WORKPLACE BASED LEARNING, A LEGITIMATE FORUM FOR FACULTY DEVELOPMENT

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2025

WORKPLACE BASED LEARNING, A LEGITIMATE FORUM FOR FACULTY DEVELOPMENT

by

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Thesis submitted in fulfilment of the requirements
for the degree of
Doctor of Philosophy

August 2025

ACKNOWLEDGEMENT

Praises to almighty Allah Subhanutallah for accomplishing this research study with thesis writing. He granted me motivation, energy and strength towards this research study. I am especially thankful to my supervisor who helps me in every aspect of fulfilling my thesis research quality. I would like to extend my heartful and sincere gratitude and thankfulness to the following for continuous support and cooperation through the journey:

1. My husband and children for their encouragement, sacrifice and understanding my commitment.
2. My supervisor, Associate Professor. Dr. Muhammad Saif ul Bahri Yusoff , for his persistent support that helped me in achieving this milestone with zeal and zest. His constructive feedback and expert input in every step helped me in achieving the study objectives.
3. My co-researcher, Prof. Dr. Shabana Ali, helped me in data collection for both qualitative and quantitively research.
4. The faculty members and support staff at department of medical education of medical college and Riphah Academy of Research and Education (RARE) at Riphah International University for execution of trainings and data collection.
5. The senior faculty medical members who selected as peer coaches, expert's panellists and all 36 junior medical faculty members who were the main participants in the study for their positive response and cooperation.
6. The full support from Dean faculty of health and medical sciences and Principal medical college of Riphah International University for execution of all trainings on medical faculty.

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LIST OF ABBREVIATIONS

WBFD	Workplace Based Faculty Development
CBL	Case Based Learning
FGD	Focus Group Discussion
CVI	Content Validity Index
FVI	Face Validity Index
LSTI	Learning System Transfer Inventory
CAM	Cognitive Apprenticeship Model

LIST OF APPENDICES

PEMBELAJARAN BERASASKAN TEMPAT KERJA, FORUM YANG SAH UNTUK PEMBANGUNAN FAKULTI

ABSTRAK

Pembangunan fakulti merupakan komponen yang semakin penting dalam pendidikan perubatan dan memainkan peranan kritikal dalam membentuk kecemerlangan akademik. Walaupun pelbagai pendekatan pembangunan fakulti telah dilaksanakan, kebanyakannya berlaku di luar konteks tempat kerja pensyarah perubatan. Kajian literatur menunjukkan bahawa pendekatan ini jarang menghasilkan pemindahan kemahiran yang berkesan ke tempat kerja. Sehubungan itu, kajian ini bertujuan untuk mereka bentuk, menilai, dan membandingkan kesan dua pendekatan pembangunan fakulti – iaitu pendekatan formal (bengkel) dan pendekatan gabungan formal serta tidak formal melalui model workplace-based faculty development (WBFD). Model WBFD ini dibangunkan berasaskan teori social learning dan model cognitive apprenticeship, dengan fokus terhadap prestasi pensyarah perubatan dan pemindahan pembelajaran kemahiran ke tempat kerja, serta mengenal pasti faktor-faktor yang menggalakkan dan menghalang proses tersebut. Kajian ini dilaksanakan dalam tiga fasa. Fasa 1 melibatkan kajian literatur secara meta-sintesis untuk mereka bentuk WBFD versi 1 (V1) dan mengenal pasti faktor-faktor pemindahan pembelajaran menggunakan learning transfer system inventory. Fasa 2 melibatkan pengesahan kandungan dan penilaian kebolehlaksanaan WBFD V1 oleh pakar pendidikan perubatan dan pihak berkepentingan institusi, yang membawa kepada pembangunan WBFD versi 2 (V2). Fasa 3 menggunakan reka bentuk kuasi-eksperimen berasaskan model Kirkpatrick (reaksi–pembelajaran–tingkah Laku), di mana pensyarah junior dibahagikan kepada dua kumpulan: satu dilatih melalui

bengkel, dan satu lagi melalui WBFD V2. Latihan dijalankan dalam konteks fasilitasi pembelajaran berasaskan kes (CBL), dengan pensyarah senior bertindak sebagai jurulatih. Penilaian dilakukan melalui ujian pra dan pasca menggunakan skala penilaian fasilitasi CBL yang telah disahkan, serta soal selidik kepuasan latihan. Hasil kajian menunjukkan bahawa kumpulan yang dilatih melalui WBFD V2 mencatatkan pencapaian yang lebih tinggi dalam semua domain yang diukur, terutamanya dalam aspek pengurusan kumpulan, penetapan matlamat dan peranan, serta komunikasi. Kajian kualitatif turut dijalankan untuk meneroka faktor-faktor yang mempengaruhi pemindahan pembelajaran, menjadikan kajian ini bersifat kaedah campuran. Penilaian tingkah laku selepas dua bulan menunjukkan perubahan yang signifikan dalam lima domain kemahiran fasilitasi CBL, disahkan melalui ujian Mann-Whitney U. Kesimpulannya, model WBFD V2 yang berasaskan model cognitive apprenticeship terbukti berkesan dalam meningkatkan pemindahan kemahiran pensyarah junior ke tempat kerja. Model ini menyediakan platform pembelajaran yang sah dan berpotensi untuk diterima pakai oleh institusi pendidikan perubatan di peringkat nasional dan antarabangsa.

