2 evaluation protocol, and facilitating peer supervision—which are specified features of the Microteaching Simplified Model.
	• Microteaching content, activities, and supplementary material were neither closely relevant to the varied teaching contexts of Pakistan nor appropriate in its application at the higher education level. These precluded maximal participation.	**<u>LID/HEC:</u>** • In order to provide the most adequate and appropriate microteaching experience, the content, activities, and supplementary material need to be revised for the Pakistani context, and the revisions should further consider the students that novice faculty teach, and the amount of experience those novices bring with them. **<u>Microteaching Supervisors:</u>** • In this regard, supervisors could use my conceptual framework for microteaching that outlines the short-term and long-term outcomes corresponding with the principles of how adults best learn.
	• The lack of clear expectations for the microteaching module of MT-FPDP led to concerns and confusions regarding the objectives, activities, features, and processes of the program. Such concerns and confusions inevitably affected the initial experiences of the novices who were thus dealing with preventable anxieties and stress during the program.	**<u>LID/HEC:</u>** • In order to address preventable anxieties and stress, LID should organize an orientation prior to engagement with MT-FPDP along with documents that provide participants with references

Research Questions	Conclusions	Recommendations
	• Despite having an unease, which was commonly in accordance with cultural norms that often maintain gender segregation, it is interesting that higher education novice faculty in Pakistan felt comfortable with gender mixing during the training activities, and did not want gender to be an issue that hinders participation. • Due to insufficient cultural sensitivity, faculty often experienced forms of 'being othered' creating discomfort within the group when they felt ostracized, exoticized, or otherwise identified as being different.	regarding information about schedule, objectives, activities, features, and processes of the program. • Given that many of the microteaching activities required faculty to work together, often resulting in their being exposed to 'others' for the first time, it is not reasonable to expect faculty to navigate such complicated and nuanced cultural terrain on their own with no preparation or guidance. Cultural sensitivity should impart to participants, by nature, responsiveness to the individual. Therefore, a guiding protocol that would create a shared set of expectations from supervisors and faculty for how to appropriately engage in conversations around such potentially divisive topics. **Microteaching Supervisors:** • Supervisors should adhere to expectations of this protocol, and ensure that the participants are following the guidelines during group activities and discussing their concerns. This is necessary for creating an institutional culture that celebrates the cultural diversity among Pakistan's many peoples. • Supervisors should makes efforts to eliminate any gender-based discrimination by addressing the cultural stigmas identified with gender roles for active participation of novices in microteaching activities.
c. To what extent did participants feel the microteaching module addressed their needs as novice faculty members?	• A similar range of participant's teaching experiences fostered a safe competitive learning environment. Such an environment thereby both encouraged faculty to participate, observe, discuss and analyze others' teaching in a positive	**LID/HEC:** • LID may additionally offer *separate practice teaching sessions in separate groups* for social sciences, pure sciences, and management sciences prior to the whole group micro-presentations.

Research Questions	Conclusions	Recommendations
	way while reducing the fears of being a novice faculty. However, some expressed their views to have more time to discuss the specific issues pertaining to their individual fields of study.	• LID/HEC should ask the graduates/participants (from these different fields of study) of previous batches to co-facilitate these sessions with the microteaching principle supervisors. **Microteaching Supervisors:** • In order to better facilitate the microteaching processes and comfortable participation of all the participants (from different fields of study), supervisors should recognize these differences by designing general activities and using more generic terms. • Microteaching Lesson Study (MLS) could serve as a good model to follow in those separate practice sessions.
RQ 2. What are the perceptions of faculty members about the contributions of participating in the microteaching module to their learning about teaching?		
a. To what extent do participants feel that the microteaching module contributed to acquisition of knowledge and skills about the ten teaching skills?	• Microteaching was a worthwhile experience that contributed to improved teaching skills, (in particular "communication skills," though lacking in practical "planning skills" as previously noted) leading to the integration of a student-centered teaching practice in their classrooms.	**LID/HEC:** • Given the positive views of the novices about acquisition of microteaching skills, all the teaching skills should be retained with an emphasis on promoting student-centered teaching practices. Lesson planning, as specified as one of the requisite skills, should be strengthened and intensified.
b. To what extent do faculty feel that participating in microteaching contributed to their self-efficacy in using new skills?	• Upon leaving the MT-FPDP, novices reported feeling confident and comfortable applying their newly learned teaching skills such as non-verbal communication, presentation, methodology, and lesson planning in the classroom with the exception of a large minority for "Judging the students' problems." • The frequency of using the skills as a sole factor was not indicative of novices confidence level	**Microteaching Supervisors:** • Given the higher education dynamic of 'adults-teaching-adults,' the faculty struggles mostly with understanding students' concerns. Therefore, supervisors should emphasize the development of micro-lessons on the skills of "judging the students' problems', which can help novices gain confidence in utilizing this skill in their classrooms.

Research Questions	Conclusions	Recommendations
	given that "judging students' problems" was reported as the *most* often used skill, but the one novices remained the *least* confident about.	
c. To what extent do faculty feel that participating in microteaching contributed to their reflectiveness about their teaching?	• Novice faculty appreciated the improvement in their meta-cognitive abilities gained through the microteaching self-reflective practices. These reflective techniques (particularly self-assessment) are being implemented by faculty that help them in recognition of strengths to build on and weaknesses to address in their classroom teaching. • In their development and practice of reflective strategies in the classrooms, novices also reported that they felt more patient in response to the students' concerns and queries.	**LID/HEC and Microteaching Supervisors:** • Given the significance of reflective practices in higher education setting, LID/HEC and supervisors should keep emphasizing on reflectiveness during the teach-review-re-teach processes.
RQ 3. What are the self-reports of novice faculty members about the contribution of the microteaching module towards changes in their actual classroom teaching?		
a. What changes, if any, do faculty members report in their own teaching?	• Self-efficacy of microteaching knowledge and skills helped novices fundamentally shift the nature of their understanding and practice as higher education instructors – 'adults-teaching-adults.' • In appreciating the status of their adult-students (who often have equal access to knowledge and information) faculty now engaged in more horizontal and friendly relationships with their students, thus improving an interactive teaching and learning experience. • Recognizing the unique needs and dynamics of teaching adults, helped novices gain greater confidence, thus overcoming the fears of novice teaching in diverse higher education classrooms	**LID/HEC:** • In order to create a more procedural and systematic model of microteaching that supports novices to implement the learned knowledge and skills in their classrooms, LID/HEC should offer refresher courses. • LID should follow up with the novices and recognize their efforts at cascading this model in their own institutions. **Novices (Participants):** • Novices should keep LID/HEC updated about their efforts, both in utilizing their new knowledge and skills in their classrooms, and at cascading the similar activities for other faculty at their institutions.

