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## Research Capability: Early-Career Academics' Perception of Doctoral Studies

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**Abstract:** The purpose of doctoral education is not only to produce a thesis but also to develop graduates who are highly competent in research, publications and the norms and values of being a researcher. Only a handful of studies have examined early-career academics' perceptions of doing research at the doctoral level. This exploratory qualitative study sought to fill the gap and contribute to understanding of factors contributing to early career academics' research capability development. Semi-structured interviews were used to explore in-depth the issues concerning research, publication, supervision, and networking among early career academics. The data were collected from 19 early-career academics in the first year of their career, who are attached with different universities and in different disciplines in Malaysia. The findings from the thematic analysis identified that supervision, individual's participation in scholarly research activities, and institutional formal learning supported the development of the participants' research capabilities. Although the PhD programme lay emphasis on independent learning, it should be seen as a process that occurs in phases; hence, the research courses offered and support from the supervisor are important to assist the transition to becoming an independent scholar. Based on the findings of the study, it is recommended that universities be more sensitive to the demands and expectations of academic career so that the PhD programmes offered do not merely focus on research but also develop the skills required of future academics at university.

**Keywords:** *Doctoral studies, early-career academics, Malaysia, research capability.*

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### Introduction

In meeting the demand and expectations of academic career, there is increased pressure to perform, which is often measured by the number of research grants, research collaboration, quality and number of publications, and citation rates (Dowsett, 2020; Leathwood & Read, 2013; Macfarlane, 2017). In this context having a better educated and trained academics would contribute greatly towards these demand and expectations (Altbach et al., 2010; Christensen et al., 2020; Leathwood & Read, 2013). Against this backdrop, the stakeholders' expectations of the role of doctoral education have expanded in that the focus is no longer concentrated on producing theses but also producing graduates who are highly competent in research and publications. In response, research on performance of academics has delved into curriculum design and quality of learning processes at the doctorate level and its link with learning outcomes desired by universities (Bao et al., 2018; Jung, 2018). Among the important questions often raised are do graduates complete their study with the necessary skills needed for a successful transition to the academic profession? Drawing upon the retrospective recall of the participants own doctoral education, this study interested to understand the research capabilities of early-career academics. The aim of this study was to answer the research question: 1. What contributes to the development of research skills of doctoral students? The findings would offer insights into the importance of doctoral education in providing quality learning experience for future academics. This study therefore contributes to the existing knowledge on the doctoral learning process and its impact on the research capabilities of academics (Jung, 2018; Park & Schallert, 2020; Shin et al., 2018). This paper begins with an introduction of the context of the study, followed by the theoretical explanation of academics' research skills development and empirical evidence that links the selected variables to career success. The section continues with the method of the study which is then followed by a section that presents the results and discussion and subsequently ends with the conclusion of the study.

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### *Studying Research Skills Development in Doctoral Education*

The Bologna Process categorised studies at the doctorate level as the third phase of higher education (Bao et al., 2018), and classified it as an important qualification for an academic position which is also a symbol of professional scholarly identity (Austin & McDaniels, 2006; Emmioğlu et al., 2017). Graduates with PhD possess advanced research skills and knowledge in specific fields and other transferable skills which would contribute to individual and institutional performance in research (Bao et al., 2018; Bernstein et al., 2014; Bourner et al., 2001). At the doctorate level, the nature of learning which is self-directed is focused on developing and shaping an independent researcher with the capacity to conduct and engage in scientific research activities independently as well as making original contributions to knowledge (Gardner, 2008; Jung, 2018; Mantai, 2017).

The scientific inquiry process encompasses the ability of the researcher to discover new scientific problems, design the best approach to collect data, evaluate evidence, verify theories and communicate effectively. The focus on researcher development involves not only development of research skills but also other transferable skills such as the capacity to think and learn independently, the ability to think critically, communication skills, dissemination skills, networking, and other high-level abilities and skills that are needed to meet the job expectations of an academic career (Barnacle & Mewburn, 2010; Granata & Dochy, 2016). For the purpose of this study, the literature review focused on three main elements of the learning activities at the PhD level that are capable of strengthening the research capabilities of the doctoral students, namely formal learning, engagement in scholarly learning activities, and supervision.

