



Students' Perspectives of Postgraduate Supervision: Desirable and undesirable practices

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Abstract

The current global completion rate for postgraduates stands at 60 per cent, and one of the main problems cited is poor supervisory practices among postgraduate supervisors. Therefore, this qualitative study presents the views of nine PhD scholars on postgraduate supervisory practices from four universities in Malaysia. The thematic qualitative analysis categorized the supervisory practices into three main aspects, namely desirable, undesirable, and appalling practices. The findings of this study though not conclusive do shed some light on current supervisory practices. The findings imply that training and perhaps the call for accreditation of postgraduate supervisors is in order.

Keywords: postgraduate study; supervisory practices; feedback; learning community; Supervisor-student interaction.

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1.0 Introduction

The Organisation for Economic Cooperation and Development (OECD) report indicates that the Information Age has accelerated the democratisation of education. This is particularly true at the higher education level. The OECD reported that there was a discernible increase in student enrolment in tertiary institutions globally (2008). Sidhu et al. (2016) noted that there had been an upward trend in the enrolment of postgraduate (PG, hereafter) students registered for PG study globally. This trend is also reflected in the Malaysian postgraduate enrolment. The reason for this can be attributed to the democratisation of education at all levels offering a diverse range of courses in a variety of modes. Today, PG study in Malaysia is seen as a means to develop and empower its human capital to transform Malaysia into a knowledge economy. To facilitate this, the National Higher Education Strategic Plan (NHESP) beyond 2020 has initiated programs that increase access to higher education, in particular for PG study. One of the aims of the Ministry of Higher Education (MOHE, hereafter) is to produce 60,000 quality graduates with doctoral degrees by 2023. One such initiative is MyBrain 15, which funds PG studies. These initiatives have led to an increase in PG enrolment in local universities (Sidhu et al., 2014).

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According to the 2017 MOHE report, there were 33,838 PhD students in public institutions of higher learning (IHLs) and 7,871 in private IHLs in Malaysia. Despite the high number of PhD enrolment, those who graduated were 4,040 from public IHLs and 516 from private IHLs. This suggests the number of PhD students who completed their study is relatively low. Sidhu et al. (2014) found that about 60% of doctoral graduates dropped out of their programs. So, it can be seen that these laudable initiatives by MOHE have been dogged with low completion rates and high attrition rates.

There are several reasons for this low completion and high attrition rates. Studies highlighted that there are three (3) groups of factors that contribute to low and timely completion rates among postgraduate students. According to Jiranek (2010) and Elgar & Klein (2004), the factors are as follows: a) individual factors which includes work commitments and financial constraints faced by the students, b) supervisory factors, including low engagement and support from supervisor, and c) institutional factors such as the lack of research facilities and resources that are available and provided by the universities. Ismail et al. (2011) also reported that the postgraduate students struggle to cope with their study due to lack of support and understanding from their supervisors as well as inflexible program organization and structures. Meanwhile, Cole and Swami (2012) stated that the low completion rate among postgraduate students was partly due to poor supervision. In a case study, investigating postgraduate study, in Malaysia under the MyBrain15 project, Sidhu, Kaur and Chan (2013) found that the completion rate after four years of study stood at 5% while another 10% of the postgraduates were downgraded to doing their Master's degree. Of the remaining 85%, approximately 35% dropped out while the other 50% PhD potentials were struggling at various phases of their study. If this situation is allowed to continue, there will be significant repercussions for higher education providers (Crosling et al., 2015). The institution's reputation will be at stake, and this will lead to financial consequences for the institution. Besides that, postgraduate students will suffer the loss of opportunities, and this, in turn, will impact the nation's goal of developing its human capital needed to develop the country. We need to keep in mind that quality education often drives competition between countries and with effective supervision, better learning can be experienced by the students (Waite, 1994).