Research Questions	Conclusions	Recommendations
	as well cascading the similar activities for their fellow faculty members.	**HoDs/Deans:** • The respective HoDs and Deans should appreciate the efforts of their novice faculty and report their efforts to LID/HEC for recognition.
b. What factors in their teaching environment do the novice faculty members feel supported them or hindered them in applying what they learned from participating in the microteaching module? Specifically, what were the supports and barriers? i. Individual, ii. Institutional structure and policies, iii. Leadership, iv. Facilities and resources, v. Colleagues, and vi. Students	• LID/HEC has ignored the existing power dynamics in the higher education institutions that influence the novices' ability to apply the new knowledge and skills, and cascade the similar trainings (as expected in their roles of master trainer). A greater agency of novices—as a result of being confident and overcoming the fears of novice teaching—proves to be a threat to the senior faculty and departmental leadership (HoDs/Deans). • Gaining greater confidence, overcoming fears of novice teaching, and engaging students more individually within safe spaces, supported novices in applying innovative (research based androgogical) teaching strategies in their classrooms. • Discouraging organizational culture and policies (such as overwhelming department demands, non-collaborative work routines, lack of professional autonomy and incentives), lack of collegial (feedback and knowledge sharing), administrative (lack of mentoring relationships), technical (technologically deficient classrooms), and geopolitical factors (strikes, terrorism, power outages, political instability) are the primary barriers for novices to implement lessons learned through microteaching/MT-FPDP experiences.	**LID/HEC:** • LID/HEC should contextualize the program considering these power-dynamics, and prepare the novices to deal with such dynamics while still being able to implement their learning and continue their innovative practices. **HoDs/Deans:** • In order to create a low power-distance culture, and support novices for effective practices, the HoDs/Deans should foster explicit communication systems, and emphasize mutual coordination in the department. **LID/HEC:** • In order to foster more collegial support within an institution and across a province, LID should provide avenues for collaboration and coordination with the trained novice faculty by proposing core central refresher courses offered at LID Islamabad. • LID/HEC should establish and support the informal "communities of practice" in each province. Such forums will provide novices opportunities to share the application of their learned knowledge and skills, receive feedback, and reflect on the potential supports and barriers in their respective institutions. **Novices (Participants):** • Novices should demand for such initiatives in their institutions, within and across provinces.

Research Questions	Conclusions	Recommendations
		Once established, the novices could maintain these "communities of practice"—via new technologies and software such as Skype, Google Hangout and Facebook—across vast distances. **HoDs/Deans:** • In order to foster comparative learning communities and sustained national networks, the HoDs and Deans should support such forums, and encourage the novices to participate in such activities—within and across the institutions and provinces. **LID/HEC:** • To obtain the academic freedom and professional autonomy of individual novice faculty, the HEC (in the capacity as a central higher education regulatory body) should institute policies that ensure the universities hire clerical staff to alleviate such work from faculty. **HoDs/Deans:** • HoDs and Deans should not involve the faculty in administrative tasks of the departments. As a result, the novices will have more time and energy to plan and execute their classroom teaching productively.
RQ 4. How does the HoDs or Deans perceive the changes of novice faculty members in applying new teaching skills?		
a. What specific changes, if any, do they observe in the teaching of participating faculty members?	• The HoDs/Deans had mixed feelings about the specific changes that they observed in the teaching of participating faculty members. For instance, some appreciated organizing recreational trips and innovative teaching strategies; while others did not get the idea of asking for more technological support or changes	**LID/HEC:** • LID may suggest mentoring workshops and orientation sessions (about MT-FPDP) for the administrative leaders (HoDs and Deans) to help them realize the importance of innovative teaching strategies and their role in the success of the overall teaching-learning processes. This

Research Questions	Conclusions	Recommendations
	in seating arrangements.	training should include an emphasis on the types of supports as well as recognize the current barriers to implementation of new teaching strategies.
b. What individual, institutional and other factors do they feel supported or hindered participating faculty members in using new teaching competencies?	• The HoDs and Deans perceived that overwhelming department demands, lack of interaction with other colleagues, and technologically deficient classrooms are the primary factors that inhibit the faculty's ability to implement their learning in classrooms.	**<u>HoDs/Deans:</u>** • HoDs/Deans (in their capacity of leadership) should ensure the adequacy of resources and provision of a safe learning environment (technologically efficient classrooms, small number of students, collegial support and opportunities for sharing). This may reduce the factors that can hinder the application of knowledge and skills that novices learned through participating in the microteaching module/MT-FPDP.

My research overall concludes that the novices had a substantially positive experience during the microteaching module of MT-FPDP. Particularly the microteaching module gave novices the opportunities to practice their teaching (skills) with other novices, with an intentional reflective feedback mechanism, allowed them to prepare themselves in a safe and collaborative environment. Moreover, based on the self-reports about the contribution of the microteaching module toward changes in their actual classroom teaching, my research exclusively concludes that the novices considered that participation in microteaching was contributive to their behavior modification, self-efficacy, and reflective practices in application of new teaching skills in large lecture halls of their universities. The HoDs/Deans confirmed this carryover from MT-FPDP to classroom teaching. My research has uncovered many of the issues and aspects of the program that need to be changed, improved, or modified. In order to properly contextualize the microteaching model, improve its quality, and provide successful experiences to the novices, LID/HEC should promote further research on these issues with a similar approach and examine the differences among the experiences of the novices participating in previous Batches of the program. Moreover, LID/HEC needs to enhance their program evaluation, both formative and summative.

Based on the conclusion of my research I agree with the claim of Brown (1975) about the microteaching model and practice:

> *There is one assumption that microteaching is too effective, the second that it is not at all effective. Truth, as well holds the middle ground. Microteaching will help you to sharpen and develop your teaching skills, it will help you to eliminate gross errors, and it will build up your confidence. It will not change*

your personality over night; it will not solve all your teaching problems. It will not make you into a brilliant gifted teacher-just a better one (p.17).