### *Formal Training Courses*

It has become increasingly apparent that more universities are beginning to offer research method courses which are seen as an effective approach towards increasing PhD students' knowledge and skills in research (Coronel Llamas & Boza, 2011; Lovitts, 2008). However, each university has their own research training model while no one standard curriculum in teaching research methods is implemented, and the content is often dynamic (Lewthwaite & Nind, 2016). According to Deem and Brehony (2000) the quality of graduates does not only depend on the thesis produced; it also takes into account the skills and expertise developed throughout the PhD learning process. Thus, the methodology courses that are offered provide more extensive as well as the latest and up-to-date knowledge and understanding of methods and statistics (Daniel et al., 2017). Students entering doctoral programmes mostly have prior knowledge in research and experience of conducting research, and some of them already have prior jobs as researchers or academics. Nonetheless, despite arriving with a range of methodological training and research experiences that they gained previously, the research method courses at the doctoral level are the best way to refresh the students' knowledge and skills as well as to introduce them to more advanced scientific inquiry research methods.

During the early phases of the PhD studies, students have to acculturate themselves to the new academic environment and the research culture as well as deepen their knowledge of the scientific field that they are researching and expand their research skills (Wolff-Micheal & Daniel, 2002). Thus, the research training courses serve as an inclusive and responsive approach to welcome the students to the real world of becoming a scholar. Evidence from several studies suggest that well designed research methods courses help students to avoid isolation and intellectual loneliness in that the courses provide an academic socialising environment so that students from the same field can communicate and exchange their research ideas and share concerns when engaging in the doctoral process (Jazvac-Martek et al., 2011; Mercer et al., 2011). Coronel Llamas and Boza (2011) in his study among doctoral students in education in Spain found that the methods courses gave the students new perspectives regarding the development of their research projects, especially in choosing a more creative way to collect data from their sample. According to Ross et al., (2017) the doctoral training is a preparation to transform students' identity towards becoming an independent researcher and not to be too dependent on the supervisor. Therefore, understanding the relationship between research training courses and the research process would contribute to the discussion on the importance of research methods courses.

### *Supervision*

The phase of conducting research is a phase where students gradually start to move from being dependent to becoming independent (Lovitts, 2005). This is the stage where students begin to build their own voice, become more self-reflective, begin to apply the knowledge experience gained from coursework and transfer it to the real research setting; all these require the students to demonstrate much more autonomy. In this phase, the supervisor plays an important role in guiding and teaching the students the aspects or elements involved in research (González-Ocampo & Montserrat Castelló, 2019). The supervisor supports and nurtures the students by inducting them into the academic community, forming their scientific thinking and attitude, getting them to learn and practise the research process and assisting them to become an independent researcher and a competent scholarly writer (Caffarella & Barnett, 2000; Carter & Kumar, 2017; Overall et al., 2011; Wang & Li, 2011). In this context, students' differences in terms of educational background and levels of intellectual ability, previous educational experiences, personal attribute and culture require different supervisory approaches (Goldman & Goodboy, 2017).

Providing critical and constructive feedback to the students is key to developing the students' research capabilities where the students get to learn their strengths and weaknesses (Kobayashi et al., 2015; McCallin & Nayar, 2012; Overall et al., 2011). Supervisory feedback is related to the development of scholarly identity especially in connection to writing (Beckner et al., 2009; Hey-Cunningham et al., 2021). For PhD students, thesis writing is one form of academic writing that has to be written comprehensively and critically to demonstrate the maturity of the writer's thinking in arguing, analysing, and presenting the findings as well as in discussing and summarising the overall findings of the study (Sala-Bubaré & Castelló, 2018). The cognitive process in writing is a form of skill that needs to be learnt and requires constant and continuous practice. In this regard, feedback from the supervisor greatly helps to improve students in terms of organising their thinking in the writing (Lee & Murray, 2015).

The quality of supervision received by students is related to the satisfaction and success of students in completing their thesis (Devos et al., 2015; Johnston et al., 2016; Shin et al., 2018). Students with sufficient level of guidance are capable of being independent and carrying out their research. In contrast, poor supervision and lack of academic support will result in dissatisfaction and students taking longer to complete the thesis, and even dropping out (Devos et al., 2015). Quality supervision has clear benefits on students' future research undertakings and increases the possibility of the students applying the same supervision practices that they experienced and acquired during their doctoral studies when becoming academics themselves.