WORKPLACE BASED LEARNING, A LEGITIMATE FORUM FOR FACULTY DEVELOPMENT

ABSTRACT

Faculty development is an increasingly vital component of medical education, playing a critical role in fostering academic excellence. Although various faculty development approaches have been implemented, many are conducted outside the medical educator's workplace context. A review of the literature reveals that such approaches rarely result in effective skill transfer to the workplace. This study aims to design, evaluate, and compare the impact of two faculty development approaches: a formal method (workshop) and a combined formal-informal method through a workplace-based faculty development (WBFD) model. The WBFD model is grounded in social learning theories and the cognitive apprenticeship model, focusing on medical faculty performance and the transfer of learning to the workplace, while identifying factors that facilitate or hinder this process. The research was conducted in three phases. Phase 1 involved a meta-synthesis of the literature to design WBFD version 1 (V1) and identify factors influencing learning transfer using the learning transfer system inventory. Phase 2 focused on content validation and feasibility testing of WBFD V1 by medical education experts and institutional stakeholders, leading to the development of WBFD version 2 (V2). Phase 3 employed a quasi-experimental design based on the Kirkpatrick model (reaction–learning–behavior), where junior faculty members were divided into two groups: one trained via workshops, and the other through WBFD V2. Training was conducted in the context of case-based learning (CBL) facilitation, with senior faculty serving as coaches. Performance was assessed using validated pre- and post-tests with a CBL facilitation rating scale,

alongside post-training satisfaction surveys. Findings revealed that participants trained through WBFD V2 achieved significantly higher outcomes across all measured domains, particularly in group management, goal and role setting, and communication. A qualitative exploration of factors influencing learning transfer further enriched the study, resulting in a mixed-methods approach. Behavioural changes were reassessed two months post-training using the Mann-Whitney U test, which showed statistically significant improvements in five key domains of CBL facilitation skills. In conclusion, the WBFD V2 model, embedded within the cognitive apprenticeship framework, effectively enhances skill transfer among novice medical educators in the workplace. It provides a legitimate and impactful platform for learning and holds strong potential for adoption by medical education institutions both nationally and internationally.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter describes the research background, highlights the problem which was investigated and theoretically supported from literature. The scope, significance, and objectives(s) of the study enlisted and aligned with research questions(s). The hypothesis where necessary is proposed. At the end of the chapter, an explanation is given for desired measured variable under the operational definition.

1.2 Research background

Due to the ongoing globalization and internationalization in medical education, non-western countries undertaken a pedagogical reform, with adopting new educational strategies, being distributed all over the world e.g., problem-based learning and case-based learning (Williams, 2005a), team-based learning and time efficient precepting (O'sullivan & Irby, 2011a). These developments require faculty/medical teacher's shift of role from information provider to be as a 'facilitator' or a 'tutor' in the learning process (Srinivasan et al., 2007) during problem based or case-based learning sessions and they need to be train in these specific teaching skills to expand the pedagogical understanding about their roles in teaching and learning process (Steinert et al., 2016a). Faculty need to improve their knowledge, skills and behaviours as educators, assessors, leaders and scholars in both individual and group settings (Steinert et al., 2016b). Before putting the light on different approaches of medical faculty development, we need understanding the term 'faculty development';

Sheets and Schewenk (1990) define the 'faculty development' as; "any planned activity to improve an individual's knowledge and skills in areas considered essential to the performance of a faculty member in a programme e.g., teaching skills, administrative skills, research skills or clinical skills"(Steinert et al., 2012).

World Federation of Medical Education (WFME), (Federation & Medical, 2020) and Liaison Committee of Medical Education (LCME), (*LCME 2024-25-Functions-and-Structure_2023-03-21*, n.d.) has provided the guidelines and emphasise the significance of faculty development due to reform in health profession in last decade. Hence, faculty development has become an increasingly important component of medical education, has a critical role to play in promoting academic excellence and is one of the mechanisms for improving the instructional competencies of faculty as medical teachers in order to adopt & adapt the medical education reform (Steinert et al., 2016); (O'sullivan & Irby, 2011)(Smith, 2019); (Steinert, 2020); (Steinert et al., 2006). Developing a cadre of professional and competent teachers and educators for their new roles and responsibilities in medical education and allied health science education requires faculty development (McLean et al., 2008a), which help the medical faculty to perform their different emerging roles and responsibilities as an academician .