According to Sidhu et al. (2013) and Ssegawa and Rwelamila (2009), the main reasons for the low completion and high attrition rates, were poor and ineffective supervision, the lack of institutional support, student deficiencies and personal challenges. According to Norhasni Zainal Abiddin (2007), postgraduate students not only require excellent facilities to support their study, but they also look for high-quality supervisors. The importance of proper supervision is corroborated in a survey conducted at an IHL in 1997. Findings indicated that students viewed time spent and input from supervisors as the most critical factors contributing to a successful studentship (Atzinger, Lewis, Martin, Yager, Ramstetter & Wusik, 2014). While there are many factors influence postgraduate students' ability to complete their studies, the most important is that of supervision. There is a realization that supervision is vital for the successful completion of postgraduate programs. Connell (1985) observes that, "Supervision also can be interpreted as a two-way interactional process that requires both the student and the supervisor to consciously engage each other within the spirit of professionalism, respect, collegiality and open-mindedness. Supervision is a complex social encounter which involves two parties with both converging and diverging interests" (p.79). This suggests that for successful completion of graduate study, it is essential to balance the interests of both supervisor and student.

Supervision can be operationalized in many ways, but Lee and Green (2009), conceptualized it as a one-to-one relationship. Nevertheless, supervisory arrangements have become more varied. It is, therefore, important to investigate supervisory practices seen from the perspectives of the postgraduate students themselves as proposed by many researchers such as Lessing and Schulze (2002), Lin and Cranton (2005) and McAlpine and Norton (2006). According to McAlpine and Norton (2006), student's voice is rarely heard in graduate research. Taking the cue from McAlpine and Norton, this study will investigate postgraduate students' perspectives of supervisory practices.

1.1 The Study

The main aim of this study was to investigate postgraduate students' perspectives of the supervisory practices of their supervisors. The study employed a qualitative research design and involved a total of nine volunteer postgraduate students currently doing their PhD by research in two public (University A and B) and two private universities (University C and D) located in the Klang Valley in Malaysia. The five students from the two public universities are referred to as Students A1, A2, A3, A4 and A5 while the four students from the two private universities are referred to as Students B1, B2, B3 and B4. Given below in Table 1 is the demographic profile of the nine respondents who participated in the study.

Table 1- Demographic Profile of Respondents

Respondent	Gender	University	Discipline	No of Supervisors	Age	Marital Status	Stage of Study
A1	Female	Public Uni A	Pure Science	Two	37	Married	Collecting Data (Year 2)
A2	Female	Public Uni A	Social Science	Two	39	Married	Analyzing Findings(Year 3)
A3	Female	Public Uni A	Social Science	Two	33	Single	Data Collection (Year 2)
A4	Female	Public Uni B	Pure Science	Two	35	Married	Data Collection (Year 2)
A5	Male	Public Uni B	Pure Science	Two	42	Married	Awaiting Proposal defence (Yr.1)
B1	Female	Private Uni C	Pure Science	Panel of 3	35	Single	Awaiting Viva Voce(Year 4)
B2	Male	Private Uni C	Pure Science	Panel of 3	38	Married	Analyzing Findings(Year 4)
B3	Male	Private Uni D	Social Science	Two	45	Married	Data Collection (Year 2)
B4	Female	Private Uni D	Social Science	Two	40	Single	Analyzing Findings (Year 3)

From the table it can be seen that a majority were females and all were between the ages of 30 and 45 years old. All respondents highlighted that their supervisors were assigned to them by their respective universities except Respondent A1 who chose her senior colleague as her main supervisor. The respondents from both public universities A and B and private university B had two supervisors (principal supervisor and co-supervisor). On the other hand, respondents from Private University A, had a panel of three supervisors. The panel often comprised a main supervisor, a method supervisor and a subject-matter expert supervisor.

This study employed a qualitative approach as it allowed the researchers to interpret the phenomena in its natural settings, namely the lived experiences of postgraduate students' experiences and observations on postgraduate supervision. Data for the study were collected via semi-structured interviews as such interviews combine a pre-determined set of open-ended questions, and at the same time, it gave the researchers the flexibility to prompt and further explore particular responses and themes highlighted by the respondents. The interview was guided by a framework that comprised four main sections, namely warm-up questions, roles of a supervisor and supervisees, supervisory practices of current supervisor(s), and challenges faced in postgraduate supervisory practices. Each interview session took approximately 40 to 50 minutes. The interviews were audio-recorded with prior consent from the respondents. Data collected were transcribed and analyzed thematically to identify patterns and themes using both deductive and inductive analysis. Nowell, Norris, White and Moules (2017) caution that a lack of rigour in qualitative analysis can have implications in terms of the credibility of the process and analysis. Therefore, to enhance the internal validity of the qualitative data collected, two main steps were taken. First, a member check was conducted with all the nine respondents to ensure and confirm that the data presented were what the respondents said and meant. Once the data had been analysed, an inter-rater reliability test was carried out to ensure consistency in the process of data analysis. The inter-rater was a co-researcher in this project, and the level of agreement was approximately 78.2 per cent.

