

STUDENTS' PERCEPTIONS TOWARD POSTGRADUATE STUDY: A PRELIMINARY INVESTIGATION

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Abstract: *Despite the sharp increase in postgraduate enrolments, universities have been overwhelmed with problems of low completion rates among postgraduate students. The latest statistics revealed that the doctoral graduation rate is about 40% at a global level whilst only 12% managed to complete their studies on time from a public university in Malaysia in 2015. Today, postgraduate students' ability to complete their studies on time has become one of the main concerns of universities. Universities place a lot of attention on graduating on time because it is one of the criteria for university ranking. When a student embarks on postgraduate study, his/her aim would be to graduate on time. However, there are many factors that contribute towards this aim. Thus, this preliminary study investigates students' perception towards their postgraduate studies. It explores the skills acquired by the students and the challenges that they have faced thus far in the duration of their study. The sample for this investigation were 66 year one and year two postgraduate students in a public university in Malaysia. A quantitative survey research design was employed to explore postgraduates' perspectives where data was collected using an adapted questionnaire. Initial findings revealed that the postgraduate students perceived, even though they were in the early stage of their study, they were moderately aware of the challenges they faced in their studies. Their greatest challenge was self-management followed by academic competencies. The least challenge they perceived was their emotional state. Meanwhile, the overall acquired skill among the postgraduate students was comparatively low. The students perceived their writing skill was the least acquired skill and the more acquired skills were the conceptual and critical reading skills.*

Introduction

Universities around the world are becoming more competitive, particularly in terms of ranking. One of the contributing factors to the ranking is the number of successful PhD completion. This paper, based on an on-going research, attempts to report the preliminary findings of the postgraduate students' perceptions of their studies.

A postgraduate degree is a degree undertaken after completing a bachelor's degree. Postgraduate studies can be done full time or part time. Many of the postgraduate candidates, if self-paying, would work and study part time. Thus, juggling both work and study can bring about many problems. The nature of the postgraduate study requires independent work. Even for full time students, this could pose some problems. These issues have an effect on the time taken to complete the degree, be it Master or PhD.

There are numerous studies, as early as in the 1960s, carried out to investigate how long it took for postgraduate students to complete their degrees. Berelson's longitudinal study (1936-1957) published in 1960 reveals that the median time taken to complete a postgraduate study was about 8 years (combined fields), i.e. a range of 6-7 years among the sciences and 10-11 years among the social sciences (Berelson, 1960). Subsequent studies had one major concern that is the time taken to complete a postgraduate degree. Tuckman et al. (1990) in their longitudinal study showed that the median time taken to complete a postgraduate study increased from 8 years to 10.5 years in about twenty years. The finding was similar to Berelson's, where the science postgraduates took slightly lesser time than those in the social sciences. These early studies focused on the time taken to complete a postgraduate degree; nevertheless, the focus was on the time taken. Previously, graduation on time was not a major aim to be achieved.

In a more recent study conducted by Schuman (2014) entitled "Ph.D. Completion Project", the estimated completion rate of a postgraduate degree is about 10 years. In fact, there is an increase in the time taken to graduate compared to the late 20th century. Despite the increase in the average number of years taken to complete postgraduate theses, it is noted that the percentage of the completion rate within 10 year is highest among STEM (Science, Technology, Engineering and Mathematics) with about 55-64% completed within a decade and about 49-56% for the social sciences and humanities. These findings seem to concur with the studies of Berelson (1960) and Tuckman et al. (1990) that more of the science postgraduate candidates are able to complete the theses compared to their social science and humanities counterparts. Subsequent studies had one major concern that is the time taken to complete the postgraduate degree.