In response to new educational trends in teaching, most of the medical institutions all over the world has designed and implemented myriad and variety of approaches for faculty development to help faculty members improve their teaching skills as an effective teachers using principals of adult learning and constructivist philosophy (Steinert et al., 2016);(Steinert, 2020), i.e., from 'workshop' to developing 'communities of practice'(Steinert, 2010a). Although, most of the faculty development programs usually traditionally being taken place through formal learning (Steinert et

al., 2016a) and trainings offered by the medical institutions (Steinert et al., 2006), it has recently been suggested that faculty development can occur through informal learning (King et al., 2021) in workplace place environment as well where they are teaching their students. Formal, structured activities in group settings (e.g., longitudinal programs and workshops) seem to be most offered faculty development intervention and are conducted in traditional workshop community (Steinert et al., 2016b). Faculty has to take lesson learned from workshop community to workplace community (Steinert, 2010a) and it should be test out for its effectiveness (Steinert et al., 2021).

'Workplace' is a powerful environment for learning (Van Der Zwet et al., 2010a), and applying skill (Gray et al., 2019) for faculty development. Through our study we have used the influence of 'workplace' as a learning environment for faculty development, created a new model/approach (combination of formal & informal approaches (Moore & Klein, 2020)) of faculty development (Steinert, 2020a) and assess the effectiveness by using Kirkpatrick Model of evaluation. We have also compared the effectiveness of traditional faculty development approach i.e., 'workshop' with workplace-based faculty development approach (WBFD V3) i.e., Cognitive Apprentice Ship model (Merritt et al., 2018a).

We have also explored out the factors which hamper and promote the learning transfer of skill through traditional approach workshop and through workplace-based faculty development approach. These factors were identified and explored through the learning transfer system inventory (LSTI) by Reids Bates (Bates, 1998). Workshop style faculty development may only provide the theoretical understanding and cannot assure the transfer of knowledge, skill and behaviour at workplace context and culture (Campbell et al., 2019a).

1.3 Problem statement and Gap in literature

The review of literature about faculty development in medical education has shown that up till now, diverse and myriad approaches are being used by the institutions to train the faculty in order to demonstrate various competencies and roles i.e., a teacher, curriculum planner & evaluator, educational, administrator and scholar at all levels of the educational continuum i.e., at micro, meso and macro level as depicted in Fig 1.1 (Molenaar et al., 2009). This framework for medical teachers depict a tool to define their roles across the medical education continuum in teaching i.e. from basic sciences to clinical workplace setting to continuing professional development. This makes a transition progression at the contemporary organization i.e. from junior teacher (lecturer) to mid-level teacher (assistant professor) to senior teacher (associate professor / professor). When they are teaching such as lectures, small groups, coaching, bed side teaching, clinical conference, they are performing at Micro-level (Teaching). When they are coordinating and developing a part/unit/block/module of curriculum, course or training program they are performing at Meso-level (coordinating). But when a senior faculty member i.e. a Professor/ Head or Director of unit is leading a curriculum project or a medical education committee or a department/unit, they are performing at Macro- Level (Leadership). These faculty development approaches are being conducted away from the faculty/medical teacher's workplace and expecting from them to take their lesson learned and experiences from 'faculty development community' back to their own context (O'sullivan & Irby, 2011b).