Recommendations for Future Research

Although microteaching is a useful, flexible, and supportive approach to help faculty master the individual teaching competencies and improve their confidence to teach, microteaching processes must be adapted to a context that has power outages for sometimes more than 20 hours a day and possibly cannot afford the costs related to the technological requirements of video cameras and projectors in every PD center or classroom.

There are empirical studies that shed light on how microteaching can modify and refine teaching skills. None of these research studies investigated the hypothesis that repetition or rehearsal in the learning process itself simplifies the complexities of teaching and helps teachers improve their teaching skills.

Most importantly, there is a huge gap in research from the late eighties until the first decade of this century. Microteaching was neglected in the research on PD of teachers during that time. However, this model for PD programs is once again attracting the attention of researchers in more recent years. There is still a need for more recent research, and could be organized under following research questions:

1. What are the complexities related to the application and organization of the microteaching model in low-resource contexts (like Pakistan)?
    - How can such adaptations still work effectively given the energy/technology deficit training contexts?

2. How can the microteaching model be adapted effectively for teachers in different educational systems—elementary vs. higher education?
    - What is the contribution of the microteaching features (such as a simplification of skill acquisition, a safe and non-threatening environment, and a feedback mechanism) to the learning needs of teachers?
3. What could be the implications to use the microteaching model without a re-teach-review cycle?
4. How can microteaching be effectively integrated into a regular classroom setting for continuous PD of novice teachers?

More specifically in this small-scale research conducted for my doctoral dissertation, it was hard to assume the importance of any of these individual microteaching features, activities, content, and/or processes in improving teaching skills, knowledge and self-efficacy of novices. All the participants attended and were evaluated for other differing modules of MT-FPDP before participating in microteaching. Therefore, there is a need to find out how much the improvement in the teaching skills and development of professional knowledge of higher education faculty of Pakistan are the results of the microteaching alone and how much the other modules—offered during the whole program—affected the overall success of outcomes. Therefore, there is a need to explore:

5. What are the self-reports of novice faculty members about the contribution of the microteaching module towards changes in their actual classroom teaching as compared to the other modules—offered during MT-FPDP?

6. What are the differences among the experiences of the novices participating in previous Batches of the MT-FPDP?

According to the participants of this study, the microteaching module had meaningful impacts on faculty behavior modification, self-efficacy, and reflective practices for such new microteaching skills during the MT-FPDP and teaching practice at their universities. However, the three essential factors for faculty behavior modification—"(a) access to resources, which promote the desired behavior, b) convenience in adapting the desired behavior, c) reward and recognition for following the desired behavior" (Rogers, 2000, p.20)—are having a negative impact on the carryover of their learning from the microteaching module and/or other modules of MT-FPDP to their classrooms.

Kipling said (as cited in Roush, 2008) in "Elephant's Child": "*I keep six honest serving-men. (They taught me all I knew). Their names were What and Where and When and How and Why and Who"* (p.253). To me, microteaching subsumes the role of these six serving men. Novices need to assess "What" skills they need to acquire, "Where" their shortcomings are in their existing teaching competencies, "When" did they find it to be challenging (while preparing and/or delivering micro-lessons), "How" they can overcome those deficiencies by redoing the micro-lesson and reflecting on their own practice, "Why" the feedback is critical to improve their teaching skills, and "Who" suggested the best ways to improve their teaching competencies.

APPENDICES

APPENDIX A

OBJECTIVES AND OUTCOMES OF MT-FPDP

MT-FPDP is a 12 Week exclusive fully sponsored National in-service residential Master Trainer's professional teaching certificate program, held at LID Islamabad, designed for Higher Education teaching faculty to develop their Androgogical/Research skills and requisite professional skills. This is a list of outcomes for the whole 12-week training. In my study, I will be looking at the italicized objectives related to the Microteaching module.

Objectives of the program:

- To make teachers understand their responsibilities & duties towards the teaching profession.
- To produce professional teachers, who have the theoretical knowledge and understanding, combined with practical skills, competencies and commitment to teach at high national standards.
- *To expand their teaching skills from conventional teaching to include a variety of innovative teaching methods, using case study, problem based learning & simulation teaching techniques etc.*
- To promote the knowledge of curriculum development and its right implementation in classroom settings.
- To enable teachers to select, construct and use assessment strategies for monitoring student learning.
- To enable teachers enhance their management skills and utilize them in the teaching learning situations.
- To develop their research skills so that they can contribute to the existing knowledge sphere in their respective fields.
- To strengthen teacher's communication skills so that they can effectively communicate as professional teachers.
- Most importantly to trickle down quality education & knowledge to their students as expected of them.

Learning Outcomes of the program

- Have awareness about their role as a teacher.
- *Be equipped with requisites of androgogy and research skills.*
- Be equipped in ICT & E-Learning latest tools and techniques.
- *Have improved teaching & communication Skills*.
- Have in depth awareness about Teaching as a Profession.
- Be able to handle students in a better way by understanding their psychology.
- Have hands-on opportunities to identify, select, implement, and evaluate learning strategies that are most appropriate for particular teaching situation.
- *Be able to assess the suitability of a variety of approaches to the curricula that they teach.*
- Conduct a program similar to FPDP in their respective institutions.

- Act as Master Trainers to train Faculty Members of their respective institutions.

Academic Session Plan

- Each day comprises of 3 or 4 sessions respectively
- Each session is of 1 hour 30 minute
- Program is of eight week duration

APPENDIX B

LIST OF MT-FPDP COURSE MODULES

The core modules of program are:

- FPD01- Teaching as a Profession
- FPD02- Academic Planning and Management
- FPD03- Curriculum Development, Assessment & Evaluation
- FPD04- Learners' Psychology
- FPD05- Androgogical Skills
  - FPD05-I Microteaching
  - FPD05-II Innovative Teaching Techniques
- FPD06- Communication Skills
- FPD07- Research Methods and Skills

Additional Academic Modules

- FPD08- Competent (English) Language Usage Essentials (CLUE)
- FPD09- Information & Communication Technology (ICT) & E-Learning
- FPD10- Project Management
- FPD11- Professional Grooming

