

A DOCTORAL TRAINING MODEL FOR PhD CANDIDATE: A CASE STUDY AT THE PUBLIC UNIVERSITIES IN MALAYSIA

Panji Hidayat Mazhisham
Universiti Sains Islam Malaysia
71800 Nilai, Negeri Sembilan, Malaysia
Email: phidayatsyam@gmail.com

Abdul Rahim Zumrah
Universiti Sains Islam Malaysia
71800 Nilai, Negeri Sembilan, Malaysia
Email: rahim@usim.edu.my

Abdullah Shahir Arifin Ahmad Fadzil
Universiti Sains Islam Malaysia
71800 Nilai, Negeri Sembilan, Malaysia
Email: syah.arifin@gmail.com

Amin Al Haadi Syafie
Universiti Sains Islam Malaysia
71800 Nilai, Negeri Sembilan, Malaysia
Email: amin@usim.edu.my

Kamaluddin Nurdin Marjuni
Universiti Sains Islam Malaysia
71800 Nilai, Negeri Sembilan, Malaysia
Email: kamaluddin@usim.edu.my

ABSTRACT

BACKGROUND: The title of Doctor of Philosophy (PhD) is the third tier in the academic education. It is also becoming vital and crucial especially in the academician perspective. **OBJECTIVE:** This paper attempts to highlight and proposed a doctoral training needs assessment model for PhD Candidate in the Malaysian context. **METHODS:** Qualitative face to face in-depth interviews were conducted among the Doctoral Candidate ($n = 19$) at the Malaysian Public Universities, by focusing on those who pursue their study in the field of Science and Technology. A framework analysis was conducted by using ATLAS.ti software version 7. **RESULTS:** The researchers identified 10 major themes related to the training needs fundamental model for a PhD candidate; the training of (1) research methodology, (2) motivation, (3) financial, (4) religious knowledge, (5) health, (6) supervision, (7) sharing experience, (8) foreign language courses, (9) writing and publishing journal, and (10) spouse training. The implication of this study showed that all of those training model above are highly suggested by them especially before they are pursuing doctorate study. **CONCLUSIONS:** A proposed specific training needs assessment by the PhD candidate can be managed, practiced and implemented in consistently for developing a PhD holder to become well prepared and enable to finish 'on-time' in their study. Therefore, several recommendation also has been discussed in this research.

Key words: PhD candidate, Doctoral training, Public Universities

Introduction

Achieving and striving to hold a PhD in our life is a complex and subjective matter to everyone. This is the challenges that facing by every academician in the university because they need to have a PhD degree to become expert in their area of interest. Nowadays, the demand of PhD holders as central qualification is highly increase by every public and private university in this world. The doctorate degree is the highest notch in the academic level. It also becomes crucial and vital for the academic career mostly in the academic world. That is one of the main criteria to be selected as a lecturer in universities or colleges. The continuous efforts need to be taken by the Ministry of Education Malaysia (MOEM) in increasing the number of doctorate holders especially at the Malaysian public universities. Some of the methods that have been implemented by MOEM are conducting the training for the academicians who did not have a PhD yet such as the training of research methodology, training grants, and so on. But there are still not reaching the target of MOEM because due to those who are pursuing their doctoral studies are not graduated on time given by them. This is the main problems that need to be tackled. Therefore, the central question arose from this paper is aims to scrutinize the training needs of PhD candidate among the lecturers at the Public universities to pursue their doctorate study. Based on the data of this finding it was hoped that this study will help to contribute a model of training for a PhD candidate in the Malaysian context.

Literature Review On A Doctoral Education Of PhD Candidate

The Doctor of Philosophy (PhD) signifies the highest level of formal education for a research career. In the academic setting, the PhD is the highest academic degree and is one of the requirements for success as a researchers and academicians in the multiple disciplines educational institutions around world. To hold doctorate holders is one of the challenging journeys in a scholarly career. The period of completion for the full time doctoral education is around three to four years. Sadlak (2004), claims that various countries sustain for academic PhD duration of three or four years. But, it is depending upon on the fields of studies. Every PhD candidate has different area of research fields. A delay in PhD completion is seems truly undesirable for PhD applicants. It also can be harmful to universities if and when PhD delay leads to the termination of their profession. In reality, PhD candidates often take much longer to complete their doctoral studies (Schoot et al, 2013).

Most PhD candidates are hired by the university for a set period of time to complete a PhD studies (Schoot et al, 2013). Termination of the PhD path can bring to individual stress, a loss of valuable time and resources invested in the candidate and can also mean a loss of competitive advantage in their future job (Feldon et al, 2010; Schoot et al, 2013). The experience of doctoral students is a period of time when PhD candidate learn about research, submit a dissertation with a rigorous methodology, and contribute to the literature in the field of study (Hockey, 2004). However, there is arguably more that is accomplished for the completion of PhD degree time. Hockey (2004), notes that during the first year, PhD students undergo unexpected difficulty due to major changes in their doctoral educational understandings and status. This difficulty need to be tackle through attending the suits of doctoral training.

Alpine and Amundsen (2007) suggests that the experience of PhD candidate may depend heavily on the learning environment. This environment may either promote well-being and satisfaction or encourage dysfunctional emotions to the PhD candidate to become positive or unaware in completing the PhD study (Appel and Dahlgren, 2003; Pyh alt o et al, 2009). Therefore, the importance of continuously assessing doctoral students' study and research process to enhance, promote, and regulate it in a meaningful and having a high goal-oriented as the way to motivate the PhD candidate for their studies (Kiley, 2009). It shows that the training needs assessment is vital to help them in increasing their self-motivation. An ideal learning environment for gaining expertise in research would provide shared control, where PhD candidates would develop meaningful interaction with their supervisors and a positive relationship with peers, families, environment and thus, experience engagement in their academic community. All of these aspects must be taken into consideration of the PhD training for doctoral students.