### *Engaging in Scholarly Activities*

Professional socialisation process through engaging in scholarly activities is an integral part of doctorate education and is considered an additional learning process that contributes to their scholarly identity development. Students' participation in various educationally activities such as attending workshops or training related to research, attending conferences and presenting scholarly papers, and publishing articles in journals are perceived as practical ways to develop new knowledge, build network with other researchers, disseminate their findings and raise visibility (Chong & Clohisey, 2020; Park & Schallert, 2020). This socialisation process is a practical step for the students to acquire knowledge and skills as a scholar through the process of communication, observation, feedback, enquiry, and many others (Weidman, 2020; Weng, 2020). Weidman (2020) remarked that this socialisation process helps students to internalise thinking, attitude and behaviour and develop professional identity. Attending conferences, for example, offers an opportunity for novice researchers to engage with other prominent scholars in the same field (Ghosh & Githens, 2009; McAlpine et al., 2012). It is the best platform for students to become part of the research community in a particular scientific discipline through the sharing of research findings, discussion, and exchange of ideas. In this respect, Meeuwisse et al., (2010) perceive doctoral students as active agents who are always looking for opportunities to develop their academic potential. Apart from students' own effort, participation in these scholarly activities is also driven by the institution. Most universities provide sources of funding to encourage PhD students to participate in seminars.

Another important scholarly activity that has significant impact on their scholarship development is producing quality articles from the research conducted. Success in publishing articles is part of the hallmark of students' productivity and excellence (Chung & Petrick, 2011; Gu et al., 2011; Lindahl et al., 2020). It is seen as a beneficial exercise and is aligned with the increasing need for academics to publish in high quality journals. In this regard, support from the supervisor is crucial. Consequently, Chung and Petrick (2011) assumed that working under the supervision of leading scholar's increases students' publication productivity. Some universities have begun to include the requirement of article publication as part of their graduation requirements (Aitchison et al., 2010; Raddon, 2011). Support and encouragement provided by the institution and supervisors enable students to complete their studies and graduate with evidence of presentation in conferences as well as publication of articles which promote the long-term benefits of producing competent graduates.

### **Methodology**

Descriptive qualitative research design within the interpretive paradigm was adopted to capture the research experience of early-career academics during their doctoral study. This research design is suitable for examining individual experiences through descriptions provided by those involved based on their individual interpretation of events (Silverman, 2020). The participants of this study consisted of early-career academics at one research university in Malaysia. The participants were selected using purposive sampling. The selection criteria for the study were new academics who had just joined the faculty and were in their first year of career. More importantly, the participants were willing to share their experiences of the phenomenon being studied. A total of 19 participants agreed to participate in the study, comprising 12 female and 7 male participants.

Semi-structured interviews were employed to collect the data. The interview questions were developed to understand participants' experiences related to research activities including their publication experience. The participants were asked to (1) share their formal training experience at university; (2) describe their supervision experience; (3) share their experience on publication and of attending conferences; and (4) share any other experience related to their research experience. An invitation email was sent to each participant to explain the aim of the project. After they agreed to participate, a second email was sent to them prior to conducting the interview. The email contained the interview guide

and informed consent form to assure the participants of the confidentiality of the recorded information. The participants were encouraged to share experiences which they felt comfortable sharing and were permitted to avoid any experience which seemed sensitive. Each interview was conducted face to face and through phone took between 40-60 minutes. The interviews were digitally recorded and later transcribed verbatim for analysis.

Thematic analysis was adopted to extract themes and subthemes from the transcripts following the framework by Braun and Clarke (2006). Data analysis was manually performed following the four-phase thematic analysis approach suggested by Miles and Huberman (1994). The four phases included (a) carrying out a preliminary analysis which began with familiarisation of data through reading the transcripts for several times and writing notes; (b) coding the transcripts by segmenting and highlighting the text; (c) using the codes to develop larger themes by grouping similar codes; and (d) connecting and interrelating the emerging themes. Additionally, several methods were used to ensure and support the trustworthiness of the data. First, member-check was conducted by sharing the interview transcripts with the participants where they were asked to provide feedback and make any clarification they wished to include. Secondly, the themes and subthemes were reviewed by peers in the same field. Peer examination was used to ensure that the codes represent the interview data.

### Findings

Previous learning experience helps individuals learn from their past and guide them in performing new tasks. Thus, to understand the value of doctoral education on early-career academics' research capabilities, the findings provide the participants' interpretation of their doctoral educational experiences in meeting the essential functions, tasks and responsibilities as a researcher in a university setting. Three major themes from various learning resources were identified to support the development of the participants' research capabilities, namely supervision, scholarly research activities, and formal learning.

### Supervision

Supervision is one of the central elements of a doctoral student's learning process. The participants' opinion regarding the supervision process and its contribution towards the development of research skills was identified based on the following themes: independence, maturity in thinking, improvements in writing skills and proactive behaviour.