To graduate on time among postgraduate students is always referred to completing a postgraduate study within the stipulated time. The process of completing a postgraduate study is described as experiences gained by postgraduate researchers. Nevertheless, the amount of such experiences gained differs among postgraduate researchers. The importance of the process is emphasized in terms of knowledge as well as the experience which add to career development. The knowledge is always highlighted as a significant point to make a difference in the contribution of career development (Kinash et al., 2015). On the other hand, completion of the postgraduate studies does not only contribute to the experience of gaining knowledge among the postgraduate researchers but also reflect effective supervision among postgraduate supervisors (Taylor & Beasley, 2005). Hence, graduating on time is not only important in terms

of achieving a university's Key Performance Indicators (KPI) but also shows the development of supervision mechanisms. A successful supervision, producing postgraduate students who graduate on time, indicates quality mentoring with good performance in the specific field. Indirectly, postgraduate students who undergo proper mentoring will gain some good experiences which provide guidelines for mentoring in many different fields in any career development (Bozeman & Feeney, 2007).

Statement of Problem

The quality of supervision is always seen as a motivation for the postgraduate students to develop more research skills. Sidhu, Kaur, Lim and Chan (2017) in proposing a framework for postgraduate supervision highlighted that a holistic approach hinges on the interconnectedness and interdependence of three main players in the postgraduate study – i.e. the student, the supervisor and the institution. Hence, other than institutional factors as highlighted by Raffing, Jensen and Tønnesen (2017), Manchishi, Ndhlovu, Phiri and Thomson (2018), Nachatar (2018) and Polonsky and Waller (2018), how postgraduate students perceive themselves over their abilities is crucial since supervision on a one-on-one basis highly depends on the students' abilities and cooperation. Students may perceive that there are many challenges in the completion of a postgraduate study. Many studies described and interpreted the challenges in terms of the needs, assistance and skills to the completion of their postgraduate studies. In addition, the process requires postgraduate students to have good self-management and monitoring skills in developing their conceptual and research skills towards the completion of their studies. Hence, it is crucial to put more emphasis on how postgraduate students perceive their challenges in terms of readiness to apply or develop their research skills towards graduating on time. The research questions in this study are 'What are the challenges faced by the postgraduate students in completing a thesis?', and 'What are the postgraduate students' perceptions of their skills in completing a thesis?'

Data on students who fail to complete their postgraduate studies are kept as a record among the universities. It is crucial to investigate the attrition rate at the postgraduate level (Bowen & Rudenstine, 1992; Golde, 1995; Stock et.al., 2009). Nevertheless, there is a lack of database that contains specific reasons for postgraduate attrition rate or failure to complete the course. It is a common scenario among universities in the world where many students are facing difficulties during their thesis writing process. According to Miller (1995), students' attitudes in terms of student persistence highly contributed to the attrition rate. Students usually start the dissertation phase with a strong steady pace, but their progress becomes slower after the research proposal stage. Students' persistence has also been related to the quality of supervision as highlighted by Girves and Wemmerus (1986). Only students who interpreted their difficulties as challenges are aware of the needs of facing the difficulties. These students display good habits of mind to promote perseverance and hence putting in effort for improvement (The Kingsbury Center, 2017). The challenges of improvement are related to many different skills of writing thesis or research. Studies have been conducted to identify challenges encountered during the process of completion (The Kingsbury Center, 2017; Siti Nor Amira, Munira & Nur Hana, 2013) as well as strategies to complete a research dissertation and thesis (Faizah, Nor Hashima, Fatin Aliana, 2010). Nevertheless, there is a research gap in defining the challenges and putting up more descriptions on the roles of challenges in developing skills needed for completing a postgraduate thesis. Thus, this preliminary study investigated students' perceptions towards their postgraduate studies. It explored the skills acquired by the students and the challenges that they have faced. Meanwhile, more descriptions were displayed in terms of relationship between the challenges and skills of conducting research. Specifically, this study aimed to examine postgraduate students' perceptions towards

challenges and skills in completing their study. In addition, the relationship between challenges and skills in completing their study was investigated.

Literature Review

The review of literature explores two main aspects which are of considerable importance in successful completion of postgraduate study. It looks into the structure of postgraduate programmes and the challenges that students often face in their postgraduate study.