A previous study on doctoral education has identified several complementary factors that contribute the doctoral experiences enable to help the PhD candidate to become well prepared in their PhD study. All of the experiences from the successful of PhD holders can be as valuable training for new PhD students. For instance, the sharing experiences of PhD holders in terms of the supervisory relationship (Aspland et al, 1999; Hasrati, 2005, Pyh alt o et al, 2012), the scholarly community (Beauchamp et al, 2009; K. Pyh alt o et al, 2009) the perception of doctoral students' and supervisors' personal beliefs about research and supervision (Brew, 2001) enable to contribute to the types of PhD training for PhD candidate that can be developed. The importance of setting great educational aims and determines that opportunities are insignificant for academicians without completing the doctoral studies in higher level education.

Besides that, the PhD students need to set clear and high goals regarding their career future as independent researcher while struggling to hold a PhD (Pyh alt o et al, 2012). In addition, the PhD students should have an internal locus of control and believe that (i) struggle and hard work are important and (ii) goals are influenced by these individual actions (Rotter, 1954). Plus, the PhD candidates have to be positive self-efficacy, which is the belief in one's aptitudes as being proposed by Bandura (1995). Salovey and Mayer (1990) identify five domains of emotional intelligence as self-awareness, managing emotions, motivating self, empathy, and handling relationships. All of these elements can be included in the PhD training as the positive emotional intelligence for the PhD students. There are differences in academic demands, peer support, and social interactions with the people surrounding them. Some of the changes that have been noted as potentially problematic for doctoral students include: social isolation, time constraints, the need to take individual responsibility for work, the need to feel a sense of intellectual self-worth, and the need to have a solid relationship with their supervisor, particularly in terms of mutually shared expectations (Hockey, 2004). All of this problematic situation can be reduce through the suitable doctoral training.

Furthermore, the previous research on the doctoral experience suggests that doctoral students face a variety of difficulties during their studies (Appel and Dahlgren, 2003; Wright, 2003; Pyh alt o et al, 2012). This study focuses on exploring the training needs of PhD candidate in helping them to motivate their core problems faced during the PhD journey. The implementation of PhD training enables to identify the central problems in doctoral education of PhD candidate to realize the importance in handling the challenging and always well prepared to their study. The most importantly is the PhD candidate need to have the exposure and knowledge what the PhD study is all about. This knowledge could be gained in the selected PhD training that suitable with their needs.

In addition, the study conducted by Amini et al (2008) found that intelligence, creativity and focus to PhD study were essential factors for PhD students to success in their academic education. The doctoral students also emphasized the importance of patience to success in completing their doctorate study. In fact, "effort was mentioned more important than intelligence in medical sciences schools" (Amini et al., 2008). This statement revealed the sciences students' belief in perseverance, high commitment, focus and determination for guiding them in higher level of academic education (Castro el al, 2011). Moreover, four themes were found to support the successful doctoral journey in the science fields in which (i) personal abilities; (ii) attitude, beliefs and motivation; (iii) efforts and perseverance; and (iv) supportive factors (Amini et al, 2008). This proved that all of these four main themes could be useful to be applied for the PhD training before their pursuing the doctorate studies.

Research Methodology

Qualitative design with face to face interview method was used to collect data with a random sampling technique. The participants of this study are those who want to pursue and is ongoing further their doctorate studies are from 19 lecturers of 9 public universities in Malaysia. All participants (12 male; 7 female) are focusing on those who pursuing their PhD study in the field of Science and Technology. The interviews were semi-structured with the informal sequence question has been answered by them. The researchers analyze the data manually using qualitative software ATLAS.ti version 7. ATLAS.ti provides very valuable tools in academic research, particularly for social science disciplines. The study is aims to scrutinize a training needs assessment of PhD candidate among the lecturers in public universities.

Instruments

Data were collected using face to face interview questioning route (sequence of questions). Nigheten lecturers of nine public universities in Malaysia who plan and are on-going to further their doctorate studies were interviewed. The questions were semi-structured, progressing to essential questions (e.g., "What your needs of training are before pursue of the doctorate study?"), to complex transition and key questions (e.g., "What are the need of training for PhD candidate to complete their study on time?").

Interviews

Data were gathered through face to face in-depth interviews (September until October 2014) were conducted among the Doctoral Candidate (n = 19) at the Malaysian Public Universities, by focusing on those who pursue their study in the field of Science and Technology. Interviews were from one hour and included questions related the training need assessment of a PhD candidate before pursuing their study and the program that can help PhD students to complete their doctorate research. Interviews were conducted by the researchers at a time and place chosen by the participants. All interviews were audio-taped with consent, transcribed verbatim, and stored for analysis. *The questions that arose in this study such as: "What are the needs of training for a PhD candidate for you to success in completing the doctorate study?"* were asked to the respondents. The types of semi-structured interviews are "well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers" (Barribal and While, 1994: 330). According to Patton (2002) the fundamental characteristic of semi-structured interviews is the freedom to inquiry in the data from respondents, increases the reliability of the data collected by allowing clarification, deeper investigation and participant recollection.

Data Analysis

In data analysis the researchers aims to examine the data for the training needs of PhD candidate before their doctorate journey therefore content analysis was considered appropriate technique for this study. The researcher used the technique of content analysis by using ATLAS.ti software version 7. Miles and Huberman (1994) and Merriem (1998) said that content analysis approach was used to analyze the interview data and it is a method that often being used in qualitative research (Burn, 1995). Qualitative research is a form of scientific analysis that extents different disciplines, fields, and consist of many varied methods (Denzin & Lincoln, 2000).