APPENDIX C

RESULTS OF PILOT STUDY

Results of Pilot Study

Theme	Sub-theme
Perceived effectiveness of Microteaching outcomes	• Effective in helping participants to learn teaching skills. • Effective in building confidence. • Effective in developing professional networks across the country
Features of Microteaching that Supported Learning	• A Safe and Responsive Learning Environment • Self-reflection through recorded videos
Factors that Encouraged Participation	• Opportunity to review and re-teach • Peer Support • Feedback Mechanism to Identify Strength and Weaknesses of Teaching
Factors that Hindered Participation	• Supervisor's lack of expertise • Anxiety about the video camera • Gender Issues
Contribution and Supports in Application of Microteaching Skills in Classroom	• Perceived Improvement in teaching skills • Application of innovative teaching techniques
Challenges and Issues in Application of Microteaching Skills in Classroom	Lack of collegial support Lack of administrative support Lack of technical support

APPENDIX D

DETAILED GRAPHICAL DATA OF PARTICIPANTS' DEMOGRAPHICS

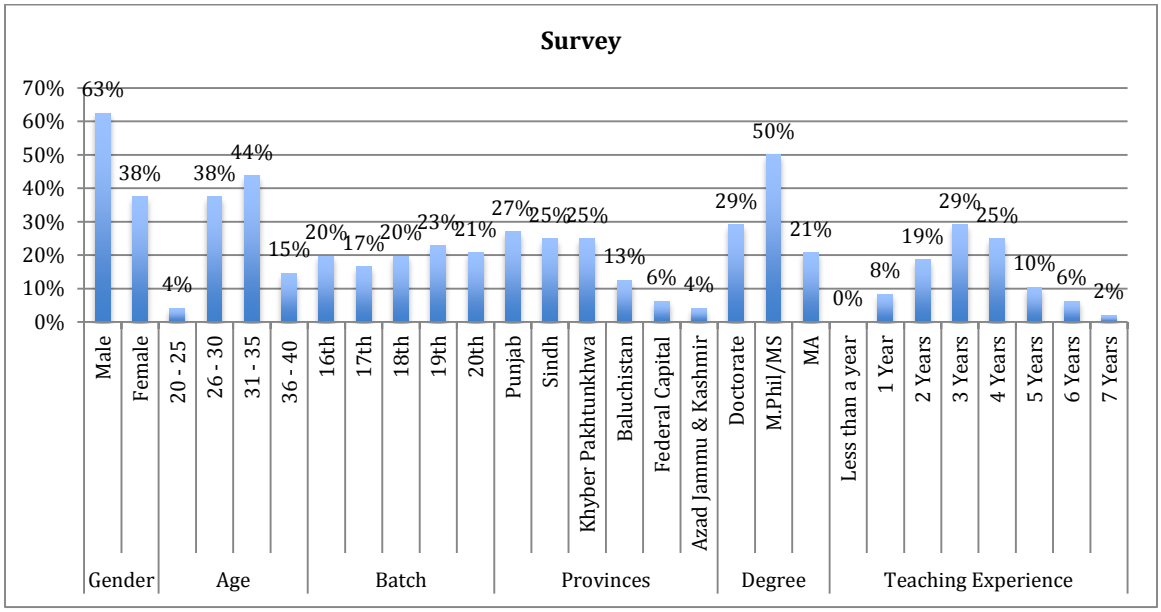


Figure 18: Demographics – Survey Participants

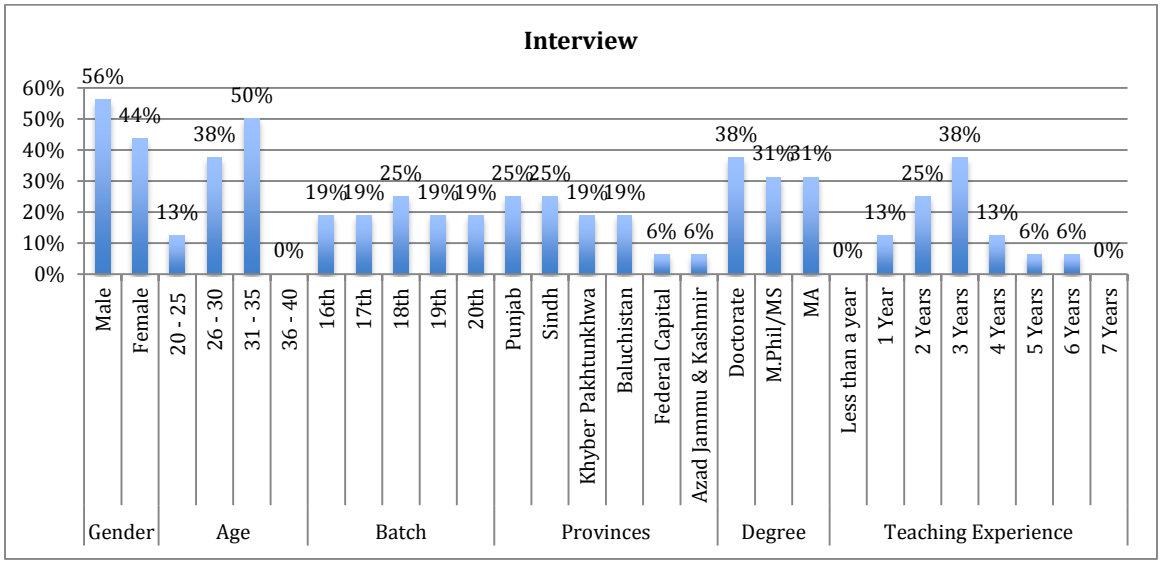


Figure 19: Demographics - Survey Participants

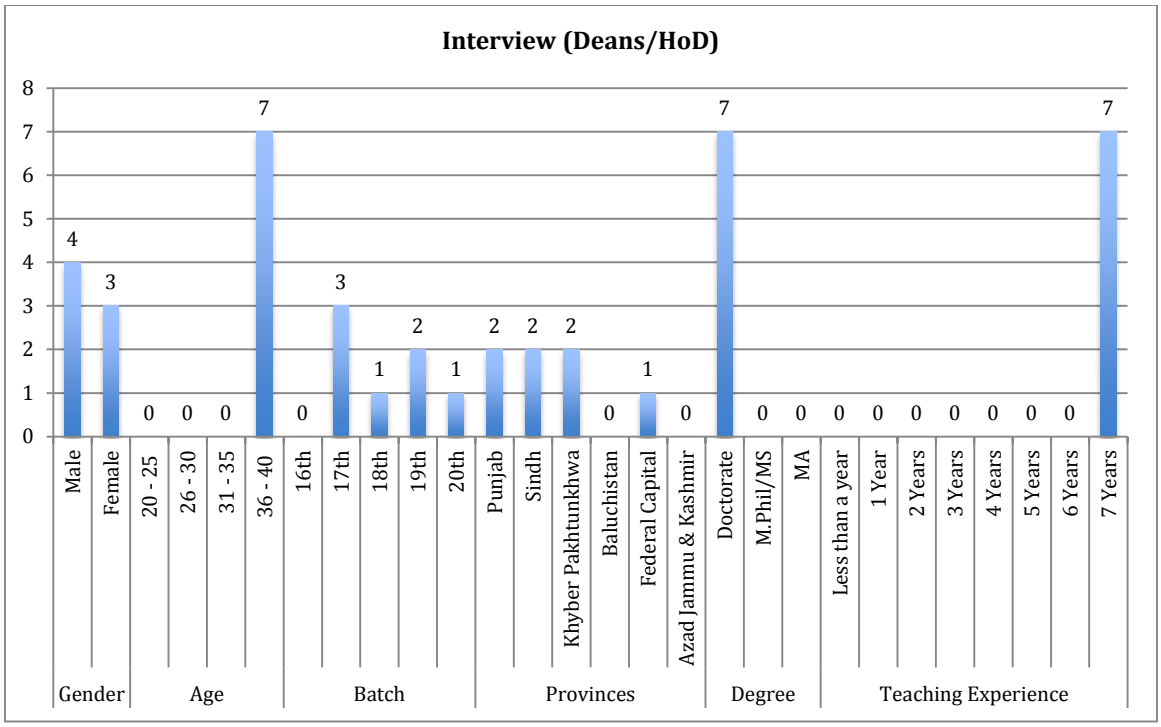


Figure 20: Demographics - Interview (Deans/HoD)

APPENDIX E

INTERVIEW PROTOCOL (PILOT STUDY)

Questions about the microteaching component

1. What were your expectations about the Microteaching component (3-5 days) of the whole 12 weeks MT-FPDP?
2. What helped you to participate fully during those five days of Microteaching component?
3. What hindered you to participate fully during those five days of Microteaching component?
4. What specific teaching skills, if any, did you feel you gained from participating in the microteaching? What other skills did you gain? (Keep asking until they can no longer think of skills)
5. What were the most helpful or useful features of the microteaching component?
6. What were the shortcomings or limitations of the overall Microteaching component (3 days)?
7. What specific teaching strategies or skills weren't covered in the microteaching component that you think should be focused on during the Microteaching component?

Questions about what you learned about teaching during the microteaching component

8. Of the skills you learned during the microteaching component, which skills or strategies do you think are the most important to you, as a teacher?
9. In what ways, if any, was your teaching affected, positively or negatively, after participating in Microteaching component of MT-FPDP?
10. Can you give me an example of a teaching skill that was taught in Microteaching component of the program that you have used in your class? When did you use it? Why did you use it? What did you do? How did the students respond? Did you use it again? Why or why not?
11. What are some of the barriers you have faced in using new teaching skills in your classroom?
12. What are some of the supports you have gotten to use new teaching skills in your classroom?
13. What changes in the policies of your college/university would help you use the teaching skills you learned during the microteaching component?

APPENDIX F

SURVEY QUESTIONNAIRE

Survey Questionnaire

Consent Form

Dear Participant,

My name is Salma Nazar Khan and I am a Doctoral candidate studying at the University of Massachusetts, Amherst. You are invited to participate in my research study. The goal of the study is to understand your perceptions about the Microteaching component of the Master Training Faculty Professional Development Program (MTFPDP). You participated in this three month program in 2011, 2012 or 13. I would like to ask you only about the microteaching practice, the five day component where you practiced new teaching skills. I am not seeking your thoughts about the rest of the MTFPDP program.