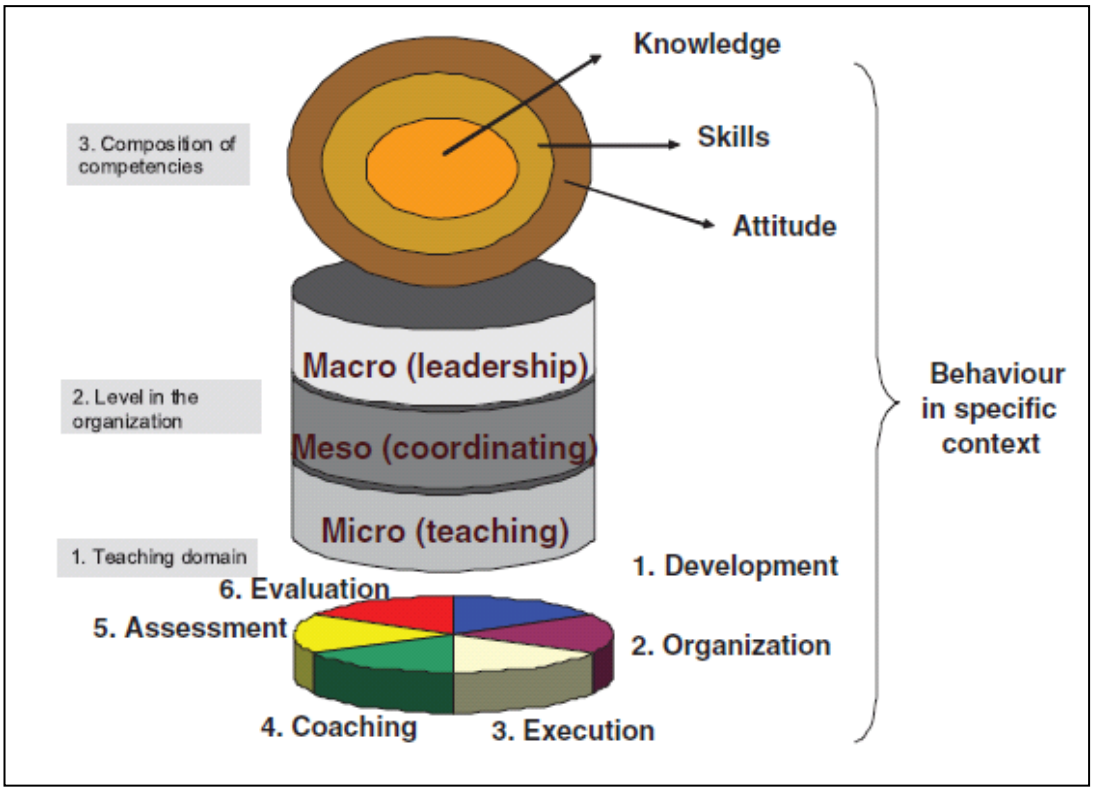

Figure 1.1 Framework for teaching competencies. Adapted from (Molenaar et al., 2009)

Literature review has revealed that faculty development approaches, which usually pulls the faculty/ participants out of their work environment, rarely address the challenges of 'transfer and applying of new learning/skill' at the workplace (Steinert, 2010a). Learning transfer of a teaching skill influenced by many powerful factors and those also be explored out in faculty development (Tonhäuser & Büker, 2016). Faculty development can occur in a variety of contexts and settings (Steinert, 2010a), and often begins with *'informal learning*' (King et al., 2021), at the workplace. Few studies have systematically developed or evaluated comprehensive workplace-based faculty development (WBFD) frameworks, or compared their effectiveness against conventional workshop-based approaches but lack evidences.

Hence, it is imperative to create an environment and approaches that help faculty/medical teachers to see every day experiences as 'learning experiences' and

encourage to reflect with colleagues/peers (Campbell et al., 2019); (Pelgrim et al., 2013) and students on learning experience that has occurred in classroom or clinical setting, in order to promote the '*learning transfer'* of teaching skill (De Rijdt et al., 2013), and all should be embedded in the workplace based environment (Steinert et al., 2021).

These approaches of faculty development need to be examined, explore out and evaluate for its effects on 'learning transfer' (Chia et al., 2020), of 'teaching skills' at workplaces (Enos et al., 2003), from individual experience to group learning (Steinert et al., 2016b). and through our research project we have aimed to achieve this.

1.4 Significance and Scope of Study

Our new model of faculty development approach (combination of formal-peer coaching (Campbell et al., 2019a) & informal-learning through observing, doing & reflecting approaches) (Smith, 2019) augment the transfer of learning faculty/medical teachers at workplaces and workplace act as a legitimate and essential learning environment for faulty development (Steinert, 2010b). Moreover, our new approach bring together the faculty development community (community of educators which is created through formal approaches i.e. workshops, seminars, fellowship, longitudinal programs, they publicly address the issues related with teaching and learning and are smaller transitory community) and workplace community (larger academic community where teaching occurs i.e. in classrooms & clinical environment) (O'sullivan & Irby, 2011b), for sharing of their learning experiences, building relationships and networking created among the faculty within the program and the academic workplace (Steinert, 2010b). Moreover, the trainer plays a powerful role of facilitator in building the link between the two communities and emphasizing the

process rather than solution and direct the connections between the discussions (Steinert et al., 2021). By working together in the 'workplace community' the faculty can build new knowledge and understanding and develop approaches to problems faced in their teaching and learning (Schreurs et al., 2016).

Steinert et al. (2010) provide a pictorial description in her study of how faculty development activities can move along the two dimensions: from individual experiences to group learning, and from informal approaches to more formal ones. In her study, she emphasizes that in addition to 'formal' faculty development approaches; there are other alternative approaches as well i.e. 'informal' and these need to be used, explored and researched out for its effectiveness (both process & outcomes), for instance; workplace learning ('learning on job') and workplace communities, learning from experience i.e. through observation (Role modelling), doing and reflection on experience etc. (Steinert et al., 2016a). Researcher used the Yvonne Steinert et al framework to develop new model of faculty development/ approach, based on theoretical framework of 'social learning theories' (Merritt et al., 2018b) embedded in workplace-based learning environment.

The faculty which we have trained in are at micro (teaching the students) and meso (coordinating the courses) organizational level of performance. Among the teaching domains they are involved in the development of courses, execution of courses, coaching of students/residents & assessment, according to the teaching competencies described by the (Molenaar et al., 2009). The competency which we want to enhance is 'coaching' (teaching the students/ residents/peers) at 'shows how' and 'does' level. Peer coaching (Rehan & Yasmeen, 2021a), appears to possess unique advantages and have much value for preservice teacher education (Campbell et al.,

2019b). Peer coaching, by definition, generally involves two colleagues engaged in a mutually supportive relationship (King et al., 2021).

We have put the more light on practical and theoretical relevancy of our project, for this we further explore the updated literature on 'faculty development', which helps us in elaborating and defining of basic concepts behind designing, implementing and evaluation of our studies. According to the literature, medical educators at McGill University started the 'journey' of medical teachers/educator with their 'job responsibilities' and slowly evolved into the career path (Steinert, 2010b). She highlighted that it is imperative to create an environment that help medical teachers/ educators see every day experiences as 'learning experiences' and encourage to reflect with colleagues/Peers and students on 'learning' that has occurred in classroom setting or at performing various tasks related medical education projects (Konishi et al., 2020a).