Data were analyzed using content analysis. Content analysis is a common approach to qualitative data analysis and is defined as a process of coding and identifying themes or patterns (Hsieh & Shannon, 2005). It is a valuable method of data analysis when some unit of meaning and interpretation is required, for instance in this qualitative study (Schreier, 2012). Based on the data the researchers identify all of the codes and themes that related with the research question, the link to the data and the expression of the information from the face to face interview with a PhD candidate during the data collection. The interview transcripts were identified and coded to find out the central themes of the training needs for a PhD candidate from all of the respondents.

Therefore, the iterative coding process resulted in identification of ten major themes that related in this study. Burn (1995) says that content analysis was used to identify the theme, subthemes and the meaning of unit from the respondents. Various themes can be generated through content analysis method. Data were managed utilizing the qualitative software ATLAS.ti. ATLAS.ti was used to classify, sort, and arrange data; including the frequency of codes and themes and to examine relationships in the data that related with the need of training by a PhD candidate before their further doctorate study. Data saturation occurred after interviewing 19 respondents with the similar information being heard and interviews were finished. The data was analyzed using qualitative thematic data analysis techniques. The thematic analysis contained of determining themes and sub-themes, analyzing which themes are important in this research area, and building hierarchies of themes (Ryan and Bernard 2003). The presented results reveal the identified themes and sub-themes that related with the types of training needs for PhD candidate among the lecturers in the Public universities.

Results & Discussion

The data was analysed using ATLAS.ti version 7 revealed that there were 10 major themes related to the training needs assessment model for a PhD candidate; the training of (1) research methodology, (2) motivation, (3) financial, (4) religious knowledge, (5) health, (6) supervision, (7) sharing experience, (8) foreign language courses, (9) writing and publishing journal, and (10) spouse training. All of these data were identified from 19 respondents (R1-R19) as PhD candidate and lecturers of Malaysian public universities.

Based on the results of findings above there were ten core themes of a model of doctoral training for PhD candidate among the lecturers and academicians of public universities in Malaysia before pursuing their doctorate study. The first key theme is the training needs of research methodology and there were seven subthemes that are the (i) software, (ii) research proposal, (iii)

Graduate Record Examination (GRE), (iv) robotic research, (v) reading & writing technique (RWT), (vi) Othman Talib workshop (OTW) and (vii) labs research. Most of the participants as lecturers in the field of sciences and technology were felt that all of these research methodology training are very important and useful for them to attend for their PhD study (see table 1 for details expression).

Table 1. Theme “Training of Research Methodology”: Subthemes and examples.

Subthemes	Examples of meaning units
Software	As what I said earlier, the <i>software</i> involved in this research will be determined by supervisor either it going to be a fully research in terms of software, programming, mathematic model, experimental or statistical (R4)
	The workshop is compulsory laa ... that why we have to go do a writing paper or something that closely related with the <i>SPSS software</i> we need to learn and attend the training..(R19)
	So I think that is the critical factor...the equipment or <i>software</i> about the research..Some of the PhD students need to develop their own equipment or software such as ICT software...so we need that software training that suits with our research (R5)
Research Proposal	In this training, we need the knowledge about how to write <i>research proposal</i> , the using of Mandalay, how to find good supervisor and etc.. as these will help us for better understanding (R14)
	There is literature review in every thesis but the real meaning of it we are not sure.. This is because it depends on everyone’s perception and understanding. That why for me the <i>research proposal</i> workshop is very useful (R15).
	How we are going to write a good thesis and things related to it. It also compulsory to be counted. I need the workshop that related on <i>thesis writing</i> (R16).
Graduate Record Examination (GRE)	Recently I was asked to go to U.S as it is written in university’s policy... and I’m okay with that. I will try my best as they make me to have <i>GRE examination</i> . I need to attend on GRE workshop (R7).
	I have prepared before going to U.S and I have that book of GRE. I studied <i>GRE test</i> and memorizing all vocabs with some mathematic subject in a small group. We study the GRE’s questions. Finally, we got the low results. It quite disappointed (R10).
Robotic Research	I went to <i>robotic research</i> seminar in UMP as the topic quite interesting for me. But it is not very specific. I need the specific workshop for this research (R8).
Reading & Writing Technique (RWT)	From the aspect of technical preparation must be focused on how to <i>write a thesis</i> , paper, abstract and other things that need to be included in thesis writing (R5).
	You also can get opinion from senior lecturer to give a talk about what is the PhD thesis is all about. Learning about the <i>writing techniques</i> and so on..I want this training... (R4).
	Reading technique.. We have many ways of reading and one of them is fast <i>reading technique</i> and locking technique which is to measure our understanding based on what we have read before. Better to have this training..(R11).
	My friends told me which he is a PhD holder. He advised me and saying that I have to manage the way I read the books and from there I know this is one of my weaknesses and I have a lack of <i>reading technique</i> such as skimming and scanning. If there have a workshop like this I feel happy.. We also have a very common problem in Malaysia.. it is the way we write on research. (R11).
	Now I need to prepare myself for the writing thesis. I need the workshop that related with <i>thesis writing</i> (R14).
	Research methodology workshop no doubt is helping us in deep on how to find good journals, or how to <i>read</i> journals effectively and what kind of article need to be used in our <i>writing</i> (R18).
Othman Talib workshop (OTW)	As stated in <i>Othman Talib’s</i> , he teaches us on how to write and how to read. He has the software to help us on that aspect (R11).
	There is a slot from Dr. <i>Othman Talib</i> and his talk is very good. But we are so disappointed because the management of the program just invite him to give the talk just for two hours only.. So sad..we need more slot from him (R16).
Labs Research	Related the workshop regarding my project such as <i>math lab</i> course (R3)
	That’s why.. Let’s say we want to conduct a <i>lab study</i> about toxicology in molecular.. Meaning we want to do invitro process. In medic’s terms, we have invitro and invivo therefore we need the workshop that suits with the <i>labs research</i> ... Sometimes we want to study on herbs and learn how to use the machines and it requires us to conduct at the lab (R19).