Structure of Postgraduate Programmes

Master's degrees in Malaysian higher education institutions are offered in three different models, namely coursework, mixed-mode (coursework and research), and research (StudyMalaysia.com, 2015). In the first model, students are required to take a number of courses related to their fields, usually specified by the university and a research report. In the second model, students are required to complete a number of credit hours of coursework and conduct research on a topic related to their field of study. At the end of the study, a thesis is submitted which will be marked internally. In the third model, students are required to do a full research which will result in a thesis. They may have to attend some compulsory courses, determined by the faculty. This may defer according to the university. In some universities, students are allowed to audit courses that they feel could help them with their research such as research methodologies or data analysis. Otherwise they will have to conduct research without much exposure to research methodologies or research experience. The students in this model are normally required to submit the first three chapters and attend a proposal defence before they can proceed with their research. The theses are graded by both internal and external examiners. Doctoral programmes in Malaysia are less structured and focused on research only. The students in the doctoral programmes are required to submit usually the first three chapters and defend their proposal before they can proceed with their research. Their research proposals are seriously evaluated by internal readers who are experts in the area (StudyMalaysia.com, 2015). The proposal may show whether the student is qualified to conduct research at the doctoral level. If the students find that they are not ready to proceed with the study, they are encouraged to sit in a few courses such as research methodologies courses. They need to show that they are able to present their aims of study at the beginning of their study. Normally, students in doctoral programmes will go through a few presentations before their completion of their study. Together with students in full research in master programme, the students in doctoral programme are also required to publish a few articles before or during the completion of their studies. Their theses will be graded by two internal examiners and one external examiner, normally the external comes from a university abroad.

Enrolling in a research-based study for a master's programme or doctoral programme requires a lot of responsibilities since the study is designed for students to complete the study independently. Completing a master's programme and/or doctoral programme is a challenge to many research students. Many full research postgraduate students find that the process of completing the studies involves complicated experiences (Yaacob and Ayob, 2003). The students usually face the same problem when they pursue their studies in transition from a master's programme to a doctoral programme. Hence, it shows that many postgraduate students are not matured, and they are not ready to conduct research. They need to learn or take courses especially on research methodologies. The most important is they need to have good experiences on the process of completion in their master programme in research mode so that they are more prepared to enroll in a doctoral programme (Yaacob and Ayob, 2003). Otherwise, the students are not matured enough to conduct research.

Challenges for Completion of Thesis

Today many qualified students with a degree have applied to enrol in a postgraduate programme. They have gone through various pathways to obtain a degree. Nevertheless, completing a postgraduate study is different from completing an undergraduate degree. Practically and theoretically a postgraduate candidate needs to experience it confidently. More importantly, the level of confidence is always seen as an important input in career development. This suggests that students need to have adequate skills and content knowledge. This scenario illustrates that completing a postgraduate study is a difficult process. Factors such as the lack of confidence prevent students from completing and graduating on time. Kearns, Gardiner & Marshall (2008) found that it is crucial to build students' behavior towards reducing stress level and hence increase their ability to complete their study. Hence, throughout the process of postgraduate study students need to have high confidence to face any challenges. The challenges are always seen as a source of input towards individual emotional, self-management ability. Awareness of students' problems in coping with their study helps the supervisors to enhance students' skills. The suitability of skills needed to help the individual can be easily determined if the individual behaviors are observed closely. The understanding of individual ability to face the challenges /with limited skills is always seen as a challenge to thesis supervisor. Hence, it is essential for a supervisor to explore on the of supervisee's moves in completion of study. In addition, challenges among postgraduate students lie mainly in the completion of a PhD study. Candidates do not only demonstrate in-depth knowledge, but also to find a gap within that field and address it. It is no doubt that the nature of PhD study requires a lot of effort (Eyangu, Bagire & Kibrai, 2014).

