Exploring the Domains of Faculty Development Programmes for Malaysian Medical School Lecturers: A Qualitative Study

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ABSTRACT

Faculty development programmes (FDPs) are recognised to be effective mechanisms by which to enhance medical education. They cover various domains of both the clinical and non-clinical environments; however, the available data on these programmes are insufficient. The aim of this study was to explore the domains covered in FDPs conducted in Malaysian public medical schools. A qualitative approach was used for this study, which involved 30 participants from five Malaysian medical schools in 2019. The inclusion criteria for the study were (a) participants were lecturers who had served at least five years, (b) participants had experience with FDPs, and (c) participants were medical doctors. Trainee lectures were excluded from the study. Document analysis and focus group discussions were utilised for the collection of data. The data were analysed using the ATLAS.ti software and the inductive thematic analysis approach. The data analysis indicated three themes (personal attributes, professional attributes and curriculum management); six categories (communication skills, teaching and learning methods, e-learning, student management, assessment and research methodology) and 13 sub-categories namely, interpersonal communication, intrapersonal communication, adult learning, instructional models, problem-based learning (PBL), clinical-based learning (CBL), team-based learning (TBL), multiple-choice question (MCQ), single best answer (SBA), objective structured clinical examination (OSCE), standard setting, qualitative research and quantitative research. This study demonstrates the significant role played by FDPs in Malaysian public medical schools. Medical faculties are advised to incorporate all these domains into their development programmes.

Keywords: *Faculty development programme, Medical school lecturers, Malaysian public medical school, Domains of faculty development programmes*

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INTRODUCTION

Faculty development programmes (FDPs) cover a range of activities aimed at strengthening and extending the knowledge, skills and abilities of lecturers in ways that will change how they think about teaching and their actual educational behaviours (1). FDPs are considered an effective mechanism by which to improve the quality of educators' knowledge and skills, including their competence in teaching, mentoring (2), research and administration (3–4). The implementation of FDPs includes three components: personal development, professional development and course development (5). Scholars have identified four themes that should be covered by FDPs in the health sciences. These are (a) functional competencies and curricular development for conceptual learning, (b) the need for foundational competency, (c) paradigm shifts in how an academic faculty should approach health care, and (d) the need for the faculty to be aware of challenges in current practice in the health profession (4).

Over the last few years, FDPs have become popular in the field of medical education (6). The development of a cadre of competent, professional educators, researchers and leaders for the new roles and responsibilities in the field of medicine is best achieved through FDPs. They are seen as critical in the promotion of professional attributes in academics who must exhibit superior qualities and skills in their teaching, assessing and research (4). In the context of medical education, FDPs not only promote students' learning and safeguard the quality of teaching in universities (3, 7–8) but they also focus on the welfare of patients.

The Ministry of Higher Education Malaysia is aiming to enrol a total of 250,000 international students in its medical programmes by the year 2025 (9). It is therefore crucial to have competent, well-qualified faculty members, which will include all medical schoolteachers. This can only be achieved by addressing the need for high-quality FDPs that cover all necessary areas. The literature provides a large number of principles for FDPs. From these, the following common factors emerge: (a) an FDP must have a clear vision and mission, (b) it must maintain the right perspective, (c) it will require good networking, (d) it must exhibit high integrity, and (e) faculty members must be well motivated (10). According to a study done in Pakistan, a well-planned FDP will cover major areas such as communication skills, teaching skills, curriculum development, research methodology, problem-based learning (PBL), multiple-choice question (MCQ) development, assessment skills, new educational strategies, using information and communication technology, and stress management (11). Workshops, seminar series, courses, longitudinal programs (e.g., fellowships), and individualised feedback are among the popular platforms used for FDPs (12). Additionally, experiential learning, the provision of feedback, effective peer relationships and diversity in educational methods are also included in the faculty development needed to establish standardised FDPs. The Faculty of Medicine, American University of Beirut, Beirut, Lebanon, highlights the teaching, research, clinical and administrative areas to be included in FDPs (13). In an Indonesia medical school, content, process and components are the major points of focus for its FDPs. Content refers to the materials that need to be delivered; process covers aspects relating to the preparation, execution and evaluation of sustainable faculty development; while components are those factors that affect faculty development implementation (14).