For the first sub-theme, the focus was on the role of the supervisor in encouraging the participants to feel confident and accountable in exploring the research they wished to conduct at the beginning or the early phase of research. As described by Participant 1,

"It's all on you...whereas you need to take initiative to come up with ideas and strong justification for the research projects" (Participant 1)

This view was further supported by Participant 5 who mentioned that,

"[...] the supervisor's job is not to give suggestions of titles but more towards helping on how to find gaps in the research, within a small scope but one that would have a huge impact in terms of generating new knowledge" (Participant 5)

As an expert and experienced researcher, a supervisor has the capacity to guide the participants in developing their thinking systematically and is able to provide more constructive views on their research proposal which would indirectly help the participants learn how ideas develop. The following excerpts taken from the interviews illustrate the way the supervisory process helped construct the participants' critical thinking and reshape their ideas through focusing on fundamental questions.

"[...] basic questions from the supervisor such as "What is your opinion on this?"; "What do you think?"; and "So what?" made me more reflective and critical each time I read and write" (Participant 2)

"To think like a scholar, you need to read more, go to the fundamental of the knowledge or the theory, then you know the progress and the development of the knowledge, not simply cite what is in the literature" [Participant 6]

Support from supervisors who have the expertise and experience is important in developing students' knowledge base with regard to the issues being studied or examined. As an academic, mastery of the knowledge base in the field is important. In addition, analysis under the conceptual theme of independence revealed that support provided by the supervisor motivates students to carry out research that is impactful. As an example, Participant 12 mentioned that even though the method used in his research was beyond the expertise of the supervisor, the supervisor provided support in terms of providing help and support. Participant 12 explained,

"The methods that I used was outside the expertise of my supervisor, so I did a lot of exploration on my own. However, Prof. continued to help by introducing me to lecturers at other universities who have the expertise and providing funding for me to attend courses related to the method" (Participant 12)

The same kind of support was given by the supervisor of Participant 17; the supervisor was willing to travel to Malaysia from the UK to collaborate with a local engineering company so that Participant 17 would be able to use their equipment to conduct her research.

Another important contribution of the supervision process is in developing the participants' academic writing skills. The ability to write a thesis critically and analytically is an important skill that is crucial for a PhD student and an academic. The feedback provided by the supervisors whether in the form of written drafts or orally helped the participants of this study identify their weaknesses. Based on the findings, the feedback they obtained from their supervisors helped the participants to further refine their academic writing in terms of presenting arguments, structure of writing, coherency of ideas, clarity and consistency. For example, Participant 4 provided her opinion regarding clarity of her writing and stated that,

“My supervisor often reproached my weaknesses in delivering an idea clearly and my focus in writing as well as how I showed the development of ideas between each sentence” (Participant 4)

The views regarding academic writing were more pronounced and apparent among the participants who pursued their studies abroad. Even though these participants met the university's English requirement, they still faced difficulties in meeting the language expectations of the native speaker supervisor. This conflict was clearly expressed by Participant 19 who mentioned that,

“My problem is how to transfer my thinking in my writing, I want my voices been heard...I don't want to depend on how other people write, but this is very difficult” (Participant 19)

In another example, Participant 7 shared that,

“At some point I will explain my idea in plain English, then she will give direction on how to write it more academically” (Participant 7)

For most of these participants, the constant feedback and support and also self-effort throughout their PhD studies had helped them to transform themselves. In this case, familiarising themselves with the writing style and their consistent effort in improving their writing are the key. For example, Participant 7 mentioned,

“I can see the progress at the beginning the writing so shallow, not critical. To the extent my supervisor asked me to see how other native student wrote their thesis....through consistent practices you can see improvement....even my supervisor noticed my progress and improvement in quality of my writing” (Participant 7)

Issues of struggle and challenges faced by non-native speakers when writing in English are widely discussed, and this finding adds to the current research. The ability to develop academic writing skills is critically important for researchers as such competencies are highly demanded in research (Coronel Llamas & Boza, 2011; Onwuegbuzie & Leech, 2005). The findings showed that the feedback received by the participants helped them deepen their content knowledge and improved their academic writing and other transferable skills learnt through the feedback process, building the foundations for them to become independent self-regulated scholars who are capable of managing their academic work especially research effectively.

The final sub-theme presents findings related to the contributions of the supervisory process in developing the participants' proactive behaviours. In this study, the notion of proactive behaviour is linked to the participants' readiness to take on the challenges to explore their research based on a new approach, being consistent in terms of reporting their work progress to the supervisor and having an open mind towards the feedback received.

As an example, Participant 13 openly accepted the supervisor's suggestion to conduct her research qualitatively in contrast to the original plan or proposal of conducting it as a quantitative research. Participant 13 mentioned,

“I am more skilled in quantitative research but when the supervisor suggested that the proposed study is more suitable to be carried out qualitatively...I considered it as a challenge. I need to carry out in-depth reading, change my research paradigm and delve deeper into qualitative research” (Participant 13)

A similar experience was also shared by Participant 11 who furthered her studies in the field of sociology which is different from her original field of Mass Communication. In addition to facing the challenges of mastering a new field of knowledge, she also had to master ethnographic research; however, she was positive about it as she said, “*I am positive because my supervisor very encouraging and supportive*”.