Postgraduate students are expected to work independently. Guiding themselves is a practice for them to complete their study. There are many challenges throughout the process of the study. The challenges may be ignored or may be seriously realized in their daily activities. The concerns of challenges influence progress of their study. In the same situation, the concerns are interpreted as awareness since many skills such as research skills are developed. The development of the skills helps the students to progress in their study. The awareness of challenges is related to self-assessment of skills used during their study (Hagedorn, Maxwell, & Hampton, 2007). Low self-assessment was revealed to be negatively related to retention in university studies. So, it becomes important to assess themselves throughout their study. In addition, self-assessment which involves one's feelings and beliefs is considered non-cognitive factors. Specifically, it is seen as habits of self-control. Dweck, Walton & Cohen (2014) highlighted that psychological attributes such as beliefs, feelings and habits of self-control are categorized as non-cognitive. The attributes are significant factors which affect any academic achievement. In postgraduate study, the psychological factors in terms of perceptions towards challenges come from the students' beliefs, feelings and their self-control too. Challenges play an important role in completion of thesis since researchers such as Picken (2017) had described that challenges contributed towards increased attention. The focus of challenges may be different among the postgraduate students. They emphasize the challenges in terms of emotional states, self-management and general skill.

Besides, effective learning in any context is always related to cognitive domain since it involves comprehension, application and synthesis of new knowledge. Writing a thesis is a long process of learning, thus involvement of monitoring skills plays a very important role besides being mentally ready in terms of the cognitive domain (Murray & Beglar, 2009). The ability to self-monitor while writing the thesis is also influenced by students' attitudes in facing challenges

as well as their basic skills in conducting and writing research. Their challenges may energize them if the challenges become a stepping stone of the learning process.

Skills for Completion of Thesis

Sidhu et al. (2017) succinctly pointed out that students, as key players in the successful completion of postgraduate study need to keep in mind a number of aspects. First and foremost, they must be aware of their roles and responsibilities as a postgraduate student. Besides that they need to learn to work towards developing an engaging, meaningful and positive working relation with their supervisors. Finally, they need to ensure their readiness and competencies required in undertaking a postgraduate degree. Their study which involved a total of 209 postgraduate students from two universities in Malaysia revealed whilst students perceived themselves as possessing moderate readiness in terms of their critical reading, writing, research and conceptual skills, their supervisors felt otherwise. The supervisors highlighted that majority of postgraduate students possessed limited readiness and competencies required to handle a postgraduate study.

The need for required competencies in reading writing and research skills has also been articulated by many researchers. In fact, it has become a common discussion that universities emphasize basic skills in writing thesis or completing research. Such skills include on-going skills development for constructing research problem. Most important is how the student monitors his/ her progress (The University of Manchester, 2009).

To write a thesis effectively, candidates have to make proper references to works done in the area. Thus, reading articles and selecting relevant evidence requires critical reading skills. Burns (2000) points out that this reading skill besides basic writing skills have to be demonstrated to be able to write the thesis well in order to complete it on time. Lacking these skills may delay the completion of the thesis.

In addition, writing a thesis requires many different academic skills such as research skills (Åkerlind, 2008; Lonka, 2003; Mohammad Sadegh & Mohammad Javad, 2016). The development of skills becomes the focus of many studies. Defazio et al. (2010) observe that the skills may be developed while they were doing their degree programmes. Lim, Sidhu, Chan, Lee, & Leele Susana Jamian. (2016) noticed that postgraduate students perceived that they were moderately ready with their writing skills. This study probed into the readiness of students' writing skills in terms of content, organization and language. Nevertheless, the students are in different states of emotion when they register as postgraduate students. Students with high awareness on perception of challenges may develop more skills (Picken, 2017). Nevertheless, their emotional states need to be taken care of. Putting too high expectation in the challenges may become worse in developing their required skills in writing.

One may think that the postgraduate students are being selected from a group of applicants, who have the ability to monitor in their study. Nevertheless, commitment in a PhD study requires self- discipline since the study does not depend on any specific course syllabus or any course structure. The students have the freedom to guide themselves. Hence, the focus of engagement is always highlighted in the completion of the study. The PhD structure of study is always being seen as a process of guiding themselves even though they are guided by thesis supervisors (Pyhältö, Toom, Stubb & Lonka, 2012). Hence, the challenges of completing the study deal with self-discipline such as self-management, guiding self-emotional state, as well as developing thesis skills. Students with strong skills of research are always having advantages of completing tasks as planned. Moreover, students are usually advised that the readiness to be

involved in a PhD study must be observed in terms of qualifications and aptitude, as well as dealing with getting an appropriate supervisor. In terms of qualification, the students need to learn a broad range of skills in order to carry out their research effectively. It is believed that the students' skills play the major factor in completing their studies. In terms of attitudes, students must be aware of their challenges and dare to face all the challenges. The scenario of facing challenges in a postgraduate study was also highlighted by Faizah, NorHasimah and Fatin (2014) stating that postgraduate students need to strategize learning to overcome their challenges.