The second main theme is the need of motivation training for PhD candidate. There were three subthemes ideas that often rose by the lecturers in which motivational training for (i) mental, physical and emotional (MPE), (ii) self-motivation (SM) and (iii) family, friends and environment (FFM). The entire elements of these subthemes will encourage them to become positive and high enthusiasm in their PhD journey. There were eight of the respondents spoke out for the needs of motivational PhD training in this study (see table 2). The key of success for study is through motivation support such as friends’ support, family support surrounding us and developing high self-esteem within our self.

Table 2. Theme “Motivation Training”: Subthemes and examples.

Subthemes	Examples of meaning units
Mental,	Doing motivation as preparing for <i>mental</i> and study purposes (R1).

Physical & Emotional (MPE)	In term of <i>mental psychology</i> , I think it needs to be improved more before continue PhD study. As example if you continue study in U.K but didn't finish it in time, you will be failed totally.
	Maybe we can focus more on how to suit ourselves with the <i>mental</i> and <i>physical</i> aspects, partner's mental preparation and etc. (R4).
	Its contents the preparations of <i>mental</i> and <i>physical</i> , the elements of relationship between supervisor, God, family and friends.. All of this training is really important for us (R5).
	Motivation is essential and sometimes someone with high IQ and continues his study in PhD cannot be criticized; this will lead to <i>emotional</i> problem and need to be balanced off. In addition, simple training will be enough for him to be treated (R11).
	Maybe the seminar of <i>mental emotional</i> can be done now in the same time with research methodology because few hours won't enough (R18).
	Majority of students will say the same thing which is we need to be fully prepared from <i>mental</i> and <i>physical</i> aspects and also the new situations with our partner such as our wives and support each other's backs (R15).
Self-Motivation (SE)	Sometimes I need a workshop such as "how to help failed students"? In terms of <i>self-motivation</i> and it helps me better to deliver my message later (R12).
	So far when I ask advices from my friends, most of them make me feel down rather than giving me motivation... plus, they will say bad things and negative and also saying that I will have problems with my supervisor. I quite don't understand why they say like that to me? Not only me, they also talking bad about having a problem with my spouse ... so from here it is important for us to have <i>self-motivation</i> (R15).
Family, Friends & Environment (FFE)	The motivation comes from my <i>friends</i> and some of them are the PhD holders (R10)
	I'm in between of PhD students' <i>environment</i> which is boost my motivation (R10).
	The support also must come from those nearest to us such as <i>family, environment</i> and our <i>friends</i> . And not to forget our students and they become our inspiration of motivation to continue our PhD study (R11).

In addition, the third central theme a training need of PhD candidate is financial training. Two participants (see table 3) have been spoken about financial workshop with two different subthemes; (i) Credit Counseling and Debit Management Agency or well known in Malaysia as *Agensi Kaunseling Dan Pengurusan Kredit* (AKPK) and (ii) financial management training. AKPK is a body which is under the management of credit by *Bank Negara* Malaysia. This agency are not provide financial assistance but help to give the counseling service in the aspects of credit and financial management as well as help them solve the debt burden by restructuring monthly payment with a lower rate and at the same time relieve the burden on debtors. This is maybe or could be occur to the lecturers. That is why financial training also can be as good medium for them to learn about money management in their daily life while studying the PhD degree. Through attending this financial training it could help PhD candidates to manage their money wisely.

Table 3. Theme "Financial Training": Subthemes and examples.

Subthemes	Examples of meaning units
AKPK	Especially the financial aspects, if you are having financial problem and want to continue your study, it might drive you crazy. What's more it needs high commitment for you before continuing your PhD study. That is the most essential part that needs to be prepared. You also can get the talk or one workshop from <i>AKPK</i> , an agency specializing in financial problem and it is free (R11).
	<i>AKPK</i> needs to play their role in giving the training to the selected students before their continue PhD study in overseas. At least the students have reliable sources to depend on about financial management for their PhD study and how to manage it wisely (R11).
Financial Management	The course need to be more on what I said earlier.. more info about <i>financial management</i> like insurance as example..(R9).
	I think the <i>financial management</i> is really important workshop that needs to be conducted among the PhD student. Sometimes few of them cannot manage their money in a good ways (R9).

Furthermore, the religious training is the fourth main themes while *fiqh* and *fardu ain* in abroad are the subthemes of this study. The lecturers who elaborated on these statements are from R2, R3, R6, R8, R11 and R13. All of them are agreed that this religious training of *fiqh* law in oversea is needed to help them to well prepare and answering the doubtful questions that related with the legal *fiqh*. Therefore, the knowledge of *fiqh* aspect in overseas is vital for them. The Participants commented in the table 4 below:

Table 4. Theme "Religious Training": Subthemes and examples.

Subthemes	Examples of meaning units
Fiqh & Fardu Ain In overseas	If it's going to be like this, in my opinion, it is essential to have seminar about it because they are experiencing different time in various zone, different weather, <i>different fasting time</i> and others.. So this matter needs more training, classes or information sharing (R2).
	Few countries such as Norway just have 4 hours of night, so how does the Muslims students going to fast? In Islam, as we know the <i>fasting time</i> is starting from sunrise to sunset. Is it possible for them to fasting more than 20 hours? (R2).