The FDP is a crucial tool for the cultivation of both personal and professional development among faculty members. Another study found that FDPs enabled participants to master personal awareness and group facilitation skills, which then contributed to their overall competence

(15). This outcome is supported by other studies, in which participants agree that they were highly motivated to join such a programme. The results of a study by Lim and Choy indicate that the FDP helps to increase knowledge and skills in relationship-centred care (16). This study also shows that FDPs help participants to manage educational matters more effectively, including both instructional practice and innovation. Some faculties report that the implementation of new instructional strategies, learned in the FDP, has contributed to creating a positive learning environment (16).

Thus, effective implementation of the FDP is considered a critical mechanism for teaching and learning purposes, enhancing personal and professional development, and cultivating motivation among faculty members (17). Furthermore, FDPs are recognised as enhancing academic leadership among faculty members, together with critical reflection, self-confidence in being a role model, knowledge, pedagogical skills, ability to design curricula and competence in conducting research. These strengths, made available through the FDP, are crucial in enabling a faculty to realise its vision and mission. In addition to the advantages of the FDP, thus described, another study was conducted to investigate the weaknesses of some FDPs. These results illustrate that a lack of incentive, a lack of faculty interest, and a dearth of trained facilitators are factors that can contribute to ineffectiveness in an FDP.

In the Malaysian public medical schools, FDPs are mostly organised by the Departments of Medical Education such as Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM) and Universiti Putra Malaysia (UPM) or by Medical Education Units namely, Universiti Sultan Zainal Abidin (UniSZA) and Universiti Sains Islam Malaysia (USIM). These universities all recognise the FDP as an effective approach for enhancing faculty members' competencies. FDPs are designed around the particular faculty's perceptions of their own competencies or capabilities. This has led to the situation where various approaches and materials have been offered to faculty members. Although many FDPs have been conducted in Malaysia, to date, no data are available to demonstrate the domains covered in the FDPs conducted for Malaysian public medical school lecturers. The aim of the present study is therefore to investigate the domains covered in the FDPs presented in Malaysian public medical schools. The following research question was therefore developed: What domains are covered in the FDPs delivered in Malaysian public medical schools?

METHODS AND MATERIALS

A qualitative approach was utilised in this study. This design was chosen due to its suitability for investigating an issue in its particular situation. A total of 85 documents relating to FDPs were collected and their contents analysed. Participants in focus group discussions (FGDs) included 30 medical teachers from five medical schools in Peninsular Malaysia, namely UKM, UNiSZA, UPM, USIM and USM. These participants were interviewed to confirm the data collected from the document analysis. These universities were selected for a variety of factors, including the fact that they are all well-known and have long-standing experience. The criterion-i sampling strategy was applied to identify eligible participants. The inclusion criteria for the study were: (i) participants had to be a lecturer who had served for at least five years, (ii) they must have had experience with FDPs, and (iii) they must be medical doctors. The justifications for these criteria were the need for medical school involvement and rich data on FDPs. Undocumented FDPs and the normal training of lecturers were excluded from the study. Since this was a phenomenological study, the number of participants could be between 5 and 25 (18). However, the sample size in qualitative research is subject to a saturation point: when this is reached, the sample size is adequate.

Document analysis and FGDs were used as the primary and secondary research methods. They were chosen due to their suitability for a qualitative study. A document checklist and an interview protocol were first developed to ensure the credibility of the data collected. The document checklist consisted of the date, type of document and information about its content as it related to the research objectives. In addition, a blank space was provided for the researcher to share any thoughts pertaining to the document examined. The documents included were: (a) annual planning for FDPs, (b) needs analysis studies, and (c) FDP participants' feedback forms. These records covered all FDP activities that had occurred in the five medical schools during the previous five years (2014 to 2018).

The interview protocol consisted of four components: introduction, main questions, probing questions and conclusion. The first component functioned as a warm-up. The second and third components focused on the main issue under investigation. The fourth component was the conclusion, in which participants were invited to share any insights that had not been covered in the previous conversation. During these interview sessions, tape recorders were used, with the permission of the participants, to ensure that no information from the interviews would be missed. The data collection process took place over two months from 15th March to 5th May 2019.