2.0 Results and Discussion

Based on data obtained from the interviews, the Braun and Clarke (2006) approach to thematic analysis using the two levels of semantic and latent analysis was employed. First semantic themes were identified herein only surface messages put across by respondents were identified. Once the main themes had been identified, the next level of analysis, i.e. the latent level was employed to look beyond the message that respondents were communicating to the researchers. At this level of analysis, researchers had to "identify or examine the underlying ideas, assumptions, and conceptualisations – and ideologies - that are theorised as shaping or informing the semantic content of the data" (Braun & Clarke, 2006, p.84).

Once the thematic analysis was conducted, the researchers were able to categorise the supervisory practices into three main themes, namely desirable, undesirable and appalling practices. Given below is a brief discussion of the three main themes identified in this study.

2.1 Desirable Supervisory Practices

All nine respondents were very articulate as to what encompasses good supervisory practices. One of the main aspects highlighted by all nine respondents was the fact that a postgraduate supervisor must be a competent researcher and authority in his/her respective field. Student B1 further added that a 'supervisor must have a PhD or equivalent . . . so that the students can have respect for him or her. . . I feel a good supervisor need to be a practising researcher . . . I mean he must practice what he preaches."

When probed further as to whether a PhD was an absolute necessity, seven replied with an astounding 'yes' but respondents, A5 and B2, were a little more cautious. Student A5 had this to say, "Well, I know that in the West, especially in the UK, this is not a requirement. So I think if a supervisor is well established, well published and well known in his field, he can supervise doctoral students'...to me, it is not a paper qualification but the competence of a supervisor in research and my field of study...I think that is more important."

Student B2, a mechanical engineering student reiterated that 'quite a number of the supervisors in my technical university do not have a PhD, but they have so much experience in the field of engineering especially in planes and engines so I think a good supervisor is one who is competent in his field and can help others."

Another supervisory practice highly praised by all nine respondents was the level of collegiality that a supervisor had with the students. Most of them emphasized that they liked supervisors who value and respect their students as co-researchers and are very approachable as they usually motivate and give students the confidence needed to complete their study. This was best articulated by Respondent A3 when she highlighted that her supervisor was like her co-researcher "...we work on papers together ...we share articles and we are both interested in the same field ...and when I see something interesting or some new patterns emerging in my study, she is the first person with whom I share my excitement because I know she too will be excited...I think her passion for research has rubbed on to me, and I feel lucky to have her as my supervisor." This aspect of building a learning community was also shared by Student B1, who has three supervisors. Out of the three, she feels her third supervisor treats her like a partner in the learning process, and she appreciates her "good communication skills and I find her very approachable as she always motivates me and gives me the confidence needed to succeed. . . she is also willing to share information with me." Respondent A1 also reiterated that a good supervisor is one that views PhD students as part of the learning community and is "is willing to help, support and develop their students as part of their learning community and field of study."

A third common pattern that emerged from the interviews was articulated by four out of the nine respondents, namely Student A2, A5, B2 and B4. It was reflected in the role of a good supervisor as one who keeps track of their students' progress and ensures

milestones are kept and adhered to. Student A2 stressed that her supervisor required all her supervisees to draw up their personal Gantt chart, to schedule their PhD programme at the beginning of the supervisory process. Then each semester, all students were required to draw their milestones and steps they would take to ensure they accomplished these set goals. Her supervisor did all this on an online supervision programme because her supervisor was rather techno-savvy. Respondent B4 added that “my supervisor keeps a tab on all our progress and if she finds we have defaulted she send us a gentle reminder and if we still not improving, she will call us for a face-to-face meeting and ‘push’ us to work harder.” Respondent B2 further emphasized that sometimes he would digress and he liked his supervisor because he would meet us and ‘remind us, sometimes rather firmly...to get back on track...I think this tracking keeps me on my toes and helps all of us to focus on our study so we can graduate on time.”