The skills and challenges were always being examined among university students when employability is the concern, For example there were universities which organized readiness programme to address students' difficulties before their graduation (Raybould & Sheedy, 2015). The difficulties were referred to as challenges with regards to important skills and competencies such as written communication, interpersonal skills besides self-discipline, confidence and attitude and leadership.

There are many challenges in writing thesis. Many articles highlighted students' skills in producing thesis and the skills become the significant challenges (Komba, 2016). It is crucial to identify students' challenges in thesis writing especially when the students are at the beginning of their study. In addition, avoidance of challenges would improve students' progress to complete their study. More importantly, the students must be mentally ready for their study. Their readiness is always observed in terms of (1) emotional states, (2) self-management and (3) skill in conducting study. The three elements are always observed as postgraduate students' readiness since these are the basic requirements in enrollments as a postgraduate student.

Besides readiness, certain skills especially conceptual skills are important in the workforce. It should be trained within the completion of a postgraduate study. Graduates become more confident individuals if they possess the necessary skills upon their graduation. The skills enhance the students' ability to communicate their knowledge and hence secure employment. Students' ability to comprehend and think critically are much required as they are also seen as mutually important skills as targeted by universities. The skills are interrelated and are highlighted for the improvement of communication skills upon graduation (Masturah, Sidhu & Chan, 2013). The workplace is facing problems to get a good pool of workers with this skill since there is limited number of postgraduates who are well equipped with the skill.

The Concerns

Each postgraduate student possesses individual abilities to complete their study, hence there is no one specific way or supervisory style that is effective for all students (Wright, Murray & Geale, 2007). Although the graduate on time is the main aim of all supervisors, students' challenges are the main concerns in monitoring their progress. Hence, more concerns are focused on the skills gained upon graduation. The targeted skills upon graduation are categorized skills required to be gained during the postgraduate studies. A key feature underlying the aim of a postgraduate study is to produce 'knowledge society'. They are the important contributor to the body of knowledge. The knowledge is seen as the basis and crucial assets for social and economic development. The evidence of gaining the highest level of education is always referred to the ultimate products as a researcher in terms of a PhD thesis and the second highest level of education is referred to a master thesis. Even though the product of thesis is emphasized in interpreting the knowledge gained, the product of the learning process is more important (Melin & Janson, 2006). Hence, it is crucial that the postgraduate

students' abilities are perceived in the aspect of the skills and knowledge as well as the product of the research.

The Study

The main aim of this study was to examine students' perspectives towards postgraduate study. The findings reported in this paper were based on a preliminary study conducted at a public university in Malaysia. A quantitative survey research design was employed in this study. The population was all initial stage postgraduate students namely Year One and Year Two students in a public university in Selangor, Malaysia. A total of 66 students were randomly selected to participate in this study. The number of samples was sufficient for this study since sample of at least 50 is deemed necessary to established the existence of a relationship in an analysis (Fraenkel, Wallen & Hyun, 2012).

Data was collected using a questionnaire adapted from Sidhu et al (2016a) at a postgraduate conference. The complete questionnaire for this study comprised of the following sections: demographic variables, supervisory factors, student factors, institution factors, motivational factors and challenges faced by students. This paper will, however, focus on the data from the student factors and the challenges faced by the students. The student factors investigated their perspectives on their reading, writing, research and conceptual skills alongside other skills such as communication and decision-making skills and their ability to work independently and manage their time effectively. Meanwhile the aspect of challenges in pursuing a postgraduate study included questions on emotional state, self-management and academic competence. The respondents were required to respond to the items based on a five-point Likert scale where a scale of 1 signified strong disagreement whilst a score of 5 indicated strong agreement to the item.