In fact, it is everyday workplace where educators conduct their clinical, research and teaching activities, and interact with the peer/colleagues and students and it is the place where learning transfer most often takes place. 'Workplace-based learning' often defined as 'learning for work' (Morris & Swanwick, 2018), 'learning at work' and 'learning from work' is fundamental to the development of medical educators for whom 'learning on the job' is often the first entry into teaching and education (Schreurs et al., 2016).

Medical education has tended to draw a distinction between 'formal' and 'informal' learning. Formal learning is typically characterised by timetables, aims and objectives, a defined curriculum and often progressive linear teaching and examinations. In contrast, informal learning, usually in the workplace, has traditionally been less valued by teachers and students, viewed as haphazard and lacking any formal

educational rigour, process or structure. Criticism arises in part because work-based learning is compared with the process and pedagogy of formal learning rather than being viewed as having a pedagogy and process of its own (Morris & Swanwick, 2018). Eraut M, (2000) proposes a move away from the use of the term 'informal learning' to that of 'non - formal learning 'and focusing on the learner's intention to learn. This distinction is helpful when we consider ways to promote work - based learning in our study, suggesting the possibility of explicitly recognising, responding to and valuing the learning that arises during everyday practice, and encouraging students and trainees to do the same (King et al., 2021).

In 2006, as a part of BEME collaboration, an international group of medical educators systematically reviewed the faculty development literature to ascertain the impact of faculty development initiatives on teaching effectiveness and identified numerous staff development approaches (mostly formal) and its impact. They identified that there has been a paucity of research demonstrating the effectiveness of most faculty development activities. In addition, most of the research has relied on the self-report rather than objective outcome measures or observations of change (O'sullivan & Irby, 2011b).

In our project we have used the more rigorous methods of determining the effectiveness of our intervention i.e. Kirkpatrick's level of evaluation (Kirkpatrick, 1994). Moreover, (O'Sullivan, & Irby 2011) find out that research on the impact of faculty development activities has focused primarily on individual participants' satisfaction, cognitive learning / performance and has produced relatively little generalizable knowledge that can guide faculty development program. There is clearly a need for more rigorous research designs and a greater use of qualitative and mixed

methods to capture the complexity of faculty development intervention. They developed a new '*Expanded Model for Faculty Development Research'* which suggested that to bring about the desired change through a faculty development approach, requires the interaction/linking of four primary components (facilitator, participants, context, and program) with their associated processes (mentoring and coaching; relationships and networks; organizations, systems, and cultures; and tasks and activities)-all in the workplace (O'sullivan & Irby, 2011b).

Hence, we have also adapted this model by using the rigorous educational research designs i.e., mixed methods approach to capture the complexity our faculty development approach/ intervention. We have also examined the linking of some of primary components by exploring the associated processes in our approach.

Building on the introduction and identification of the gap from literature this study was conducted in three Phases.

Phase 1: Development of WBFD (Version 1-V1) framework/model

Phase 2: Validation of the WBFD (Version 1-V1) framework/model.

Phase 3: Evaluation of the WBFD effectiveness and impact.

1.5 Research Aim

To develop, validate, and evaluate a comprehensive workplace-based faculty development (WBFD) framework/model that enhances the transfer of teaching skills among medical faculty, grounded in social theories of learning, and to compare its effectiveness and impact against traditional faculty development approaches in fostering sustainable workplace learning outcomes.

This aim covers three main research phases and their related general objectives, specific objectives, research questions and research hypothesis are stated in the subsequent subchapters.

1.6 Phase 1 - Development of the WBFD Framework/Model (RO-RQ-RH)

1.6.1 General Objective for phase 1

To develop a workplace-based faculty development (WBFD) model by synthesizing elements identified through a meta-synthesis of literature and social theories of learning, while addressing factors that enhance or hinder medical teachers' transfer of skills in the workplace.

1.6.2 Research Questions

- **1.6.2 (a)** What are the key elements of workplace-based faculty development approaches that enhance medical teachers' learning transfer of skills in the workplace, using a meta-synthesis of literature based on social theories of learning?
- **1.6.2 (b)** What are the factors that augment or hinder the learning transfer of teaching skills in formal faculty development workshops, as measured by the Learning Transfer System Inventory (LTSI)?
- **1.6.3 (c)** What are the reasons behind the factors rated as strongly augmenting or significantly hindering medical teachers' transfer of teaching skills in formal workshops?

- **1.6. 4 (d)** What is the evidence-based WBFD model (V1) with effective pedagogical strategies and guidelines for implementation, based on social theories of learning and factors influencing skill transfer?