You are being contacted to participate in this study because you participated in 16th, 17th, 18th, 19th or 20th Batch of MTFPDP. The Learning Innovation Division, Higher Education Commission has reviewed this research and your email address was obtained with the permission of LID, HEC.

PURPOSE: This is an exploratory study to assess whether and to what extent you feel that the Microteaching component of Master Training Faculty Professional Development Program (MTFPDP) helped you to understand and use new teaching skills. The information that you provide will assist me in analyzing your views and experiences in this regard.

PARTICIPATION: You will be asked to complete a short survey questionnaire about the Microteaching component. I expect your participation to take about 1520 minutes of time. You can also complete the survey in multiple sittings if you do not have enough time to complete it in one sitting. If you complete this survey, you may be randomly selected to participate in a face-to-face interview in the future, where I will ask you more in-depth questions. If you receive this follow-up notification, you are free to either accept or decline the invitation to the interview at that time.

RISKS & BENEFITS: I foresee minimal risk associated with this survey questionnaire, beyond the sacrifice of time necessary to complete the survey. You may not directly benefit from this research; however, I hope that your participation in the study will contribute to the improvement of the Microteaching component of MTFPDP.

COMPENSATION: Four participants who complete the survey questionnaire will be entered into a lucky draw of $20 cash reward each.

VOLUNTARY PARTICIPATION: Participation is completely voluntary. Your decision whether or not to participate will in no way affect your current or future relationship with LID or HEC. You also have the right to stop taking the survey at any time without penalty or to leave any question blank or unanswered, if you wish.

CONFIDENTIALITY: All information collected during the survey will remain confidential through use of identification numbers instead of personal names. Your name will never be mentioned in any publications or presentations resulting from this study.

QUESTIONS: If you have any questions or would like additional information about this research, please contact Salma Nazar Khan at snkhan@educ.umass.edu. If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 5453428 or humansubjects@ora.umass.edu.

*** By answering, "Yes, I agree" below, you are giving your consent to participate in this research study. This means that you have read and understand the information above, have had all of your questions about participation answered, and are willing to participate. If you consent to participating in this study, the survey will begin after selecting "Yes, I agree.**

Do you consent to participating in this research on evaluation study?

☐Yes, I agree to voluntarily participate in this research
☐No, I do not agree and do not wish to participate

General Instructions to Complete the Survey

1. Section A "Questions about you" requires answers in order to progress through the survey.

2. You CAN exit the survey and return later to complete the remaining questions.

3. If you exit the survey accidentally, you can always click the survey link again and complete it.

4.In order to progress through this survey, please use the following navigation buttons:

Click the Next button to continue to the next page.
Click the Previous button to return to the previous page.
Click the Submit button to submit your survey.