Both of the cases above show the participants' proactive attitude towards their supervisors' feedback where they critically reflected on the feedback and acted upon the advice. This does not mean that they lacked a strong sense of ownership in defending their proposal; on the contrary, they were more respectful of the views of their supervisors whom they considered as having more expertise in the area and thus, the participants demonstrated confidence in their supervisor and were determined to complete their research project.

*Engaging in Scholarly Activities*

This theme explores the participants' perception and experience in various scholarly activities which have significant impact on their identity as academics. Three important themes that supported this theme included attending conferences, producing publications, and networking. All the participants have experience of attending conferences whether as participants or presenters. According to the participants, it is the best platform for them to disseminate research findings and get feedback on the findings obtained; it is also seen as a form of training or practice in questioning and answering to any queries and suggestions from the participants. In addition, it is perceived as the best platform for them to observe how experienced scholars present their results and the way they deal with the questions from the audience. As Participant 17 said,

"Presenting papers at conferences enabled me to share research findings with other researchers...All the questions, suggestions and views from the participants helped me to improve the quality of my research. This process indirectly built my confidence" (Participant 17)

The next academic activity which was considered important by the study's participants is publication. Experiences were shared by some of the participants who had the opportunity to publish throughout their studies. Eight of the study participants who studied locally demonstrated more extensive knowledge and experience regarding the process of article publication. As a result, knowledge and experience related to publication were more pronounced among the participants who studied locally. They seemed to be more confident in sharing their experiences related to all the processes involved in publishing such as the submission process, dealing with reviewer comments and many others. As shared by Participant 12,

"I wrote on my own capacity and initiative since I was in my 1<sup>st</sup> year of PhD...my supervisor trained me from the beginning, as a future academic I need to have publications, I need to train myself to publish papers in high quality journals in my own field, so I won't feel pressured when I join academics..." (Participant 12)

Based on their experiences, all admit that writing an article is a challenging process. As stated by Participant 2,

"[...]writing articles involves high cognitive skills, the ability to reflect and produce ideas based on clear and precise judgement...and this is something that needs to be learnt from more experienced scholars. To complete an article, I submitted seven drafts to my supervisor...only then did I submit it to the journal. It is not an easy process, and I see it as a learning process that provided me a lot of guidance" (Participant 2)

The extract above demonstrates that writing requires training and guidance. In this context, the role of the supervisor is to assist students to develop the skills that would enable them to become effective and successful authors. The same notion was also shared by another participant, she mentioned that she polished her writing skills by attending several training and workshop sessions to get practical tips and strategies from prolific scholars. As she said, "...*there are skills, approach that you need to know, so the publication process will be easier*". Apart from that, the participants who graduated locally also shared about the difficulties they faced in writing good quality journal papers in English and in meeting the expectations of the reviewers of the journals.

Moreover, the participants who graduated from overseas claimed that publication was not compulsory during their doctoral studies and most of them only published their research after they graduated. According to these 11 participants, their supervisors were more focused on building their competencies in writing dissertations and constructing their thinking. The difference in academic culture in which the focus was more on the quality of scholarship is apparent in the views of Participant 5 who studied in one of the universities in the UK. She explained,

"My supervisor is an editor of one of these journals...but he doesn't emphasise on publication, but teach me on how to be familiar, be creative and learn what is all about being a researcher...he teach me how to produce a quality dissertation, write critically, be an authentic researcher" (Participant 5)

The same view was presented by Participant 3 who respected the standpoint of her supervisor who placed more emphasis on the aspect of quality in publication. Participant 3 mentioned,

"...the supervisor had her own stance in relation to publishing PhD work. According to my supervisor, PhD data is still in the process of data consolidation and has not been reviewed by the readers, especially when I do qualitative research, it may change...the findings not well developed, and was more amenable for the research materials to be published after the viva because it would then have gone through the evaluation process of other readers" (Participant 3)

In fact, for the participants of this study who furthered their studies overseas, the challenges of getting enculturated to a new academic system and culture, overcoming language constraints, developing writing skills in English as well as mastering the project were viewed as challenging enough and required them to give their total concentration. As Participant 6 mentioned, "...*struggle in completing PhD is more intense than focusing on publications*".