1.6.3 Specific Objectives

- **1.6.3 (a)** To identify the elements of workplace-based faculty development approaches that enhance medical teachers' learning transfer of skills in the workplace, using a meta-synthesis of literature based on social theories of learning.
- **1.6.3 (b)** To identify the factors that augment or hinder the learning transfer of teaching skills in a formal faculty development (FD) workshop, using the Learning Transfer System Inventory (LTSI).
- **1.6.3 (c)** To explore the reasons behind the factors identified as strongly augmenting or significantly hindering skill transfer in formal faculty development workshops, using focus group discussion (FGD 1).
- **1.6.3 (d)** To develop an evidence-based WBFD model (V1) with effective pedagogical strategies, incorporating elements and factors that influence skill transfer based on social theories of learning, and to propose implementation guidelines.

1.7 Phase 2 - Validation of the WBFD Framework/Model (RO-RQ-RH)

1.7.1 General Objective Phase 2

To validate the newly developed workplace-based faculty development (WBFD) model (V1) by assessing its content validity and feasibility, ensuring it supports novice medical faculty's learning transfer of skills in the workplace.

1.7.2 Research Questions

- **1.7.2 (a)** What is the evidence for the content validity of the WBFD framework/model (V1) as determined by expert evaluations?
- **1.7.2 (b)** How feasible is the WBFD model (V1) in terms of clarity, practicality, and comprehensibility based on the novice medical faculty feedback?

1.7.3 Specific Objectives

- **1.7.3 (a)** To assess the content validity of the WBFD model (V1) through expert evaluation.
- **1.7.3 (b)** To evaluate the feasibility of the WBFD model (V1) in terms of clarity, practicality, and comprehensibility as perceived by the novice medical faculty.

1.7.4 Research Hypothesis

- **1.7.4 (a)** The WBFD model (V1) will demonstrate strong content validity, with an overall Scale-Content Validity Index (S-CVI) and Item-Content Validity Index (I-CVI) values meeting established thresholds.
- **1.7.4 (b)** The WBFD model (V1) will be rated as feasible by the novice medical faculty, with high average Item-Feasibility Validity Index (I-FVI) scores for its components.

1.8 Phase 3 - Evaluation of effectiveness and impact of WBFD model (V 2) (RO-RQ-RH)

1.8.1 General Objective phase 3

- **1.8.1 (a)** To evaluate the effectiveness and impact of the WBFD model (V2) in enhancing medical teachers' skill transfer in a workplace-based learning environment, as compared to a traditional workshop-based approach, using the Kirkpatrick Model of Evaluation.

1.8.2 Research Questions

- **1.8.2 (a)** What are the pre- and post-training performance and knowledge scores of novice medical faculty trained through the traditional workshop-based approach?
- **1.8.2 (b)** What is the impact of the WBFD model (V2) on novice medical faculty's satisfaction, knowledge, and performance scores based on the Kirkpatrick Model?

- **1.8.2 (c)** Is there a significant difference in the performance scores between novice medical faculty trained using the WBFD model (V2) and those trained through the traditional workshop-based approach?
- **1.8.2 (d)** What are the factors that influence skill transfer and behavioural change among novice medical faculty trained using the WBFD framework/model (V2), as identified through FGDs?
- **1.8.2 (e)** What are the sustained performance improvements of novice medical faculty trained using the WBFD model (V2), compared to those trained through the traditional workshop-based approach after two months?

1.8.3 Specific Objectives

- **1.8.3 (a)** To assess the pre- and post-training performance and knowledge scores of novice medical faculty trained using the traditional workshop-based approach (Control group).
- **1.8.3 (b)** To evaluate the impact of the WBFD model (V2) on novice medical faculty's satisfaction, knowledge, and performance scores based on the Kirkpatrick Model
- **1.8.3 (c)** To compare the performance scores of novice medical faculty trained using the WBFD model (V2) (Intervention Group) with those trained through the traditional workshop-based approach (Control group).
- **1.8.3 (d)** To explore the factors influencing skill transfer and behavioural change among novice medical faculty trained using the WBFD framework/model (V2), based on focus group discussion (FGD 2).
- **1.8.3 (e)** To assess the sustained performance improvements of participants trained using the WBFD framework/model (V2) by comparing

their performance scores to those of the traditional workshop-based group after two months.

1.8.4 Research Hypothesis

- **1.8.4 (a)** Novice medical faculty trained through the traditional workshop-based approach (**Control group**) will demonstrate significant improvement in knowledge and performance scores from pre- to post-training.
- **1.8.4 (b)** Novice medical faculty trained using the WBFD model (V2) (**Intervention Group**) will report higher satisfaction and achieve greater improvements in knowledge and performance scores compared to the traditional workshop-based approach.
- **1.8.4 (c)** The performance scores of novice medical faculty in **Intervention Group** will be significantly higher than those in **Control group**.
- **1.8.4 (d)** Skill transfer and behavioural change among novice medical faculty in **Intervention Group** are positively influenced by augmenting factors, such as workplace support and application opportunities, while hindered by workplace challenges.
- **1.8.4 (e)** Novice medical faculty novice medical faculty in **Intervention Group** will demonstrate greater sustained performance improvements after two months compared to those in **Control group**.