Section A - About You

Please answer the following questions. Information in this section will help me select the participants for a face-to-face Interview

*** Please write the initial of your first and last name.**

First Initial:

Last Initial:

*** What is your gender?**

*** What is your age?**

*** In which Batch of MT-FPDP have you participated?**

*** What is your teaching department? (e.g. Education, History, Management, Chemical Engineering)**

*** In which province is the university located (where you teach)?**

* **What is the name of the university?**

Other (please specify)

*** What is the highest degree you have completed?**

Other (please specify)

* **How many years of university teaching experience have you completed?**

Section B - Your experience of the Microteaching module-During MT-FPDP

This section will explore your perceptions about the various features and processes (activities + environment) of the Microteaching module

To what extent do you feel that each of these activities of the Microteaching module contributed to your learning about how to teach?

	No contribution to my learning	A little contribution to my learning	Strong contribution to my learning	Very strong contribution to my learning
Lesson planning	☐	☐	☐	☐
First practice teaching	☐	☐	☐	☐
Feedback from peers	☐	☐	☐	☐
Feedback from supervisor	☐	☐	☐	☐
Watching t e video of my teaching practice	☐	☐	☐	☐
Observing other's practice teaching	☐	☐	☐	☐
Second practice teaching	☐	☐	☐	☐
Small group discussion	☐	☐	☐	☐

Other (please specify)

To what extent do you agree with the following statements about the Microteaching module of MT-FPDP?

Strongly agree= helpful to your participation **Strongly disagree=** hindrance to your participation

	Strongly disagree	Disagree	Agree	Strongly agree
The content (theory of Module) was closely related to classes I teach	☐	☐	☐	☐
The eaching activities were relevant to classes I teach	☐	☐	☐	☐
I was provided with supplementary material (handouts, articles etc.) about teaching skills	☐	☐	☐	☐
Supplementary material of the teaching skills was adequate	☐	☐	☐	☐
Feedback from supervisor w s helpful to the ideas on my teaching	☐	☐	☐	☐
I had an opportunity to review and reteach the lesson	☐	☐	☐	☐
The practice teaching was relevant to my teaching experience	☐	☐	☐	☐
There was a specific mechanism of immediate feedback on teaching practice f om a variety of sources (Supervisor feedback, peers' feedback and self-assessment)	☐	☐	☐	☐
It was easy to participate in group activities	☐	☐	☐	☐
It was helpful having my Microteaching observed by my peers	☐	☐	☐	☐
I had peer support during the program	☐	☐	☐	☐
Peer's feedback provided me with some helpful ideas on my teaching	☐	☐	☐	☐
I had the opportunity to interact frequently with other participants after sessions	☐	☐	☐	☐
I had a self-assessment, or self-evaluation opportunit through recorded video	☐	☐	☐	☐
Self-assessment helped me build	☐	☐	☐	☐

my confidence				
Opportunity to review and reteach helped me identify strengths and weaknesses of my teaching	☐	☐	☐	☐
There was a mentoring relationship between participants and supervisor	☐	☐	☐	☐
Supervis r had a full understanding of purpose of Microteaching	☐	☐	☐	☐
Supervisor had a full understanding of proposed teaching skills	☐	☐	☐	☐
The environment was responsive to my learning eeds	☐	☐	☐	☐
It was a safe learning environment (with mutual respect)	☐	☐	☐	☐
The Microteaching lab (venue) was equipped with required audio/visual aids	☐	☐	☐	☐
Participating in Microteaching module helped to develop a professio al network	☐	☐	☐	☐

Other (please specify)

To what extent do you feel the Microteaching module has prepared you for each of the ten following teaching skills (that you practiced in Microteaching sessions)?

	Not at all	A little bit	Somewhat	Quite a bit	Very much
Planning	☐	☐	☐	☐	☐
Setting induction	☐	☐	☐	☐	☐
Presentation	☐	☐	☐	☐	☐
Questioning	☐	☐	☐	☐	☐
Encouraging the students to question	☐	☐	☐	☐	☐
Exemplification	☐	☐	☐	☐	☐
Communication	☐	☐	☐	☐	☐
Methodology	☐	☐	☐	☐	☐
Judging the students' problems	☐	☐	☐	☐	☐
Ending or summing up	☐	☐	☐	☐	☐

If you would repeat the experience of Microteaching, would you

Do it the same	Change it a little	Change it a great deal
☐	☐	☐

What specific aspects of the Microteaching module would you change?

☐Lesson planning

☐Practice teaching

☐Feedback mechanism

☐Small group discussion

☐Video recording practice

☐Content of the teaching skills

☐Supplementary material

☐Supervision

☐Microteaching lab (Venue)

Other (please specify)

How much priority would you give to each of the following teaching skills in the Microteaching module?

	No priority	Low prio ity	Medium priority	High priority
Design collaborative learning activities	☐	☐	☐	☐
Giving small group guidance and supervision	☐	☐	☐	☐
Counseling individual students and groups	☐	☐	☐	☐
Supervising lab sessions	☐	☐	☐	☐
Fostering inquiry learning	☐	☐	☐	☐
Developing self-knowledge and self-discovery skills	☐	☐	☐	☐
Encouraging students to evaluate and make judgment	☐	☐	☐	☐
Developing critical thinking	☐	☐	☐	☐
Fostering conflict resolution skills	☐	☐	☐	☐
Diagnosing difficulties	☐	☐	☐	☐
Improving grad ng and feedback skills	☐	☐	☐	☐
Encouraging self-reflection	☐	☐	☐	☐
Coping with diversity issues of students	☐	☐	☐	☐
Handling disruptive and uncooperative behavior	☐	☐	☐	☐
Structuring the classroom environment	☐	☐	☐	☐

Other (please specify)

Section C – Your opinions about the contributions of Microteaching to your a...