Nevertheless, the participants also expressed their feelings of regret because they did not have the opportunity to publish since publishing is considered an important skill for an academic. Furthermore, they felt that they lagged behind when compared to their other colleagues who were more advanced in terms of publication. The pressure was even more evident when publication is among the conditions set by the university for the appointment to the post of university lecturer.

“It’s a real struggle for me, when I have to familiarise myself with the term of indexed and high impact journal, and learn from scratch how to send journal, dealing with review feedback and other related process, and I noticed I was lagging far behind compared to my academic peers who graduated from local universities, their knowledge on publication far advanced then me because it is a requirement for graduation” (Participant 5)

The excerpt above describes the conflict faced by the participants as they are tied to the value of scholarship held by some academics. The next analysis concerns the theme of networking which demonstrates the awareness of the participants of the importance of academic networking. Conferences are seen as the best platform for the participants to build a network of collaboration with other academics and PhD students. This is detailed in the excerpt below from Participant 13 who stated,

“The opportunity to build network is widely open especially when participating in conferences overseas, so I took the opportunity to introduce myself and exchange emails so that in the future if I want to collaborate on research or publications, I know who to contact”. (Participants 13)

Only one case presented the extreme effort of being active by exploring opportunities for internship in Germany for three months, attending conferences in the United States, and conducting visits to Cambridge as a platform to meet other academics in the field and to gain a wider perspective in the field studied (neuroscience). According to Participant 19, network in the form of internship, visits and attendance at neuroscience seminars helped him to meet experts in the field as well as gain deeper understanding of the field studied. As Participant 19 explained,

“...for me, PhD is not just about completing the thesis, but a process of building intellectual maturity...so sometimes, you need to go out from your normal routine and meet prominent scholars within the field at different universities or countries to broaden your view and build networks” (Participant 19)

### *Research Training*

An interesting discussion evolved on the importance of early acquisition of research knowledge and skills as it prepared the participants to become independent scholars. However, the implementation of research method courses varied across universities. Overall, all the participants articulated the wider benefit of the research methodology courses offered during the early semesters of study as it expanded their knowledge and provided the necessary skills and approach to undertake research projects. The participants perceived the courses as an important learning opportunity that deepened their knowledge of the research processes, assisted them in planning and managing their research and developed early insights into the competencies needed by a researcher. As Participant 9 said,

“The methodological courses not only open your mind to various research paradigm, ...for me it’s like an introduction session, to know academic expectation at PhD level before we venture to the real research process” (Participant 9)

Apart from exposing the participants to the basics of understanding of “*what you need to know*” and towards acting and thinking like a researcher, the knowledge they acquired may be applied to different contexts; for example, the knowledge obtained also helped them in understanding, analysing, and interpreting research materials such as journal articles that employed different methods. Participant 13 for example mentioned,

“[...]you need to have knowledge of both research, at least you know how to read and interpret the results of the data, whether it is quantitative data or qualitative data” (Participant 13)

Additional comments included the research methodology knowledge being practical for them when supervising the research projects of their own students. As Participant 8 said,

“As academician you need to have fundamental knowledge of research even though you specialised or expert in one research methodologies” (Participant 8)

In addition, a variety of learning activities such as group discussions, presentations and assignments helped to develop their thinking skills and most importantly, helped to give directions in incorporating suitable research methods in their research projects. For the participants, the assignments given during the research method courses helped them to be more aware of the various research skills. As Participant 1 explained,

“...for my qualitative class, we’re required to do small projects such as collecting data by interviewing participants, analysis data, interpret data and then prepare the report...I do learn a lot from this hands-on learning...it makes me more confident to embark qualitative study in my own PhD project” (Participant 1)

The above findings illustrate the importance of research method courses in building the foundation knowledge of methodology for graduate students and early career academics.

### Discussion

The aspect of excellence in research is one of the important core values for an academic. Thus, developing academics who are able to carry out quality and impactful research is the key to the excellence of a university. Apart from being seen as a form of progression in the aspect of skills, knowledge and professionalism, another important aspect that contributes to the competency of an academic is education at the doctorate level (Greer et al., 2016; Mantai, 2017, 2019). For students having clear career orientation as a future academic, learning research skills, thinking skills and academic work practices helps develop their professional scholarly identity. This would enable them to adapt quickly to the research demands and in meeting the performance expectations of the university (Baker & Lattuca, 2010; McAlpine & Amundsen, 2009). In this study, the changing nature of academic climate at university and the growing emphasis on research excellence propelled the interest to explore the extent to which education at the doctorate level is able to develop the competencies required of a researcher.