The validity of the instrument was established by a panel of two university professors, whose areas of expertise are Educational Measurement and Evaluation, and Research Methodology. Based on their feedback further fine-tuning was done. Refinement of the questionnaire is currently in progress as this study is a preliminary study. The reliability of this initial questionnaire was established using the Cronbach's alpha reliability. The respondents to the pilot study for the testing of reliability were randomly selected from the population. The Cronbach's alpha reliability for the questionnaire on skills was identified at 0.97 ($\alpha=0.97$). The alpha value indicates that the items are highly reliable since it is more than 0.80 (Cohen, Manion & Morrission, 2007). The Cronbach's alpha reliability for the items in challenges was identified at 0.62 ($\alpha=0.62$) indicating it was moderately reliable.

Findings and Discussion

The data collected from the 66 students and analyzed using the SPSS Version 24. The section below provides a summary and discussion of the main findings obtained from the pilot study.

The findings presented in Table 1 below, indicates students' perceptions regarding the challenges they have been facing. The results show that postgraduate students perceived that the challenges they faced were moderate ($M=3.22$, $SD=0.34$) based on the range in the Likert scale (1 to 5). The students reported about the challenges of completing research tasks in their study, nevertheless descriptively they perceived the challenges to be moderate. On the other hand, the students also perceived that they possessed comparatively moderate skills ($M= 3.39$, $SD=0.47$) in conducting research for their study.

Table 1: Descriptive Statistics on Challenges and Skills

	N	Mean	Std. Deviation
Overall Challenges	66	3.22	0.34
Overall Skills	66	3.39	0.47

The result suggests that the challenges faced by postgraduate students were a reflection of the challenges they face in the initial stage of their study. Descriptively, the results indicated that the postgraduate students perceived that even though they are in the early stage of their study they are moderately aware of the challenges they face in their studies. It can be inferred that this awareness exists probably because of their training and exposure at the undergraduate level, but they may not be confident to do independent work as required at the postgraduate level. They may not be used to the learning condition whereby their lecturers may no longer closely monitor them as they did in the undergraduate programme (Vijay & Bujang, 2011). More description on the awareness of the challenges are further elaborated and depicted below (as in Table 3).

Table 2 shows the respondents' stage of their study. It shows that the majority (43.9%) of the postgraduate students were at the stage of writing and refining their research proposal. On the other hand, 27.3% of the students were at the stage of writing literature review. This is natural for students who have just embarked on the postgraduate study as they are mostly in their first year. Thus, students found that their challenges were moderate at the stage of writing and refining research proposal as well as conducting literature review. Only 19.7% have already or are currently collecting data as seen in Table 2 as compared to 71.2% who have not gone beyond the proposal stage. The statistics shown in Table 2 was an expected one as the students are still at the early stage of their postgraduate studies.

Table 2: Stage of Study

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Writing proposal	29	43.9	43.9	43.9
Literature review	18	27.3	27.3	71.2
Data collection	13	19.7	19.7	90.9
Data analysis	3	4.5	4.5	95.5
Reporting findings	1	1.5	1.5	97.0
Other	2	3.0	3.0	100.0
Total	66	100.0	100.0	-

Table 3 shows the challenges that postgraduate students faced. The greatest challenge was self-management ($M=3.58$, $SD=0.55$) followed by academic competencies ($M=3.51$, $SD=0.82$). The least challenge they perceived was their emotional state ($M=2.41$, $SD=0.88$).

Significantly, self-management is an important component of postgraduate study to guide and engage students themselves in their study as emphasized in previous studies done by Bird (2009). Vijay and Bujang (2011) also describe that the factor of having difficulties in managing themselves academically comes from the situation that the students are transitioning from their

first-degree studies to a postgraduate study. They may face challenges in the new programme which are indirectly a result of their responsibilities as a postgraduate student. The challenges faced in self-management will also affect postgraduate students' ability to perform general skills. In any situation, self-management is closely related to applying skills such as research or writing (Bridgstock, 2009), hence the challenges look comparatively higher in self-management and academic competence. This also corresponds to the study done by Lee, Gurnam, Chan. Narayanan & Teoh (2016) that self-check on the development of writing skills need to be applied to achieve competency in writing.