1.9 Operational definition(s)

Workplace: is a powerful environment for learning and applying skill. It is place where faculty as an academician teach the students e.g., it is the classroom or

clinical setting. Take their learned skill through trainings and apply their while teaching and coaching their students (Van Der Zwet et al., 2010b).

Faculty development: define as; "Any planned activity to improve an individual's knowledge and skills in areas considered essential to the performance of a faculty member in a programme e.g., teaching skills, administrative skills, research skills or clinical skills" (McLean et al., 2008b).

Case-based Learning: Case - based Learning (CBL) main traits derived from PBL are that a case, problem, or inquiry is used to stimulate and underpin the acquisition (Williams, 2005a). Cases are generally written as problems that provide the student with a background of a patient or other clinical situation (Srinivasan et al., 2007).

Informal Learning: It is learning that occur in workplace (Morris & Swanwick, 2018), during the work. It is situated perspective of learning that occur in workplace environment related to day-to-day roles and skills (King et al., 2021).

Peer Coaching: An experienced peer faculty member from the same department who can help in training of unexperienced colleague in learning of skill with constructive feedback and reflection at workplace context (Campbell et al., 2019a) and act as collaborator. Peer coaching, by definition, generally involves two colleagues engaged in a mutually supportive relationship (King et al., 2021).

Learning transfer: Learning transfer is process of applying knowledge, skills, or behaviours learned in one context and applying it to a new different context or situation, e.g. from learning through workshops applying it at workplace.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Faculty development programs are essential for improving the teaching skills and professional competencies of health professions educators. There are myriad approaches of faculty development (FD) from formal to informal and from workshop to community of practice, literature supports that the faculty development approaches which usually pulls the faculty / participants out of their work environment, rarely address the challenges of 'transfer and applying of new learning/skill' at the workplace (Steinert, 2010a). Faculty development can occur in a variety of contexts and settings (Steinert, 2010a), and often begins with 'informal learning' (King et al., 2021), at the workplace. Hence, this literature review chapter begins by presenting the formal and informal faculty development approaches followed by the thematic analysis of relevant studies related to elements of workplace-based faculty development (WBFD) approaches, the factors promoting and hindering the learning transfer of skill at workplace and strategies to evaluate its effectiveness using Kirpatrick model. This chapter then explain the theoretical foundation of WBFD based on Social Theories of learning. At the end through this meta synthesis of literature, synthesis of existing studies, identification of gaps, the construction of conceptual and theoretical framework was done with incorporating the elements of WBFD approach based on Social Theory of learning and Cognitive Apprenticeship Model (CAM) which are aligned with the study's research objectives.

2.2 Formal and Informal Faculty Development Approaches

Faculty development programs are categorized into formal and informal approaches. Formal approaches include structured workshops, training programs, and classroom-based instruction. Informal approaches occur in the workplace through peer interactions, coaching, self-reflection, and experiential learning.

2.2.1 Formal Faculty Development Approaches

Structured faculty development programs primarily focus on workshops and training sessions to enhance teaching skills and educational practices. These programs often include components such as:

2.2.1 (a) Workshops and Seminars

Short-term interventions are designed to improve specific teaching skills (Steinert, 2010). Workshops provide faculty with targeted instruction on topics such as curriculum design, teaching strategies, and assessment techniques. For instance, a faculty development workshop on active learning techniques can train educators to incorporate interactive methods, such as flipped classrooms or small group discussions, to improve student engagement and outcomes. Such workshops allow faculty to receive structured knowledge in a limited timeframe and they may find it difficult to transfer at workplace. Recent studies show that structured faculty development programs can lead to noticeable improvements in teaching performance, leadership, and confidence of participants, which supports their continued use in health professions education (Cotta et al., 2024). In addition to short workshops, higher degree programs such as the MHPE or PhD offer a more comprehensive form of

faculty development, preparing educators to contribute not only in their classrooms but also in curriculum design, leadership roles, and institutional change (Al-Eraky and Taylor, 2025).

2.2.1 (b) Longitudinal Programs

Longitudinal faculty development programs offer extended training and continuous engagement, enabling faculty to develop and refine their teaching skills over time progressively. Unlike short-term workshops, these programs span several weeks or months, providing multiple opportunities for faculty to learn, practice, and integrate new competencies into their educational practices. For example, a longitudinal WBFD initiative may include monthly workshops, reflective journaling, and ongoing mentorship, allowing participants to incorporate learning into their practice progressively. Studies have also shown that when longitudinal programs provide protected time and opportunities to work within mentored communities of practice, faculty report greater confidence in their teaching and are more likely to advance in their careers and remain within their institutions (Haas et al., 2023, Tung et al., 2021).

Research indicates that longitudinal programs can lead to sustained improvements in teaching effectiveness and educational leadership. A systematic review by Steinert et al. (2006) found that longitudinal faculty development initiatives are associated with positive changes in teaching behaviors, attitudes, and knowledge, as well as improvements in organizational practice and student learning outcomes (Steinert et al., 2006).

Furthermore, intensive longitudinal programs, such as teaching fellowships, have enhanced faculty members' educational scholarship and leadership skills. Gruppen (2013) discusses how these programs provide in-depth training and foster a community of practice among participants, leading to the development of educational leaders within institutions (Gruppen, 2013).