The documents identified for analysis were the annual planning for the FDPs, the needs analyses for FDPs and participants' feedback forms. These data were supported by the interviews, which were carried out after a briefing and the completion of an informed consent form. The interviews were conducted based on the interview protocol developed earlier. The objective of the interviews was to confirm the information gained from the primary sources (the document analysis). Each focus group interview included five participants and took place for 40 min to 1 h in the group's own study location. Four focus group interviews were conducted initially, and saturation was achieved at this point. To confirm that saturation point had been achieved, an additional two focus group sessions were conducted, giving a total of six focus group sessions. A total of 85 documents were examined and the six verbatim scripts from the focus group interviews were included in the data analysis process. An inductive thematic analysis approach, as suggested by Braun and Clarke (19), was used to analyse the data.

Step 1: Familiarisation with the Raw Data

This step aims to familiarise the researchers with the entire dataset by repeated and active reading through the data obtained (20). We read the documents and interview transcripts at least three times to ensure that we understood the texts within the context of the entire study. Each document and interview transcript were given a code and index number. This included the name and date of the documents collected.

Step 2: Creating Initial Codes

A code is regarded as "the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon" (16, p. 63). At this stage, the researchers went through the interview transcripts and addressed the phrases, concepts, terminologies and sentences that matched initial codes. The researchers also kept adding additional codes as they went through the text. Once the researchers had coded the entire dataset, they collated the data according to their codes in preparation for the next step.

Step 3: Creating Themes

The third step is theme identification. This involves an examination of the coded data to discover reasonable themes of broader significance (21). Themes were created by scrutinising, merging, comparing and

explicitly plotting how the codes related to one another. The researchers created themes from the coded data such that the themes would be more systematically associated with the core data and the thinking of the entire dataset (21). Mostly, they combined several codes into a single, meaningful theme.

Step 4: Revising Themes

At this stage, we decided whether the individual themes fitted meaningfully within the dataset and whether the thematic map accurately and adequately represented the entire body of data (21). Therefore, we referred to the dataset and compared the suitability of the themes. The developed themes were then compared again and possibly split, combined, or discarded, or where necessary, new ones were created.

Step 5: Defining and Labelling Themes

Defining themes involves formulating exactly what the researchers mean by each theme and then figuring out how it helps them to understand the data. At this stage, they created a definition and narrative description for each theme (21). The names of the themes to be included in the final report were revised to ensure that they were brief and adequately descriptive. While addressing this question, the researchers looked for zones of overlap between themes, identified emergent sub-themes and clearly delimited the scope of what each theme included (21). From here, they created a storyline to encompass and to provide a context that explained the importance of each theme to the wider story (21).

Step 6: Writing Up

The last step involves writing up the final analysis and giving a description of the findings (21). Descriptions and representative data extracts were used to describe the data and to provide an argument to explain why the researchers' clarification richly and fully answered the

research question (21). To ensure the validity of the data, four measures were undertaken: triangulation, awareness of researcher bias, review by participants and thorough description (22). Triangulation is accomplished by applying more than one method of data collection. In the context of this study, the use of both document analysis and interviews in the data collection process made the data more valid and reliable. The participants were also requested to review the raw data and to provide comments on the themes and categories suggested by the researcher. All responses and comments were included in the report, which increased research credibility. A thorough explanation of the data relating to the process of the FDPs was also presented. An in-depth account provided by a researcher will enable readers to arrive at their own conclusions concerning outcomes, whether in different settings or a similar context (23).

An audit trail and peer checking were applied to ensure the reliability of the research. To perform the audit trail, the researcher asked an outside reader to check the report and all documents related to the data collection process for verification. The analysed data were then referred to an expert panel for review and confirmation. This process is known as "peer checking" (23).