The capability of conducting research is perceived as a fundamental asset of an academic. In this regard, PhD programmes train students to conduct research independently and critically within one area of specialisation with specific methods and analytical approach, and finally contributing to the development of new knowledge (Lovitts, 2008). The findings of this study support the role of the supervisor in guiding and assisting students in developing their identity as an independent researcher. In this regard, the supervisory process is seen as a phased process that begins with developing the foundation of students' thinking and fundamental understanding of the knowledge discipline being studied. This aspect is important for students following the traditional PhD programme which focuses fully on the production of a thesis compared to the comprehensive PhD programme. The justification to this statement is because as an academic, mastery of a knowledge discipline is crucial especially when their job does not only focus on research but also teaching and supervision. Thus, this profound understanding of knowledge gives an advantage to academics to explore the knowledge discipline more extensively.

The importance of mastery of the foundation knowledge in relation to research methodology has also been discussed in the previous section through the courses offered during the early semesters of the doctoral study. The offering of courses during the early semesters depending on the programme structure of a university is seen as an important academic socialisation process. In addition to deepening their knowledge of methodology, students have the opportunity to interact and build relationships with fellow researchers as well as other academic members (Kingsley & Romine, 2014). In line with the concept of anticipatory stage proposed by Weidman, (2020) the socialisation process in this early phase helped the participants of this study to build a more focused expectation in terms of the research process, knowledge and skills required, attitude, behaviour, cognitive expectations as well as ways to manage and plan the research project. They feel supported and facilitated for the next journey which requires them to reapply the knowledge and skills acquired in the context of the actual research. Indirectly, the opportunity to interact and assimilate in the new academic environment is able to curb the syndrome of isolation among students. Furthermore, in this study, the early-career academics perceive a need for change in terms of the structure of the traditional PhD programme that focuses fully on research. The participants were of the opinion that universities need to provide a benchmark with respect to the courses offered because they are not uniform or standardised. This is important because the knowledge is important as preparation for the future academics or researcher. According to the participants, they had to take their own initiative by attending workshops in order to gain deeper understanding of a method used or employed. They did not perceive the courses offered as comprehensive and adequate enough as the ones offered simply focused on two paradigms of research.

This study supports the findings of previous research in terms of the importance of the supervisor in developing scholarly identity. Constant support and guidance from the supervisor are directly and indirectly important throughout the learning process (Odena & Burgess, 2017; Orellana et al., 2016). For example, for some of the participants who explored their study using new methods and analysis, their supervisors assisted them by connecting them with other lecturers who have the expertise, and to the extent of sponsoring him to attend related training to help with the research process. Along the same line, a participant who pursued an engineering PhD shared her experience where the supervisor was willing to travel all the way to Malaysia to help find a lab for the experiments. These are examples of the support system provided by supervisors which help to nurture student development. This has significant impact on student motivation in doing their best in their studies. Effective supervision prepares doctorate students to think and act like a researcher and contributes to their long-term development as a researcher (Sefotho, 2018). It is considered an important start-up process as participants will continuously develop their research skills in order to meet the expectations of different research. The supervisory process that students go through is part of experiential learning that inspires or inform them to be better supervisors themselves. This is aligned with Kobayashi et al., (2015) suggestion that the development of supervision skills starts during the student learning process.

Engaging in scholarly activities has important implications on how the participants prepared themselves to become academics. Communicating and disseminating research findings is one of the key aspects that is increasingly emphasised at the doctorate study level. The findings of this study emphasise the need for developing article publication skills at the



doctoral level. This is in line with the academic career orientation that places publication as a measure of productivity and performance. For some universities that put publication of journal articles as a graduation requirement, this step indirectly exposes students to the skills of writing and publishing articles as well as builds confidence. The results of this study are also consistent with those of previous studies revealing that the requirement to publish is influenced by university policy and the support received from supervisors (Lei & Hu, 2015). Whether it is a condition set by the university or their own initiative, the participants felt that as future academics, these skills need to be developed at the doctoral level. In this regard, the participants mentioned that it is a form of training, skill and technique that needs to be learned and acquired. This process of learning takes place through the guidance of the supervisors or on the initiative of the participants themselves who attended various indexed journal writing workshops offered by the university or external parties. However, for some universities with different academic orientations, publication at the doctoral level is not a requirement. In contrast, the supervisors placed more emphasis on training the participants to develop their thinking as a scholar and producing quality theses. In this case, the principles and values of scholarship practised by each academic influenced their perspective on publication of a research that is still in the process of validation. Indirectly, the supervisors underscore the concept of quality in publishing academic materials. However, among the weaknesses of this system are that the participants felt they were lagging behind in terms of article publication skills and the opportunity to learn from supervisors who have excellent publication record. On another point, the participants also felt that they lacked confidence and felt pressured when they view themselves as lagging behind in terms of publication compared to the participants who graduated locally. This is because most of the universities where they work put publication as an important outcome from their PhD studies. Most of the early career academics faced conflict when they had to publish in the first year of their career despite knowing that the publication process takes time. In this case, the participants who experienced the overseas academic system felt that the system lacked some of the valued attributes of core academic tasks in the doctoral study context.