	I need the religious training that focusing on Fiqh and fardhu Ain in abroad. There have some of the questions that we want to know. Some of them are still not clear about this matter of issue, directly it will make them not doing prayer, don't know how to perform jama' and qasar on the flight.. So.. We have to schedule a training purposely for this kind of issue.. (R2).
	It's because I went there during the month of Ramadhan. I observed how many hours taken to fasting and surprisingly I just know they have to fasting around 21 hours. But there are also debate that saying we just have to follow Mecca's time zone or following the locals..so I need more specific workshop or training on fiqh law, fiqh aspects in overseas.. (R3).
	I need the training about the prayers, ablution and tayamum ; and also unexpected obstacles in abroad, we need to be prepared because I don't know what will happen there. At least we know about the fiqh law before pursuing our study (R3).
	That's right! There are countries which is its daylight longer than us. So how about Muslims in fasting month? And also some cold-weather country, how Muslims there will have their ablution for prayer (law aspect of fardhu ain) in case the weather is too cold especially in abroad? (R6).
	Religious knowledge training is a must and important for us. As example in eating, there are situation allowing us to eat what have been forbidden before in case of emergency such as during war or etc. This matter is useful for us to explore and explain to us even though it is quite known but mostly don't know how to practice it (R8).
	It is a must! Really compulsory to be equipped with religious knowledge instead of what kind of field study you are doing because all of the knowledge are given from Allah Almighty..Such as the training of fiqh law in oversea (R11).
	They will explain in detail about longer time taken during fasting month, where to find halal food and others. For me, a person will look for it and having his own initiative. But if we will be exposure about this religious knowledge ... it's better (R13).

The next key theme is health training. There was only one respondent responded the health training is needed for their PhD study. The lecturer asserted that: *"It's because we never care about what we eat and probably we have imbalance eating routine. If we don't take care our health, how we are going to focus on PhD?... As example eating instant noodle all the time is not good for brain...health talks are important for me... It needs to be balanced from the aspect of physical and mental. Usually mental often relate with spiritual, financial, health and others"* (R11).

The sixth major theme is supervision training. Most of the participants (see table 6) indicated their want the supervision training in order to tackle the obstacle that will happen with their supervisor during the doctorate studies. The relationship and connection with the supervisor are the most crucial factors that need to be emphasized among the PhD candidate. This is also one of the factors for the failure rate or success cases for the PhD study. Overall, participants reflected dissatisfaction in dealing with the supervisor. Their need to know how want to tackle their supervisor and the ways in handling the conflict during having a problem with supervisor. Most of them indicated the supervision training is very important to be conducted before their starting the PhD study. It will encourage them to become positive and optimistic for their study. There were five subthemes; (i) build up positive relationship with supervisor, (ii) learn to tackle the supervisor, (iii) Supervisor's Problem (Outside), (iv) Supervisor Attitude (Inside) and (v) Relationship between MOEM and Supervisor that related for this training. All of these elements need to be learned and address during the supervision training.

Table 6. Theme "Supervision Training": Subthemes and examples.

Subthemes	Examples of meaning units
Build Up Relationship	I want to learn how to build up good relationship with supervisor during my PhD study. I need the supervision workshop to make me well prepared to face my future supervisor(R2)
	Like the preparation to face with my supervisor. So for me, supervision training is needed because people always asking about student-supervisor relationship but what kind of relationship? (R3).
	Other than psychology, we also need to know our environment if we want to approach the potential supervisor .. (R4).
	There is problem if we don't know the supervisor that we are assigned with (R4).
	The next obstacle is depending on your relationship with your supervisor and how deep the supervisors encourage you (R12).
	One of the failure factors among students is maybe become from the relationship between students and supervisor (R13).
	"How to make a relationship with your supervisor" is really essential because when I first time went to U.K, the first impression there was how to influence the supervisor . I am assigned with while being there, and it is the main thing to think first (R17).
	The expectation is very high for supervisor as for us we need to put more effort in it. Our performance must be good enough to keep on continuing our level and keeping up with their expectation. Plus, the relationship with supervisor also must be in good condition (R17).
Tackle supervisor	There is a case in other university when a student was discriminating by his supervisor because of religion status. During his first year all seems okay and there is no problem with the supervisor but in the second year, the student didn't make it in PhD. This one is more to discrimination case as the supervisor didn't like Muslims students..how the way want to tackle the supervisor (R4).
	... That's what I mentioned earlier on how to tackle your supervisor and their expectation on us. Even

	<p>when we going there (oversea), we already know on how to tackle them (supervisor) to achieve their expectations. And I think most of the failed students happened because of bad relationship with their supervisor and don't know what they want. Maybe there are some supervisors want their students to do research on behalf of them. That's why we need to be exposed in this kind of nature as preparations (R8).</p> <p>A course on how to <i>tackle supervisor</i> must have and in positive side, students will have fast response from supervisor as they follow the method given (R9).</p>
Supervisor's Problem (Outside)	<p>I need to know all exposure of all the problems facing by PhD students... so that I won't be in a surprise if any case happened. As example the <i>supervisor changing</i> university, unexpected dead and etc.. (R18).</p> <p>Usually when a <i>supervisor changing</i> places or university, the students will be left hanging up and be ignored. At last, the student didn't make it to finish his study in time provided and come back home and did not graduated (R4).</p> <p>There is also a case when <i>supervisor died</i> suddenly and the student need to change the title of research.. This is such a waste of time when a newly assigned supervisor doesn't accept the previous research done by the students with his late supervisor (R5).</p>
Relationship between MOEM and Supervisor	<p>Yeah, <i>KPM</i> (Ministry of education in Malaysia) must fix the relation between them and supervisor and directly delivering any info to them. They can give to <i>supervisor</i> honorarium as token of appreciation. In return, the relationship will be much better and the supervisor will fell more responsible on their students to be success (R4).</p> <p><i>KPM</i> must take action after appointed supervisor. <i>KPM</i> itself should take them as staff as well as to gather information details about them (R4).</p> <p><i>KPM</i> make collaboration among universities and put them (the supervisor and students) in one big group to be given honorarium (R4).</p> <p>In return, both parties, the <i>KPM</i> and the supervisor, need to have known each other and not to forget to appreciate what supervisor had done for students as a token of grateful and appreciation. When <i>KPM</i> and supervisor know how to value each one, students also will be improved in their studies (R4).</p>
Supervisor Attitude (Inside)	<p>Foreign <i>supervisor</i> some of them are very strict. If you didn't finish your study in 5 years, you will never graduate (R5).</p> <p>Some of <i>supervisor</i> purposely extending our study or research in order to use us (students) to do their work (R6).</p> <p>In my view, it really important to have seminar on how to manage <i>supervisor</i>. Because I always see my friends some of them have to control their emotions very well in order to handle their supervisor attitude. And I'm afraid if a fight might break out. So there must be a technique how to control your feeling well until you finish your research or study (R7).</p> <p>There also irresponsible <i>supervisor</i> towards their job scope (R12).</p> <p>Many of my friends fly to overseas and suddenly there were asked to change the topic according to their <i>supervisor</i> order. They seems frustrated (R17)</p> <p>We cannot depend too much on <i>supervisor</i> while doing study or research because sometime the time is not enough for supervisor to monitor us (R19).</p>