RESULTS

A total of 85 documents were examined to investigate the domains of the FDPs. Of these, 35 (41.2%) concerned the annual planning of FDPs, and 30 (35.3%) and 20 (23.5%) were needs analysis documents and participants' feedback forms, respectively (Table 1). The objective of the study was to investigate the domains covered by FDPs in Malaysian public medical schools. To confirm the data, a total of 30 participants (Table 2), consisting of nine males and 21 females, from five medical schools, participated in the focus group interviews.

All participants had a medical background, and all were Malay. The majority (67%) had taught in medical schools for between five and eight years, while the rest of the participants (33%) had served for more than eight years.

Table 1: Profile of documents ($n = 85$)

Type of document	Frequency (%)
Annual planning of FDPs	35 (41.2)
Needs analysis study documents	30 (35.3)
Participants' feedback forms	20 (23.5)
Total	85 (100)

Table 2: Profile of study participants ($n = 30$)

Variables	Frequency (%)
Gender	
Male	21 (70)
Female	9 (30)
Ethnicity	
Malay	30 (100)
Years of service	
5–8	20 (67)
> 8	10 (33)

A total of 85 FDPs had been implemented in the five Malaysian public medical schools between 2014 and 2018. The programmes were clustered around three themes, six categories and 13 sub-categories. The themes were: personal attributes with a frequency of 62 (13.7%), professional attributes with a frequency of 360 (78.0%), and curriculum management with a frequency of 30 (8.3%) (Figure 1). The categories were communication skills, teaching and learning methods, e-learning, student management, assessment and research methodology. The sub-categories were interpersonal communication, intrapersonal communication, adult learning, instructional models, PBL, clinical-based learning (CBL), team-based learning (TBL), MCQ development, single best answer (SBA), objective structured clinical examination (OSCE), standard setting, qualitative research and quantitative research (Table 3).
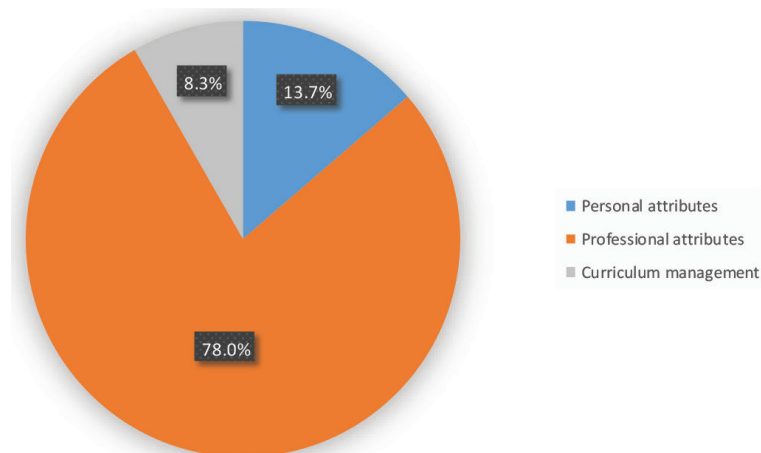

Figure 1: Themes of faculty development programmes.

Table 3: Theme, category and sub-category of faculty development programmes

Theme	Category	Sub-category
1. Personal attributes	1a. Communication skills	Interpersonal communication
		Intrapersonal communication
2. Professional attributes	2a. Teaching and learning methods	Adult learning
		Instructional models
		PBL
		CBL
		TBL
	2b. e-Learning	
	2c. Student management	
	2d. Assessment	MCQ development
		SBA
		OSCE
		Standard setting
	2e. Research methodology	Qualitative research
		Quantitative research
3. Curriculum management		

Theme 1: Personal Attributes

Personal attributes consisted of one category and two sub-categories. The category was communication skills, and the sub-categories were interpersonal and intrapersonal communication.

Category 1a: Communication skills

Evidence from the document analysis proved the importance of both sub-categories (Annual faculty development planning, 25/3/2019; Need analysis study document, 27/3/2019; Participant feedback, 1/4/2019) and these findings are also supported by the following participant comment:

> Yes, in addition to other topics, we (the lecturers) were also exposed to methods of communication—including both interpersonal communication and intrapersonal communication skills. FGD2-16/3/2019

Theme 2: Professional Attributes

Professional attributes was a prominent item on the agendas for FDPs in Malaysian public medical schools over the five years (2014 to 2018) covered by this study. The theme professional attributes includes five categories.