Various studies have reported the importance of interpersonal relationships between graduate students and their supervisors as a determinant of student success and these have been corroborated by Phillips and Pugh (2000) who observed that research is an interactive process which requires the development of social as well as academic skills. Honey, Gunn and North (2004) also note that learning is best supported when students learn to construct new knowledge or make sense of their work through exposure to models of expert behaviour (supervisor) and interaction with others in a learning community setting. This underscores the importance of communication between supervisor and student.

2.2 Undesirable Supervisory Practices

While all nine respondents were quick to highlight good supervisory practices, there were a few who felt certain aspects of their supervisors left much to be desired, and they hoped supervisors could work on these aspects. One aspect emphasized was the fact that some of their supervisors lacked knowledge in their area of study and hence were of little help in supporting them. This was articulated by Respondents A1, A5 and B3. Respondent A1, a scholar in the field of Computer Science, felt her supervisor’s knowledge was not on par with the latest developments and hence was not able to provide the guidance she needed in programming. She further added that ‘to hide her incompetence she would often scold me for not reading enough.’ A similar sentiment was also voiced by Respondent B4, a PhD scholar in Business Management. She said she realized that her supervisor had not written and published much after doing his PhD and hence his research skills were rather weak “...so I could not go to him for much help and support in terms of research...his subject matter knowledge is fine.”

Seven out of the nine respondents also highlighted issues related to feedback on their thesis. Almost all seven emphasized that all students value and appreciate good constructive feedback, but some were slightly disappointed at the quality and frequency of feedback provided by their supervisors. For instance, Respondent A5 said he felt ‘cheated’ because after working hard for one semester ‘and waiting for another month the only feedback I got was a tick here and there and one miserable comment that was of little help to improve my work.’ He also highlighted that his supervisor had little respect for time’ as not only did he had to wait for more than a month to get feedback, his supervisor “...usually kept me waiting sometimes for more than an hour for supervision ...worst still sometimes he would cancel our meeting at the last minute ...all this is bad and very frustrating for me.”

Another undesirable supervisory practice that three respondents highlighted was the poor help and support provided by their supervisors. Both Respondents A1, A4 and B1 felt that when students face problems, a good supervisor should be able to provide timely help and support. Respondent A4 highlighted that when her supervisor was not able to support her in getting materials for her lab study, it led to the ‘slow breakdown not only of our supervisor-supervisee relationship but ... I felt I could not trust him anymore.’ Likewise, Respondent A1 felt the relationship with her supervisor was ‘going downhill... because my supervisor is always giving me excuses for not being able to help me ...such as she is very busy or shifting the blame to others ...like the department.’ She stressed that this poor help and support provided showed a lack of accountability of the part of her supervisor. Respondent B1 felt her second supervisor was of little help and ‘avoided honest communication’ and she was afraid that ‘if I keep these negative feelings, it may lead to more problems...so I am giving her the benefit of the doubt as I need her to complete my study.’

PhD students perceive the expertise of supervisors to be critical in helping them to complete their study. For effective supervision to take place, McQueeney (1996) posits that supervisors need to be knowledgeable and skilled in the research field. The interviews with postgraduate students showed that they need to be provided with prompt and quality feedback which were denied them. The same was observed by Norhasni Zainal Abiddin et al. (2011), where they noted that one of the major student complaints was that supervisors were slow in providing feedback to students’ written work.

2.3 Appalling Supervisory Practices

Finally, with more probing from the researchers, a few respondents opened up and highlighted some appalling supervisory practices. These practices were put forth by three respondents, namely Respondents B1, A4 and A5. One aspect highlighted was the dominating, egotist and authoritarianism role portrayed by their supervisor leading to having little or respect for the students. Respondent A4 illustrated that her supervisor from the Engineering Faculty was one who held supervisory sessions once a week with all his supervisees at both the undergraduate and postgraduate levels.

He often supervised students in groups and often showed his dominating and authoritative side...yes...he is very knowledgeable...but I think he was biased towards postgraduate students especially PhD scholars...he took every opportunity to make the PhD students look bad...he would sometimes ridicule us for small mistakes in front of his undergraduate students...I think he has no respect for his students...and that I did not have the makings of a PhD student...at times I was left feeling very small, useless, and at one moment in time, I felt I was not ready for a PhD study...I have asked for a change in supervisor.”