While, the seven theme of training need is sharing experience for the PhD candidates. Few participants (R2, R5, R8, and R9) stated that sharing experience can be as one of the valuable training for the PhD candidate. This training enables to give the exposure and gain the true knowledge from the previous PhD holders. Therefore training of sharing experiences assists the PhD candidate to overcome the fears, worries, doubtful and negative perceptions that occurred in their mindset. This training also will develop them in becoming more confidence and develop high self-esteem before starting their doctorate studies. The components of (i) study, (ii) life, (iii) procedure, (iv) supervisor and (v) family were five subthemes (see table 7) that derived from this part therefore all of these elements can be included in the PhD training.

Table 7. Theme "Sharing Experience Training": Subthemes and examples.

Subthemes	Examples of meaning units
Study	They can share how junior can survive outside of the country. The first thing is from <i>learning</i> aspect and also the nature of surroundings there, how to suit themselves (R2).
	Sometimes we cannot achieve our target during <i>study</i> as we hope. We go to the lab every day and doing all researches needed but in the end we didn't make it through. Some of our friends made it and passed the obstacles. So how did they do that? That is the key for them to <i>share their tips with us</i> (R2).
Life	They can give <i>sharing tips</i> for junior how to <i>survive</i> there, from the aspect of study and new situations (R2).
	During the talk, they can tell their story while doing PhD in U.S and how they make their <i>lives</i> there (R8).
Procedure	Those who have studied there in U.S can <i>share their tips and how they surviving</i> there as a way to decrease the burden for junior students before they go continue their study oversea. This will provide them for juniors an image what they have to do and need to be <i>prepared before facing the challenges</i> in U.S (R2).
Supervisor	Sometime the senior students can describe their <i>supervisor characters</i> and the university there, how competent they are to be survived and what is needed to achieve their supervisor expectations. Plus, they can help junior students with their experience (R2).
	In our university, we always have a forum called " <i>experience sharing</i> " in shape of Q&A. This situation will help us to understand what we are not clear about the life in U.S and the tips to handle supervisor

	because they already experienced it and even though there is age gap, but that's not the problem (R5).
Family	For married student and have family, senior students will share useful tips for the married (R2).
	In this session, all of married students will be asked to bring their family to share their experience. It can divided into two session' one for individual and another one for the married students. So, by this way they can understand their partners' situation while continue study there (R2).
	I prefer that the course should come from those experiencing it before such as housewives and how they give commitment and dedication to their partner while doing PhD and more critical to be take care of. That's my opinion (R9).

A foreign language course is another main theme that needed by the participants. A few participants addressed the difficulties and challenges to learn about non English languages. That is for those who further their PhD study in overseas. Their also expressed that these difficulties can be tackled through have a specific foreign language courses for those who are necessary to take it. The participants commented:

Table 8. Theme "Foreign Language Courses Training": Subthemes and examples.

Subthemes	Examples of meaning units
Non English Speaking Country	Citizens there did not use English as main language, they have their own dialect .. so this thing is actually running in my mind ..like in Japan..(R3).
	This things need to be exposed so that when something happen, they will not be shocked. A friend of mine went to Japan and experiencing culture shock. He lost his hope because the difficulty of communication and other things in order to live there.. (R5)
	We need to learn their language such as Japan if we want to study there. Their pronunciation, words and etc. are totally different from what we know. My suggestion is KPM should call them and have seminar here to share their experience (R14).

Besides that, writing and publishing journal workshop is another essential training that needed by the lecturers. Three respondents (R10, R11 and R18) spoke out their needs in this issue: below are the comments that represent their views in this theme:

Table 9. Theme "Writing and Publishing Journal Training": Subthemes and examples.

Subthemes	Examples of meaning units
High Impact Journal	Every year we conduct a special talk about high impact journal writing high impact journal publication (R10).
Experienced Instructor	In this writing journal's workshop, they will have foreign guest which is his expertise in this field (R10).
Reading Ability	Reading technique is one the main focus. We have fast reading technique and locking technique to understand what we have read because sometimes we forget where we read and what we read (R11).
	We only give briefing for research methodology on how to read journal or finding good journal effectively and what kind of good article to be viewed (R18).

The final one is the spouse training. Most of the participants agreed that dealing with their spouse is very challenging especially when they further the PhD study. This training is essential because it can help them to prepare mentally and physically to strengthen their relationship with their spouse. It also will educate their partner to be matured, forgiveness, tolerance and the most importantly is developing understanding towards each other. There were five subthemes that have been expressed by the respondents in which (i) spouse understanding, (ii) stress management, (iii) culture knowledge, (iv) communication, and (v) financial management. Spouse training for PhD candidate is strongly suggested by them (see table 10).