Category 2a: Teaching and learning methods

This category was dominant and appeared 90 times on the agendas. It consists of five sub-categories. Of these, CBL and PBL were those most represented, with a frequency of 30 each, followed by TBL with 20, principles of adult learning with five, and instructional models, also with a frequency of five. These professional attributes were supported by the documentary analysis and by the following statements from participants:

> In our university context, domains that relate to the teaching and learning process were implemented

by two parties: the faculty and the academic center. Many topics were covered. They included principles of adult learning, instructional models, PBL and TBL. These topics were delivered by some of the senior lecturers, both internal and invited speakers. FGD3-17/3/2019

Since I came here, six years ago, I have joined in many interesting and meaningful programmes. Among the topics that I most enjoyed were the PBL and the CBL. FGD15-15/3/2019

Category 2b: e-Learning

e-Learning was the second most popular category among the FDPs, with a frequency of 60. Its importance and popularity are indicated by the statement quoted below.

Yes, using e-learning skills in teaching is the latest and most popular topic arranged by the FDP organisers. We were taught how to integrate ICT into our teaching process. This was a very nice topic and all academics should be exposed to it. FGD5-18/3/2019

Category 2c: Student management

This category also had a frequency of 60. Evidence from the documentary analysis and from the interview with FGD4 confirmed the significance of this domain.

We (the lectures) were taught how to organise our student mentoring. This is important because, in addition to our teaching, we are also mentors, and the key role of the mentor is to guide the students. Thus, this topic is relevant to our core business. FGD4-19/3/2019

Category 2d: Assessment

Assessment is another important component of FDPs. Evidence from the documents analysed proved its significance, as over the five years, it appeared on agendas with

a frequency of 90. It consists of four sub-categories: MCQ, SBA, OSCE and standard setting. In relation to this category, FGDs 2 and 1 contributed the following statements:

Assessment is a very popular kind of FDP; it includes MCQ, SBA, OSCE and standard setting … We were taught how to produce ideal questions of each of the above types. FGD2-16/3/2019

Yes, I definitely agree regarding the importance of this area. The assessment topics, such as MCQ and SBA, should be fundamental information for lecturers. This is a compulsory item that everyone must know about. FGD1-15/4/2019

Category 2e: Research methodology

As a lecturer in higher education, research competence is a basic skill that needs to be acquired by all of us, using both approaches; I mean the qualitative and quantitative approaches. These courses were delivered by senior lecturers, whether as internal or external speakers. FGD4-19/3/2019

Theme 3: Curriculum Management

This theme focuses on curriculum revision, and over the five years, the frequency was about 30. The curriculum design used plays a key role in producing professional physicians of the future. When asked about the importance of this exercise, the participants responded that it aligned with current developments in the social, political and economic areas. The evidence in support of this theme lay in the annual FDP programmes and in the FDP participants' feedback. The input from the interview transcripts further verified the use of this theme, as expressed in FGD 6 and 5:

We have just finished the medical curriculum revision. We did it accordance with the comments given by the Malaysian Qualification

Agency (an academic authority) on their previous visit. We needed to revise this and then prove to them that we had adequately responded to their comments. In other words, in this latest revision, we had considered all the ideas presented. FGD6-13/4/2019

(The objectives of the curriculum revision are) … to align with current government policy… We also considered the challenges of the fourth industrial revolution in our revision. FGD5-18/3/2019

DISCUSSION

Addressing important domains accurately in FDPs is critical to ensuring excellent services from medical school lecturers. Thus, the evidence from this study supporting the three themes in FDPs (personal attributes, professional attributes and curriculum management), with their related categories and sub-categories, provides valuable information for the management of schools of medical science. Currently, no study has been conducted to explore what is included in FDPs in Malaysian public medical schools, and this study helps close that gap. Generally, the identification of these themes is consistent with the results of a previous study that found that communication skills, teaching skills, curriculum development, research methodology, PBL, assessment skills and information technology were the primary areas taught in FDPs for medical education (4). In the present study, these domains were clustered into three themes, with categories and sub-categories as stated above.