This section reports your perceptions about the contributions of participating in the Microteaching module to your learning and actions in actual classroom teaching

To what extent do you feel your participation in the Microteaching module increased your KNOWLEDGE of how to:

	Not at all	A little bit	Somewhat	Quite a bit	Very much
Design lessons that help your students to identify their strengths and weaknesses	☐	☐	☐	☐	☐
Design activities that promote shared learning	☐	☐	☐	☐	☐
Value your students' active participation in an activity	☐	☐	☐	☐	☐
Apply innovative teaching techniques	☐	☐	☐	☐	☐
Use different methods in different circumstances	☐	☐	☐	☐	☐
Understand students' problems	☐	☐	☐	☐	☐
Encourage your students to become independent learners	☐	☐	☐	☐	☐
Understand the importance of peer relationships to establish a positive climate for learning	☐	☐	☐	☐	☐

Other (please specify)

How often do you use each of the following reflection strategies in your teaching?

	Not at all	A little bit	Somewhat	Quite a bit	Very much
Assessing your teaching strategies in response to students' feedback	☐	☐	☐	☐	☐
Modifying teaching and learning strategies based on students' assessments	☐	☐	☐	☐	☐
Practicing self-reflection In your professional learning	☐	☐	☐	☐	☐
Reflecting on the strengths and weaknesses of your teaching	☐	☐	☐	☐	☐
Taking contextual considerations (i.e. individual student interests and university resources) into account in planning instruction	☐	☐	☐	☐	☐

Other (please specify)

How well did you feel confident, after leaving the Microteaching sessions, that you could implement each of the following teaching skills in your classroom?

	Not at all confident	A little bit confident	Somewhat confident	Quite a bit confident	Very much confident
Planning	☐	☐	☐	☐	☐
Setting induction	☐	☐	☐	☐	☐
Presentation	☐	☐	☐	☐	☐
Questioning	☐	☐	☐	☐	☐
Encouraging the students to question	☐	☐	☐	☐	☐
Exemplification	☐	☐	☐	☐	☐
Communication	☐	☐	☐	☐	☐
Methodology	☐	☐	☐	☐	☐
Judging the students problems	☐	☐	☐	☐	☐
Ending or summing up	☐	☐	☐	☐	☐

How often have you actually USED each of the following skills in your classroom teaching after participating in Microteaching module of MT-FPDP?

	Don't remember	Never tried	Tried it once	2-3 times a semester	Once a week	Daily
Planning	☐	☐	☐	☐	☐	☐
Setting induction, using effective introductory procedures	☐	☐	☐	☐	☐	☐
Presentation	☐	☐	☐	☐	☐	☐
Questioning	☐	☐	☐	☐	☐	☐
Encouraging the students to question	☐	☐	☐	☐	☐	☐
Exemplification	☐	☐	☐	☐	☐	☐
Communication	☐	☐	☐	☐	☐	☐
Methodology	☐	☐	☐	☐	☐	☐
Judging the students problems	☐	☐	☐	☐	☐	☐
Ending or summing up	☐	☐	☐	☐	☐	☐

From the list above, choose ONE of the skills that you actually tried or used in your classroom, and tell me more about what you did, including:

What specific skill?	
Why did you use this activity or skill?	
How did you implement it in your class?	
How did the students respond?	

To what extent were the following factors a major, a minor, or not at all a SUPPORT in helping you use in your classroom what you learned in the Microteaching module?

	Not at all support	A minor support	A major support	Not applicable
My confidence to use new teaching skills	☐	☐	☐	☐
My enthusiasm to use instructional technologies (i.e. multimedia, internet, other AV aids, etc.)	☐	☐	☐	☐
Organizational culture that promotes learning of new practices	☐	☐	☐	☐
Incentive system that supports new practices	☐	☐	☐	☐
An atmosphere of mutual respect	☐	☐	☐	☐
Curricular freedom	☐	☐	☐	☐
Enough time to plan and collaborate	☐	☐	☐	☐
Facilitation of team teaching	☐	☐	☐	☐
Guidance from Head of Department or Dean	☐	☐	☐	☐
Feedback on my teaching from Head of Department or Dean	☐	☐	☐	☐
Sufficient classroom space	☐	☐	☐	☐
Access to resources for lesson planning	☐	☐	☐	☐
Access to technology (availability of multimedia, internet and AV aids)	☐	☐	☐	☐
Reduced class sizes	☐	☐	☐	☐
Access to sharing ideas with colleague	☐	☐	☐	☐
Cooperation from my colleagues	☐	☐	☐	☐
Students' cooperation	☐	☐	☐	☐
Student's interest to learn	☐	☐	☐	☐

Other (please specify)

☐

To what extents were the following factors a major, a minor, or not at all a BARRIER in helping you use in your classroom what you learned in the Microteaching module?

	A major barrier	A minor barrier	Not at all a barrier	Not applicable
My anxiety to use new teaching skills	☐	☐	☐	☐
My fear to use instructional technology (i.e. multimedia, internet, other AV aids, etc.)	☐	☐	☐	☐
Lack of respect among faculty and administration (HoD or Deans)	☐	☐	☐	☐

Overwhelming department demands (of paperwork, committees, and extracurricular assignments)	☐	☐	☐	☐
Non-collaborative work routines	☐	☐	☐	☐
Policies that discourage new practices	☐	☐	☐	☐
Lack of incentive system to support new practices	☐	☐	☐	☐
Lack of guidance	☐	☐	☐	☐
Lack of feedback on my teaching from HoDs	☐	☐	☐	☐
Insufficient classroom space	☐	☐	☐	☐
Inadequate resources for lesson planning	☐	☐	☐	☐
Overcrowded class sizes	☐	☐	☐	☐
Difficult interactions with colleagues	☐	☐	☐	☐
Lack of cooperation from colleagues	☐	☐	☐	☐
Lack of feedback on my teaching from colleagues	☐	☐	☐	☐
Students' disruptive behaviors	☐	☐	☐	☐
Lack of students' interest	☐	☐	☐	☐

Other (please specify)

Please tell me briefly if there is anything that I have not asked but it could affect your participation in the Microteaching module

APPENDIX G

INTERVIEW PROTOCOL

Date: _____

Interview Protocol

I have planned this interview to last in 45 minutes to an hour. The *underlines and italic* parts in probing questions will vary from participant to participant based on their responses to online survey. I will complete the Demographic part prior to conducting the interview.

Demographics

- **a.** Initial first and last name. First Initial: _____ Last Initial: _____
- **b.** Gender _____
- **c.** Age _____
- **d.** MT-FPDP Batch No. _____
- **e.** Highest Degree completed_____, other _____
- **f.** Years of teaching experience _____
- **g.** Teaching Department_____
- **h.** Province where the university is located_____
- **i.** Name of the university_____

Questions about the microteaching component

1. What were your expectations about the Microteaching component (5 days) of the whole 12 weeks MT-FPDP?
2. What helped you to participate fully during those five days of Microteaching component?