Table 10. Theme "Spouse Training": Subthemes and examples.

Subthemes	Examples of meaning units
Spouse Understanding	Spouses should understand each other that PhD need to be finished in specific time and also his/her responsibility to achieve the target (R2).
	As a man, we have to understand our wife and the wife also must understand his partner's situation while doing PhD. During PhD, most of the time will be spent in lab and not being at home too much. So I think that is quite useful. Not quite useful but it is very useful to understand. We also can put a course or a talk for spouses or married students' partner know what we are doing during PhD, the needs and the importance of it because not everyone knows about PhD procedure (R8).
	I totally agree for us to conduct a course for married students because PhD is not same with working hours. Sometimes certain research required a lot of time to be spent at lab and also at home, we always feel like to write anything regarding our research. At this stage we already put our mind to be focused on our research. I often meet students' partner such as their wives did not understand the real situation of her husband. Even some of them (students) keep complaining about their wife which does not understand the commitment to be given during the study. I think the spouses also need to be explained about this matter as I suggested before and it depends on us how to conduct it and make it tolerate and understand towards each other (R8).
	Majority will say the same as what I mentioned here in order to train our partner to understand us better

	<i>and avoid any conflict</i> (R15). My friend told me that a student had divorce and I am speechless! I don't know whether the story is true or not but the main key is <i>understanding each other's life</i> , career and etc. (R12)
Stress Management	The spouses need to be told clearly and obviously what kind of research of PhD students doing from the aspect of tension, pressure, a dateline which is some people don't get it. While I was doing my Master, I have insomnia for a month and my husband asked me to get some rest and sleeping. But actually I cannot sleep because of insomnia. Feel so <i>stress</i> (R3). I mostly prefer the course should come from those who had the same experience such as housewives and their challenging through the dedication for family that need to be take care of, it is among the critical factor I think the way to handling the <i>stress</i> in our PhD life (R9).
Culture Knowledge	About lifestyle, there will be <i>culture shock</i> and that also need to be focused (R3). Maybe more on how to suit ourselves with <i>new environment</i> , partner's mental preparation, weather and surrounding (R4).
communication	In Japan, <i>communication</i> is the biggest barrier that can lead to stress and tension.. This is what they said from their experience (R5).
Financial management	They need to know better about life insurance especially for those who are married and have children or small family. And not to forget <i>financial management</i> (R9)

The findings of study suggest a model of doctoral training program for PhD candidate were the training of (1) research methodology, (2) motivation, (3) financial, (4) religious knowledge, (5) health, (6) supervision, (7) sharing experience, (8) foreign language courses, (9) writing and publishing journal, and (10) spouse training. Most of the universities are increasingly challenged by government to produce high number of PhD holders among their institution. The Ministry of Education Malaysia (MOEM) was providing scholarship among the lecturers of Malaysian Public Universities to pursue the doctorate studies in local or abroad. However, the number of sponsored lecturers that successfully graduated on time are still not reach the target from the MOEM. Therefore this study is essential to investigate the suitable training needs assessment model for a PhD candidate. That is why this study conducted among the PhD candidate of lecturers at Public universities in Malaysia. In addition, the central problem that arose from this study found that some of the themes training needs assessment model for the PhD candidate above were highly recommended for them to increase the development for the career PhD students and the factor for university success by achieving the highest number of PhD holders as targeted by MOEM.

Investing the training program for a PhD candidate especially among the lecturers want to further their doctorate studies will valuable if majority of them are successful to complete on time in doctoral studies. But in the Malaysian context, at least the MOEM have an effort to find out what are the suitable training that needs by a new PhD candidate before their pursuing the highest degree. The essential preparation need to be taken by each individual PhD candidate in order to make sure their well prepared to finished on time. The training needs assessment by PhD candidate of this study is an important strategy to support them becoming more confident and high commitment to success. This will boost them to concern about the time and period of study given by the PhD candidate. Furthermore, every respondent do not want to delays their doctoral study. Hopefully this training needs model of PhD candidate will be as a guideline in giving the appropriate training and decrease the period of PhD studies among them.

Limitations & Suggestions For Future Research

One of the limitation in this study is the data was collected among the doctoral PhD candidate at the same time as lecturers in public universities. The main reason of this study focusing in public universities is because of the concern from the Ministry of Education Malaysia the number of PhD students that sponsored by them are not graduated on time is less than what it is supposed to be. Like some qualitative research studies, this study has certain limitations particularly in regard to generalizability, as the sample was focusing on those who are pursuing the doctorate studies in the fields of science and technology. Therefore, the future research could be conducted among PhD students in social science fields and the findings might be different from those who are pursuing the doctorate studies on that research area. Moreover, this research used a qualitative research design and the data were collected through face to face in depth interviews. Future study should used the mix methods via quantitative and qualitative study in collecting the data in order to deeper understanding the results of essential PhD training that needs by a PhD candidate among the lecturers in public universities. Plus, another research could be conducted in the private universities by using the same proposed PhD training model for PhD candidates as a guidelines and to test the significance of this model based on quantitative research.

Conclusions & Recommendations

This paper revealed the lecturers and academicians perceptions of the needs of training for PhD students before their pursuing the doctorate studies. Given that the research has been identified and described there were ten model of training needs for a PhD candidate. The results provide a unique perspective and offer new understandings to enlarge to the body of knowledge around issues of the completion of PhD study and the essential kinds of training that need to be conducted among PhD candidate. Developing the human capital of PhD degree can be enhanced through the consistence implementation of doctoral training for PhD students.