Personal attributes have been recognised as a crucial component in enhancing a lecturer's competency (24). Although this theme contributed to only 13.7% of all FDP domains, boosting the professionalism of medical lecturers is important, and is also known as personal development (25). Educators who have mastered their personal

awareness have the potential to be good teachers from the students' perspective. This fact was supported by findings from our study showing that the personal attributes of medical lecturers made up a significant domain in FDPs (21). One of the probable reasons for this is that those who have high internal motivation are able to show high levels of commitment to the teaching profession (26). Therefore, it is important that personal attributes are recognised as an essential domain for medical lecturers participating in FDPs.

The present study suggests that professional attributes are the most important item on the agenda because they contributed the largest proportion (78%) to all FDP courses. These attributes were characterised by the largest group of sub-categories as compared to the other two themes. They include teaching and learning, assessment, research methodology, e-learning and student management skills. Since these components represent fundamental skills for the educator, this domain is of critical importance in FDPs. This evidence is consistent with a study that confirmed that FDPs are able to cultivate both the personal and professional development of participants (27). For instance, if an educator practices high-level skills in their teaching, it will contribute significantly to their students' motivation to learn. In addition, practicing high-level teaching skills helps the teacher to become a role model in terms of self-confidence, motivation and pedagogical skills (21). Furthermore, excellence in assessment, instructional design and the use of e-learning enables teachers and students to interact within a positive learning environment. This is supported by a study providing evidence of how these competencies influence the learning environment (17). Importantly, these components are crucial to achieving an organisation's vision and mission (28).

Interestingly, curriculum management has also been identified as a single theme that describes all FDP domains. Although quantitatively, this theme represented only

8.3% of all FDP courses, the domain is significant because it is closely related to the character of the future physicians medical schools are required to produce. This theme has become increasingly important and is closely related to the professionalism of medical doctors. Consequently, managing the curriculum can be considered a domain that needs to be presented to lecturers as a full domain. This result is consistent with those of previous studies which found that competence in curriculum design (17) and academic leadership are the most important areas for medical lecturers (29).

Despite its valuable findings, this study has its limitations. First, since this was a qualitative study, its outcomes cannot be generalised to other populations. Thus, it is possible that it did not represent the full range of FDPs in these universities. Apart from that, all participants in the study were of a single ethnicity. Thus, the results might not represent the situations of all medical lecturers in Malaysia. Another limitation was that no FDP had been conducted that addressed other personal attributes, such as teamwork or leadership skills.

Considering these limitations, it is suggested that future studies should include all medical lecturers in Malaysia so that a broader range of findings can be compared with those of this study. A study with a quantitative approach could also be conducted at the same time. Such a study would be significant in enabling a comparison of the similarities and differences between these and potential future findings. It is also recommended that the next study should explore in depth other activities involving faculty development that were not documented in the ways we identified. If it is possible to do this, we will be able to discern more fully the real domains covered by FDPs in these universities.

CONCLUSION

It can be concluded that the results of this study have provided adequate evidence to identify and support the domains that Malaysian public medical schools need to include in their FDPs. Thus, the top management of Malaysian medical schools should be helped to highlight those areas of FDPs necessary to foster the competency of their medical lecturers. This is important to ensure that the implementation of FDPs is aligned with real needs. Furthermore, these findings will provide extra input for the planning of FDPs in medical schools, worldwide.

Limitations of the Study

With the limitations in mind, it is suggested that future studies should invite all medical lecturers in Malaysia so that a broader range of findings can be compared with those of this study. A study with a quantitative approach could be conducted at the same time. Furthermore, this study involved only five public medical schools in Malaysia; therefore, it does not necessarily represent all FDPs in Malaysian public medical schools. For future research, a comprehensive study of FDPs should include both public universities and private universities. This study would be significant in enabling a comparison of similarities and differences between them.

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ETHICAL APPROVAL

This study was approved by the USM Human Research Ethics Committee (USM/JEPeM/18120790), and all participants participated voluntarily having signed consent forms prior to their participation in the study.

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