2.2.1 (c) Teaching Fellowships

Formal programs aimed at faculty preparing for leadership roles. Fellowships provide structured opportunities for educators to gain advanced knowledge in leadership, mentorship, and educational innovation. These programs often combine theoretical instruction with real-world applications, such as project-based learning or leadership development activities. Faculty members participating in teaching fellowships can engage in initiatives that address institutional challenges, thereby fostering professional growth and leadership competencies.

1.2.1 (d) Limitations of Formal Approaches

While formal faculty development approaches effectively build foundational knowledge and skills, they are sometimes criticized for their limited ability to support learning transfer in real-world contexts which is workplace. Steinert (2010) notes that the traditional workshop model may fail to sustain long-term behavioural changes, as faculty often struggle to implement new techniques once they return to their clinical or teaching responsibilities. This gap highlights the need for workplace-based strategies that embed learning into daily practice (Steinert, 2010).

2.2.2 Informal Faculty Development Approaches

Informal FD often takes place ‘in the flow’ of everyday academic work, such as applying evidence, reflecting on one’s teaching, or sharing practices with colleagues. Its success, however, depends greatly on individual motivation and the surrounding institutional culture (King et al., 2021). Informal learning emphasizes learning within the workplace environment through observation, reflection, and feedback. Recent work has also shown that competency-based frameworks, when linked to career stages and promotion requirements, can give structure to these informal activities by helping faculty chart their growth in areas such as teaching, scholarship, and leadership, making professional development part of daily practice (Bailey et al., 2021). Informal approaches are inherently flexible, allowing faculty to learn from everyday experiences, collaborate with peers, and engage in reflective practices.

2.2.2 (a) Learning by Doing, Observing, and Reflecting

Educators improve their skills through hands-on teaching, observing role models, and reflecting on their experiences at workplace (Steinert, 2010, Steinert et al., 2006). This approach aligns with social theory of learning proposed by Albert Bandura, which emphasizes the importance of observing the trained peer, modelling and performing the same behaviour under the supervision in workplace environment (Bandura, 1999) For instance, junior faculty members observing senior peer faculty conducting clinical teaching rounds or facilitating small group discussions in classrooms can learn effective teaching strategies for explaining concepts to students

and managing group dynamics. Reflection is equally critical, as it allows faculty to evaluate their teaching practices and identify areas for improvement.

2.2.2 (b) Peer Coaching and feedback

A collaborative process where faculty support each other through structured feedback and coaching (Brooks et al., 2020). Peer coaching involves faculty members observing each other's teaching sessions, providing constructive feedback, and sharing strategies for improvement. This approach fosters mutual learning and creates a supportive environment where faculty can discuss challenges and solutions. For example, a peer coaching program may pair faculty members to review classroom techniques, identify strengths, and suggest areas for growth, leading to continuous improvement in teaching practices. Evidence suggests that when peer observation is carried out in a structured but non-evaluative way — beginning with a pre-brief, followed by observation, feedback, and reflection — faculty view the process as safe and constructive. Such cycles not only build trust but also strengthen reflective practice and improve the quality of teaching (Sullivan et al., 2012a).

2.2.2 (c) Advantages of Informal Approaches

Informal learning methods offer several advantages over formal approaches. First, they are integrated into the workplace, allowing faculty to apply new knowledge and skills in real-time. This immediate application enhances learning transfer and ensures that faculty development is relevant to their specific roles and contexts. Second, informal approaches promote collaborative learning, as faculty can engage with peers, mentors, and role models to gain new perspectives and insights.

For example, Garcia et al. (Garcia et al., 2017) highlight the effectiveness of self-observation and peer feedback in promoting reflective practice and improving facilitation skills. Similarly, Brooks et al. (Brooks et al., 2020) emphasize that peer coaching enhances teaching skills and strengthens faculty relationships and professional networks.

Sargeant et al. (Sargeant et al., 2009) underscore that peer coaching fosters reflective teaching, allowing faculty to assess and refine their instructional methods. Showers and Joyce (Showers and Joyce, 1996) emphasize that ongoing peer coaching can significantly enhance the transfer of skills learned during formal training sessions into the workplace. Zwart et al. (Zwart et al., 2007) also found that structured peer coaching programs improved teaching strategies and strengthened the collaborative culture among faculty members.

Ladyshewsky (Ladyshewsky, 2006) demonstrated how peer coaching in clinical settings enhanced communication and mentoring skills. This study highlights the adaptability of peer coaching across various faculty development contexts, including medical and clinical education. Mullen and Fletcher (Mullen and Fletcher, 2012) further emphasize that peer coaching supports professional identity development and encourages sustained reflective practice.

2.2.2 (d) Balancing Formal and Informal Learning:

To maximize the impact of faculty development, institutions should adopt a balanced approach that integrates formal and informal learning. While formal programs provide structured opportunities for skill acquisition, informal approaches ensure that learning is contextualized, collaborative, and sustainable. Combining these