   Probe: In response to the online survey, you agreed that (Name of the specific aspect/activity e.g. *The content (theory of Module) was closely related to classes I teach)* of the Microteaching module was a very strong contribution to your learning. Can you tell me in what ways it helped you to learn during the program?

   Probe: You marked *(Name of the Activity)* of the Microteaching module as NO contribution to your learning about how to teach. Can you tell me a little more about it?
3. What were the most helpful or useful features of the microteaching component?

   Probe: In one of the responses to the online survey, you strongly agreed that (a specific feature of Microteaching, e.g. "*Peer's feedback _____ provided you with some helpful ideas on your teaching").* Give me an example of when your peer gave you an idea or concept that really helped you?
4. What hindered you to participate fully during those five days of Microteaching component?

   Probe: In one of the responses to the online survey, you strongly disagreed with (a specific aspect of Microteaching, e.g. "*Supervisor's understanding of purpose of Microteaching").* Why did you feel it, can you describe it to me briefly?

5. What specific teaching skills, if any, did you feel you gained from participating in the microteaching? What other skills did you gain? (Keep asking until they can no longer think of skills)
   Probe: In your survey response you said that Microteaching module prepared you VERY MUCH for *(*name of the Microteaching skill, e.g. *"Planning").* Can you share with me a little more about it?
6. What specific teaching strategies or skills weren't covered in the microteaching component that you think should be focused on during the Microteaching component?
7. What were the shortcomings or limitations of the overall Microteaching component (5 days)?

   Probe: In your survey you responded that you would like to change *(*specific aspect of the Microteaching module, e.g. *"Feedback mechanism"). How would you like to change it?*

Questions about what you learned about teaching during the microteaching component

8. Of the skills you learned during the microteaching component, which skills or strategies do you think are the most important to you, as a teacher?
9. In what ways, if any, was your teaching affected, positively or negatively, after participating in Microteaching component of MT-FPDP?
   Probe: In your survey response you said that you feel your participation in the Microteaching module increased your KNOWLEDGE of how to *(Apply innovative teaching techniques).* Can you elaborate this a little more to me?
10. Can you give me an example of a teaching skill that was taught in Microteaching component of the program that you have used in your class? When did you use it? Why did you use it? What did you do? How did the students respond? Did you use it again? Why or why not?
11. What are some of the barriers you have faced in using new teaching skills in your classroom?
    Probe: In your survey you said that *(Lack of guidance from the head of Department)* was a major barrier in helping you use in your classroom what you learned in the Microteaching module? Can you tell me what kind of support you expected or expect from your HoD? How can such barriers be overcome?
12. What are some of the supports you have gotten to use new teaching skills in your classroom?
    Probe: You said in your survey response that *(Facilitation of team teaching)* in your university was a major support in helping you use in your classroom what you learned in the Microteaching module? Can you share with me in what ways it supported your individual teaching? How can such opportunities be maximized?
13. What changes in the policies of your university would help you use the teaching skills you learned during the microteaching component?

Post Interview Comments and/or Observations:

_____

_____

APPENDIX H

CHI-SQUARE RESULTS ACROSS THE BATCHES AND ASPECTS

Attitude * Batches Crosstabulation[31]								
			Batches					Total
			1st	2nd	3rd	4th	5th	
Attitude	No change	Count	12a	0b	12a	6a, b	0b	30
		% within Attitude	40.0%	.0%	40.0%	20.0%	.0%	100.0%
	Little Change	Count	16a, b	10a, b	10b	30a, c	36c	102
		% within Attitude	15.7%	9.8%	9.8%	29.4%	35.3%	100.0%
	Great change	Count	7a, b	8b	9a, b	5a, b	2a	31
		% within Attitude	22.6%	25.8%	29.0%	16.1%	6.5%	100.0%
Total		Count	35	18	31	41	38	163
		% within Attitude	21.5%	11.0%	19.0%	25.2%	23.3%	100.0%

Chi-square test result across the Batches for Change in Microteaching aspects

Aspect * Group Crosstabulation								
			Group					Total
			1st	2nd	3rd	4th	5th	
Aspect	Lesson planning	Count	8_a	48_b	$40_{b, c}$	48_c	$48_{b, c}$	192
		% within Aspect	4.2%	25.0%	20.8%	25.0%	25.0%	100.0%
	practice teaching	Count	$35_{a, b}$	70_b	14_c	$21_{a, c}$	$28_{a, b, c}$	168
		% within Aspect	20.8%	41.7%	8.3%	12.5%	16.7%	100.0%
	Feedback mechanism	Count	42_a	$72_{a, b}$	54_a	$24_{b, c}$	24_c	216
		% within Aspect	19.4%	33.3%	25.0%	11.1%	11.1%	100.0%
	Video recording	Count	$20_{a, b}$	40_b	$15_{a, b}$	$25_{a, b}$	10_a	110
		% within Aspect	18.2%	36.4%	13.6%	22.7%	9.1%	100.0%
	Content	Count	28_a	$32_{a, b}$	8_b	12_b	32_a	112

[31] Each subscript letter denotes a subset of Group categories whose column proportions do not differ significantly from each other at the .05 level.

		% within Aspect	25.0%	28.6%	7.1%	10.7%	28.6%	100.0%
	Supplementary	Count	15_{a}	24_{a}	24_{a}	21_{a}	24_{a}	108
		% within Aspect	13.9%	22.2%	22.2%	19.4%	22.2%	100.0%
	Supervisor	Count	$10_{a, b}$	16_{b}	$18_{a, b}$	24_{a}	$12_{a, b}$	80
		% within Aspect	12.5%	20.0%	22.5%	30.0%	15.0%	100.0%
	Micro Lab	Count	$4_{a, b}$	4_{b}	$5_{a, b}$	$7_{a, b}$	12_{a}	32
		% within Aspect	12.5%	12.5%	15.6%	21.9%	37.5%	100.0%
Total		Count	162	306	178	182	190	1018
		% within Aspect	15.9%	30.1%	17.5%	17.9%	18.7%	100.0%
Each subscript letter denotes a subset of Group categories whose column proportions do not differ significantly from each other at the .05 level.								

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