Another rather undesirable and appalling practice can occur when supervisors have a conflict of interest leading to the 'green-eyed' monster rearing its ugly head. Respondent A5 felt that recently he won an innovation award and since then his supervisor was 'always checking and spying on me and wanting to know all I was doing...I find this suffocating, and now I think he is torturing me by not giving me the support and materials I need for my study.'

A rather similar sentiment was shared by Respondent B1, a single mother who was working hard to save costs on her study by graduating on time. To date, she had published more than five research papers with her three supervisors. She highlighted that her first supervisor,

'often sat on my papers and when he returns them I see there is little or no feedback...in fact at times I think he just wants to check if I have inserted his name.. he is also checking on what I am doing as if in competition with me...he will try to slow me down and...I have completed my study for more than five months now but he keeps holding me back...insisting I am not ready to submit...I do not know why.'

Sensing the 'silent' competition between the two of them, Respondent B1 stressed that "I feel that my supervisor is putting obstacles in my way and I do not want any personality clash...so I will try to publish two more papers and try to get into his good books so that he will allow me to submit my thesis."

The above views of postgraduate students showed poor interpersonal skills and the lack of sensitivity on the part of supervisors and the students. Piccinin (2000) emphasized the importance of having good communication between supervisors and students as the supervisory process requires constant adjustments.

3.0 Conclusion

Supervision is conceptualized it as a one-to-one relationship and what this underscores is that interaction is of utmost importance in the supervisory process. As was mentioned in the findings, one of the good practices valued by the students was the excellent rapport they had with their supervisors. The sense of camaraderie and collegiality provide support towards the completion of their PhD. Research has underscored the importance of good communication between supervisors and students as one of the most crucial factors for effective supervision (McQueeney, 1996). Hence it is not surprising when postgraduate students complained that supervisors were condescending when speaking to them. Good supervisors are characterized by respect, empathy and non-authoritarian attitude (Berger and Bushholz, 1993). Putting students down and making them feel small will not help them complete their study.

Besides, postgraduates also look forward to having access to supervisors who are experts in their field of study. For effective supervision, supervisors should be knowledgeable and accomplished in their area of research and be a competent researcher (Brown & Atkins, 1988; McQueeney, 1996). That is the reason why postgraduate students were unhappy when they had to work with supervisors who were considered not up-to-date with the latest development in the field.

Another essential good supervisory practice was the fact that supervisors kept track of the students' progress. This was corroborated by Berger and Bushholz (1993), who emphasized the importance of on-going monitoring of students. Students also appreciate timely feedback from their supervisors. Feedback is a means for supervisors to provide constant support and reassurance to the students (Phillips & Pugh, 2000). Hence, postgraduate students were unhappy when supervisors were not sensitive to their time by not giving them timely feedback. Additionally, they are unhappy with feedback that is of poor quality. Students consider the lack of timely feedback, poor quality feedback to be bad supervisory practice.

From the findings, it can be concluded that good supervisory practices have to be cultivated. It involves a variety of factors such as personalities, interpersonal skills and management skills. Developing skills for proper supervision can be attained if institutions of higher learning provide a well-structured training programme for supervisors before they embark on postgraduate supervision (Sidhu et al., 2018). This training should go alongside the Supervisors' Manual, which is often provided by almost all universities offering doctoral programmes. More importantly, this initial training should be followed by continuous professional development. Sidhu et al. (2018) also noted that due to some undesirable supervisory practices, one alternative that has been adopted by some universities is the accreditation for postgraduate supervisors. Their study, however, revealed that this was not a welcome move by a majority of the supervisors. Nonetheless, this study suggests that postgraduate supervisory practices are a matter of concern and universities need to address this to help their students graduate on time.

Finally, it must be noted that the findings of this study cannot be generalized on the total population of postgraduate supervisors in the four universities or Malaysia as a whole because the study is not without its share of limitations. The first limitation lies in the small sample size that involved only nine respondents. Furthermore, the sampling technique was based on a voluntary basis and hence the study was not to capture the perspectives of successful postgraduates who had graduated on time or students who dropped out or had failed to graduate on time. Besides that, the study looked into supervisory practices only from the perspectives of students and ignored the perspectives of the supervisors. Therefore, future studies should encompass perspectives from a larger sample and involve the perspectives of a wider range of respondents including supervisors. Despite the limitation, it cannot be denied that this study has to a certain extent shed some light into the postgraduate supervisory practices. It is hoped that the study will spur more in-depth analysis so that the journey of a postgraduate student can be further enhanced via effective supervisory practices.