Attending conferences is another traditional way for the participants to strengthen and develop their scholarly identity (Cherrstrom, 2012; Kuzhabekova & Temerbayeva, 2018). It was considered as the best platform for them to engage with members of the academic community that come from a wide range of background and expertise. Additionally, attending conferences has a significant impact on the confidence of the participants in sharing their findings with other researchers, in getting involved in academic discourse and in exchanging information and knowledge with others. This opportunity indirectly makes them visible to other researchers. Furthermore, the contact that they established while attending the conferences was perceived by the participants as a way of initiating long-term relations for any collaboration in research or publications in the future. The concept of networking was not only viewed by the participants in the broader context of conducting visits to other universities and undergoing internship, but also through collaboration with other universities in the capacity of an intern or a visiting academic. This process is seen as important because doctoral students can then validate the knowledge learnt by meeting scholars in the related field, go to the research institutions that are conducting studies related to the field studied as well as obtain expert views on the research conducted. According to the participants of this study, the process of interacting with academics of various levels and fields makes a person more motivated to be creative in their field once they themselves become an academic. More importantly, through this networking process, the doctoral students would have built relationships with experts, and if there is a need to carry out research later, they would already have established the relationship. In this regard, the desire to depart from the norm is something that needs to be encouraged and supported. Efforts to provide funds to attend conferences such as those carried out by universities abroad need to be expanded further. Doctoral students need to be encouraged and supported in expanding their network beyond the ones they meet in their normal routine or activities as some of the participants in this study who shared their experiences revealed that it has helped them expand their expertise and knowledge.

### Conclusion

Experience of studying at the doctoral level plays a significant role in training future academics towards becoming a competent and independent researcher. In the context of this study, it was found that the quality of educational programmes and supervision profoundly helped to develop the knowledge, skills, and identity of the participants. Thus, the traditional concept of independent learning at the PhD level needs to be revised as each student comes to the programme with different educational background, culture, and intellectual ability. Research methodology courses in the early semesters of doctoral studies are perceived as an important phase that would help students to be encultured into the research culture. This study also stressed on the role of the supervisor in contributing to students' research competency. Mutual engagement, constructive feedback, and support were perceived as essential components of successful learning experience. The student supervisory experience in the context of this study was only focused on research rather than exposing students to aspects related to professionalism as an academic member. The same was with the aspect of publication since not all universities focus on the importance of developing students' credibility in producing quality publications. This matter needs to be re-examined because publication is one of the main tasks of an academic. Indirectly, this shows that the research experience participants encountered at the doctoral level did not fully embrace the need of universities. Doctoral students need to be encouraged and supported to broaden their potential in terms of disseminating research findings and networking beyond the normal routine as this would help PhD students to develop their talent.

### Recommendation

The findings of this study have disclosed some of the important experiences that are relevant in forming an active researcher for later productivity. It is suggested that future research focuses on one university and one discipline to gain deeper understanding into the experiences of doctoral studies for each of the study participants. The findings of this study showed notable differences in the experiences of the early-career academics who furthered their studies locally and those who studied abroad. Each university has their own system and practices that are different from other universities, which indirectly influence the development of identity and competency as an academic at university. Subsequently, the study participants need to be expanded to involve supervisors to reinforce and strengthen the findings related to the principles and practices that are practiced by supervisors.

### Limitations

There are some key limitations of this study that could be addressed in subsequent research. As a qualitative study, the focus was on a small sample and was not aimed at generalising these findings to a broader context. As an example, in relation to the aspect of publication, not all universities and supervisors abroad discourage publication at the doctorate study level. In this case, the findings were focused on the specific experiences of students and policies of specific universities. Nevertheless, these findings indicate the actual reality of doctoral studies that needs to be improved in line with career expectations as an academic. An extensive study can be conducted to obtain the perceptions of early-career academics in relation to studies at the doctoral level as well as its relevance in the context of the requirements and expectations placed by the universities on them. This is because the higher education phase is an important phase that would enable them to develop knowledge and skills needed as an academic.

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### Authorship Contribution Statement

Mydin: Conceptualize and designing the study, collect and data analysis, writing. Surat: Collect, data analysis, and editing.

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