Although Table 3 shows that postgraduate students perceived emotional state as the least challenging of the three, it was not indicated as a comparatively low challenge (lower than the midpoint namely lower than 2.50). Rarely, emotional factor is included as a factor in challenges among postgraduate students. A previous study done in Malaysia by Melati Sumari (2004) revealed that the challenges faced by graduate students in Malaysia include the lack of research resources, limited research opportunities, the lack of opportunity to be involved in professional organizations, a shortage of qualified academic staff, and the lack of financial aid. As such the emotional factor was included to investigate if postgraduate students actually have lesser problems when they enroll in Malaysian higher education institution.

Table 3: Descriptive Statistics for each aspect of Challenges Faced

	N	Mean	Std. Deviation
Emotional State	66	2.41	0.88
Self-Management	66	3.58	0.55
Academic Competence	66	3.51	0.82
Overall Challenges	66	3.22	0.34

The overall skill of conducting research was specifically analyzed in Table 1. It indicated that the overall skill possessed by postgraduate students was comparatively low ($M=3.39$, $SD=0.47$) based on the range in Likert scale (1 to 5). The skills were divided into four, namely critical reading skill, writing skill, research skill and conceptual skill. Table 4 displays the acquired skills from the students' perspective in terms of their readiness to embark the postgraduate studies. On the whole, the students perceive their writing skill is the least acquired skill. This concurs with the study done by Lim et al. (2016). Table 5 also shows the more acquired skills are the conceptual and critical thinking skills. However, this finding seems to differ from the outcome of Sidhu, Kaur, Lim & Chan (2016b) where majority of the students possessed limited readiness in terms of critical reading skills, hence they were not ready in postgraduate study to encounter all the challenges. This clearly shows there is a discrepancy between the students' perception and the reality of the critical reading skills they have acquired.

Table 4: Descriptive Statistics for Each Aspect of Skills Acquired

	N	Mean	Std. Deviation
Critical Reading Skills	66	3.39	0.54
Writing Skills	66	3.21	0.55
Research Skills	66	3.34	0.56
Conceptual Skills	66	3.39	0.60
Overall Skills	66	3.39	0.47

Table 5 shows the correlations among the skills are significant. The highest correlation comes from research skills and conceptual skills ($r=0.772$ with $p\text{-value} < 0.05$). It was revealed that these two skills (namely research skills and conceptual skills) have moderately high correlations with other skills. Research skills also show moderately high correlation with critical reading skills, writing skills, and conceptual skills ($r=0.711$, $r=0.636$, and $r=0.772$) respectively. Similarly, conceptual skills show moderately high correlation with others namely critical reading skills, writing skills, and research skills ($r=0.716$, $r=0.675$, and $r=0.772$) respectively. Melati Sumari (2004) highlighted the importance of professional development among postgraduate students in order to produce good quality work. Professional development refers to required skills in conducting research and skills required in writing a thesis. Therefore, it is not surprising that the results show that there is a comparatively higher relationship between conceptual skill and research skill. Hence, this implies that the focus of development in either research skill or conceptual skill helps to develop other skills required for the completion of a thesis.

In addition, the critical reading skills need to be highlighted since the correlation between critical reading skills also show moderately high correlation with the conceptual skills ($r=0.716$) as well as the research skills ($r=0.711$). This finding supports Sidhu et al.'s (2016b) study. Sidhu et al. (2016b) highlighted that one of the reasons of postgraduate incompleteness cited has been students' incompetency of academic literacy and research skills due to limited critical reading skills. As such, critical reading skills are important to prepare the students in applying other research skills and conceptual skills.

Table 5: Correlations Among the Skills

		Critical Reading Skills	Writing Skills	Research Skills	Conceptual Skills
Critical Reading Skills	Pearson Correlation	1	.649**	.711**	.716**
	Sig. (2-tailed)		.000	.000	.000
Writing Skills	Pearson Correlation	.649**	1	.636**	.675**
	Sig. (2-tailed)	.000		.000	.000
Research Skills	Pearson Correlation	.711**	.636**	1	.772**
	Sig. (2-tailed)	.000	.000		.000
Conceptual Skills	Pearson Correlation	.716**	.675**	.772**	1
	Sig. (2-tailed)	.000	.000	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows the correlation between postgraduate students' perceived challenges and their perceived skills they possess. There is a significant relationship between the overall challenges faced and the overall skills ($r=0.421$ and $p < 0.05$). This indicates that the skills are moderately affected by the challenges that the students faced.