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References

- Atzinger, C.L., Lewis, K., Martin, L.J., Yager, G., Ramstetter, C. & Wusik, K. (2014). The impact of supervision training on genetic counsellor supervisory identity development. *Journal of Genetic Counsel*, 23:1056-1065.
- Berger, S. S., and Bushholz, E. S. (1993). On becoming a supervisee: Preparation for learning in a supervisory relationship. *Psychotherapy*, 30(1), 1-9.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.
- Brown, G., and Atkins, M. (1988). *Effective Teaching in Higher Education*. London: Methuen.
- Connell, R. (1985). How to supervise a PhD. In Buttery, E. A., (Eds.) (2005). An overview of the elements that influence efficiency in graduate supervisory practice arrangements. *International Journal of Educational Management*, 19(1), 7-26.
- Elgar, F. J., & Klein, R. M. (2004). What you don't know: Graduate deans' knowledge of doctoral completion rates. *Higher Education Policy*, 17(3), 325-336.
- Honey, M., Gunn, C. & North, N. (2004). Creating a learning community of postgraduate nurses through online discussion In R. Atkinson, C. McBeath, D. Jonas-Dwyer & R. Phillips (Eds.), *Beyond the comfort zone: Proceedings of the 21st ASCILITE Conference* (pp. 413-422). Perth, 5-8 December. <http://www.ascilite.org.au/conferences/perth04/procs/honey.html>
- Ismail, A., Abiddin, N.Z., & Hassan, A. (2011). Improving the development of postgraduates' research and division. *International Education Studies*, 4(1), 78-89.
- Jiraneck, V. (2010). Potential predictors of timely completion among dissertation research students at an Australian faculty of sciences. *International Journal of Doctoral Studies*, 5(1), 1-13.
- Lee, A., & Green, B. (2009). Supervision as Metaphor. *Studies in Higher Education*, 34(6), 615-630.
- Mcalpine, L. & Norton, J. (2006). Reframing our approach to doctoral programs: an interactive framework for action and research. *Higher Education Research and Development*, 25(1), 3-17.
- Ministry of Higher Education (2017). Statistik Pendidikan Tinggi 2017. <http://www.mohe.gov.my/en/download/awam/statistik/2017-3>
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*, 16 (1), 1-13
- Phillips, E. M., and Pugh, D. S. (2000). *How to Get a PhD- A Handbook for Students and Their Supervisors*. Buckingham: Open University Press.
- Piccinin, S. J. (2000). Graduate Student Supervision: Resources for Supervisors and Students. Triannual Newsletter, Centre for Development of Teaching and Learning (CDTL). CDTLink: University of Ottawa, Canada.
- Sidhu, G.K., Kaur, S., Lim, P.C., Chan, Y.K., (2016). Assessing the critical reading skills of postgraduate students: Perspectives of supervisors and supervisees. In S.F. Tang & L. Logonathan (Eds.) *Assessment for learning within and beyond the classroom*. DOI 10.1007/978-981-10-0908-2_4
- Sidhu, G.K., Kaur, S., Lim, P.C., Chan, Y.K., Lee, L.F., Leele Susana Jamian (2015). Institutional support for postgraduate study in Malaysia. *Social and Management Research Journal*, Vol. 12, No. 2.
- Sidhu, G.K., Lim, P.C., Kaur, S., Chan, Y.K., Lee, L.F., Leele Susana Jamian (2013). Realising the aspirations of MyBrain15: Developing a framework of success.
- Sidhu, G.K., Lim, P.C., Teoh, S.H. & Chan, Y.F. (2018). Training and Accreditation of Postgraduate Supervisors: A Case Study. *Advanced Science Letters*, Vol 24 (4), 2616-2620.
- Waitie, D. (1994). Understanding supervision: An exploration of aspiring supervisors' definitions. *Journal of Curriculum and Supervision*, 10(1), 60-76. hzan.com.