All of the suggested training needs that have been discussed in this study are pivotal as one strategy that will help to improve the successfulness of the PhD candidate to become well prepared and targeting to finish on time for their PhD studies. Also important, this study discovered the new ideas from the participants in developing the doctoral training needs for PhD candidate in the context of Malaysia as described by academics perspective. Apart from that, if we are truly aiming to increase the number of PhD holders, the resulted portray and which have been drawn from the findings above need to be practiced and implemented accordingly.

- Recommendation 1: Assign an expertise and experience PhD holders in the same fields of PhD candidate to conduct a doctoral training.
- Recommendation 2: The Ministry of Education Malaysia upgrades the syllabus and the contents of the PhD training to meet the expectation and needs of PhD candidates.
- Recommendation 3: Cultivate and implement a cross-cultural awareness PhD training program specifically for academics in public universities and generally to private universities to further and complete their PhD studies.
- Recommendation 4: The basic needs and support system of the PhD candidates should be revised time by time.

The study recommends that all of the above training needs assessment model that has been proposed should be made and conducted according to the needs of PhD students and their university. Indeed the outcome of the suggested PhD training from this study will be beneficial and could help them for targeting to finish their PhD programs on time. Now, there is an urgent need for the PhD candidates to attend the compulsory PhD student training therefore it will reduce the extension cost among them and minimize the delays duration for their PhD studies.

Acknowledgement

This research was funded by the Research Acculturation Grant Scheme (RAGS), Ministry of Education Malaysia.

References

- Alpine, L.M and Amundsen, C. (2007). "Academic communities and developing identity: the doctoral student journey," in *Global Issues in Higher Education*, P. Richards, Ed., pp. 57–83, Nova Publishing, New York, NY, USA.
- Amini, M., Dehghani, M. R., Kojuri, J., Mahbudi, A., Bazrafkan, L., Saber, M, Ardekain, G. S. (2008). A qualitative study of factors associated with medical students' academic success. *Journal of Social Sciences*, 4, 347-351. doi:10.3844/jssp.2008.347.351
- Austin, A.E. (2002). "Preparing the next generation of faculty: graduate school as socialization to the academic career," *Journal of Higher Education*, vol. 73, no. 1, pp. 94–122.
- Appel, M and Dahlgren, L. (2003). "Swedish doctoral students' experiences on their journey towards a PhD: obstacles and opportunities inside and outside the academic building," *Scandinavian Journal of Educational Research*, vol. 47, no. 1, pp. 89–110.
- Aspland, T, Edwards, H, O'Leary, J and Ryan, Y. (1999). "Tracking new directions in the evaluation of postgraduate supervision," *Innovative Higher Education*, vol. 24, no. 2, pp. 127–147.
- Beauchamp, C, Jazvac-Martek, M and Alpine, L.M. (2009) "Studying doctoral education: using activity theory to shape methodological tools," *Innovations in Education and Teaching International*, vol. 46, no. 3, pp. 265–277.
- Barribal, K. L., & While, A. (1994). Collecting data using a semi-structured interview: A discussion paper. *Journal of Advanced Nursing*, 19, 328-335.
- Burn, R.B (1995). "Introduction to Research Methods". Melbourne: Longman.
- Brew, A (2001) "Conceptions of Research: a phenomenographic study," *Studies in Higher Education*, vol. 26, no. 3, pp. 271–285.
- Bandura, A. (1995). *Self-efficacy in changing societies*. New York, NY: Cambridge University Press.
- Denzin N & Lincoln Y. (2000). *Handbook of Qualitative Research*. 2nd ed. Thousand Oaks, Calif: Sage.
- Feldon, D.F, Maher MA, Timmerman BE. (2010) Performance-based data in the study of STEM PhD education. *Science* 329: 282–283.
- Hockey, J. (2004). New territory: Problems of adjusting to the first year of a social science PhD. *Studies in Higher Education*, 19(2), 177-199.
- Hasrati, M (2005) "Legitimate peripheral participation and supervising Ph.D. students," *Studies in Higher Education*, vol. 30, no. 5, pp. 557–570.
- Kiley, M. (2009). "Rethinking the Australian doctoral examination process," *Australian Universities' Review*, vol. 51, no. 2, pp. 32–41.
- Miles, M.B & Huberman, A.M. (1994). "Qualitative Data Analysis: An Expanded Sourcebook." 2nded. Thousand Oaks, Calif: Sage.
- Merriem, S.B. (1998). "Qualitative Research and Case Study Applications in Education". (2nded). San Francisco: Jossey-Bass.
- Pyhälä, K, Toom, A, Stubb, J and Lonka, K. (2012). Challenges of Becoming a Scholar: A Study of Doctoral Students' Problems and Well-Being. *International Scholarly Research Network ISRN Education*. pp.1-12.
- Pyhälä, K, Stubb, J and Lonka, K. (2009). "Developing scholarly communities as learning environments for doctoral students," *International Journal for Academic Development*, vol. 14, no. 3, pp. 221–231, 2009.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Rotter, J. (1954). *Social learning and clinical psychology*. Englewood Cliffs, NJ: Prentice-Hall.
- Ryan, Gery W. and H. Russell Bernard (2003) "Techniques to identify themes". *Field Methods* 15, 1, 85–109.

- Sadlak J. (2004) Doctoral studies and qualifications in Europe and the united states and prospects: UNESCO, Bucharest.
- Schoot, R.V.D, Yerkes, M.A, Mouw, J.M & Sonneveld, H. (2013). What Took Them So Long? Explaining PhD Delays among Doctoral Candidates. Plus One. Volume 8. Issue 7.
- Schreier, M. (2012). *Qualitative content analysis in practice*. Los Angeles, CA: Sage Publications.
- Wright, T. (2003) "Postgraduate research students: people in context?" *British Journal of Guidance and Counselling*, vol. 31, no. 2, pp. 209–227.