Table 6: Correlation between Overall Challenges and Overall Skills

		Overall Challenges	Overall Skills
Overall Challenges	Pearson Correlation	1	.421**
	Sig. (2-tailed)		.000
	N	66	66
	<hr/>		
Overall Skills	Pearson Correlation	.421**	1
	Sig. (2-tailed)	.000	
	N	66	66
	<hr/>		

The result revealed that students perceived that they need more improvement in their skills. The skills that postgraduate students currently possess are moderately correlated to the overall challenges that they were facing. Among these skills, research skills and conceptual skills which were the more significant ones. These two skills were most highly related within the students' awareness in facing the challenges. Hence, this suggests that the two skills are likely the main factors that will greatly influence their timely completion of their studies. These results are reflected in the study done by Hagedorn et al. (2007) who highlighted that awareness of challenges is related to self-assessment skills used during their study (Hagedorn et al., 2007). Similarly, the results suggest that it is crucial for students to persistently work on or improve their skills particularly on research and conceptual skills. These two skills are the critical skills for the completion of a postgraduate programme since they are highly correlated with other skills namely critical reading skill and writing skill.

Conclusion

Students perceive that they have moderate skills to complete their postgraduate studies. In addition, they also perceive they face moderate challenges in completing their postgraduate study. Students normally face different types of challenges from time to time while conducting their research. On the other hand, they might never think about all the processes that they were facing as challenges. In fact, they might be more concerned about their ability and skills to complete a task. The lack of skills that are expected to be mastered for the postgraduate study can be intimidating for some candidates. Both considerations have shown that it is important to find the relationship between challenges and skills. In this study, the correlation between challenges and overall skills in conducting research was at a moderate level of correlation. It is moderately related with the relationship of $r = 0.421$ ($p\text{-value} < 0.05$). Specifically, students rated more challenges indicated that they put more attention towards the specific challenges as described by Picken (2017). Since this study shows that there is a significant relationship between challenges and skills, at the same time the challenges on self-management was rated highest among the challenges, it indicates that attention on self-management (with high challenges in self-management) will create awareness among the students to improve their skills (especially research skill and conceptual skill). In contrast, the relationships among the specific skills (namely critical reading skill, writing skill, research skill and conceptual skills) are showing higher relationships comparatively with the average of r in the range of 0.5 to 0.76. Indication of the results interpreted that the students need to develop more on the specific skills. The skills are interrelated (especially research skill and conceptual skill). Hence, the findings/revealed that research skills and conceptual skills were the most significant contributing factor to the likelihood of the timely completion of their postgraduate study. Research and conceptual skills involve thinking skills on keeping up-to-date on latest information, prioritizing problems

with analytical justification as well as giving clear explanation about problems. These skills are highly in demand in workplace. Hence, the students who graduate successfully are ready for the workforce with the necessary skills.

Recommendation

Based on the findings obtained from this pilot study, there is no denying that early intervention is necessary for the successful completion of postgraduate study. Hence the relevant authorities and intuitions of higher learning should take steps to address the challenges that postgraduate students face. The research skills, although taught at the postgraduate level, need to be enhanced. The fact that the research methodology course leads to a research proposal does not guarantee a candidate that they can smoothly make it through the Defence of Proposal. Thus, a review in the course content has to be done to address this issue. More importantly, there should be periodical writing courses to help students master writing skills so that they can write well. Besides that, writing clinics can be set up on certain days and times at the postgraduate room for students to consult faculty experts. Such suggestions are helpful for students to gain confidence and move on from the proposal stage to data collection and writing stage, smoothly and quickly. All of these suggestions can ensure students would be on track, hence be able to complete their study and graduate on time.

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