

High Quality Students by Improving Research Supervision

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Abstract: Scientific writing is one of the utmost important thing in bench marking a postgraduate's quality as an academic. This is where a good supervision plays its role in ensuring the success of this capability. Students regard their supervisor as the main source of information as well as mentors and role models. However if there is no mutual respect between supervisor and student, the outcome will not be that great either. Supervisor also needs to cultivate the principality of honesty and truthfulness in every student while conducting their research. There are four crucial research etiquette that students need to abide by which are confidentiality, writing, communication and on research itself. The achievement of a successful research supervision and a good relationship between a supervisor and student relies on four fundamental factors namely gender, citizenship, age and academic discipline. Based on the survey results, it was visible that students from different fields have different needs especially in requiring competent facilities and equipments in executing their research which shows a very high percentage agreeing to this of students from pure science background compared to students from social science background. Finally, there are a number of strategies that can be adopted by students to publish high quality writings such as mastering the English language and following the important writing steps meticulously. Most prestige international journals require the submitted articles to be written in English language and by following all the important writing steps, it will ensure that all the vital elements in a high quality writing have already been included.

Key words: Citizenship, relationship, science, English language, age, academic discipline

INTRODUCTION

Masters and Ph.D graduates with highly-ranked skills and knowledge are becoming sought after by established employers after they have completed their research. One of the main criteria to achieve greatness in their research is by producing a very significant outcome and result and able to cause an impact to the masses. These outcomes are usually published and patented to acknowledge other academic bodies and later on referred to as sources for new related researches. It is crucial to produce superior publications because these articles have a major purpose in not only the academic world but also the commercial world.

It is not an easy task to supervise graduate students who are usually more matured and experienced yet it is a big responsibility for supervisors because they are regarded as mentors, role-models and substitute for the parents of the students. Supervisor's roles are very

crucial in guiding students completing their research because that would be the main condition to be certified in their own respective field. A positive mutual relationship between supervisor and student is a pivotal key in achieving the best outcome of a research and it is an undeniable fact that both teams do really need each other to succeed. Barriers in achieving a good relationship include religion, culture and language differences. In time, this relationship does not only test the supervisor's academic skills but also test on how to manage personnel management and how to maintain professional relationship.

Most supervisors act as guiders, motivators and mentors to their students. Clarke (2000) and Sheehan (1993) discussed that supervisor is the main source for students to gain guidance, moral support and assistance. That being said, a good supervisor needs to have a vast knowledge and able to correct mistakes made by students. At the early supervising stage, every

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student's strength and weakness has to be identified because each one has different needs. Two main aspects in supervising students according to Donald *et al.* (1995) are:

- Supervisor's creativity and skills in selecting problems to encourage students' will and urge to come up with well-founded ideas
- Supervisor's concern to ensure that students show some improvement and progress from time to time

Supervisor's roles: Motivation and encouragement can be categorized as the 2nd aspect that needs to be concerned, mainly because students' graph of emotion and enthusiasm will go up and down throughout the whole research. During down times, students will feel that the research cannot be resumed because of insufficient materials, negative results and so forth. Personal problems add extra pressure and will deteriorate students' motivation even more. Ian and Liz (2002) reported that supervisors are regarded as parents, coaches and mentors. One of the successes in supervising is being able to encourage students to improve and increase their performance (Mihail and Eleftrie, 2006). According to Whitbeck (2001), there are a lot of responsibilities that need to be undertaken by supervisors for the sake of their students and trainees education which are their advancement in the field with sponsors, colleagues and collaborators and also the administration of their labs (for example, the responsibility of proper disposal of substances used in research). The 1st responsibility that falls under the supervisor-student category indicates that supervisors play a major role in shaping their students. Graduates at the early stage, need to be monitored because they are in the process of learning about research integrity and standards of behavior. These four matters are what these students are learning; the character of research in their field, the relative importance of specific contributions to knowledge, the relative importance of types of contributions to research (such as creating research materials) and the difference the appropriate exercise of discretion and the simple abuse of power (Whitbeck, 2001). Supervisor will always be the main source of information and they will also likely to share credit with him or her. In order to fulfill professional responsibilities such as identifying general problems, understanding criteria for ethical practice and learning how to act dutifully where the problems are complex, supervisor's guidance is tremendously required.

Consistency is an essential criterion in motivating because obstacles and problems come unexpectedly. Zaman stated that the most difficult stages in research are

determining the topic and collecting data which pressurize the students. Supervisor needs to advise students that failure in obtaining expected outcomes does not mean that their researches are failing, instead giving them the boost to improve some loopholes in the area. Supervisor also has to realize that supervising is one of the most crucial tasks because that is the main element of being a supervisor. This does not mean that the supervisor has to install a very tight security camera system to spy on students.

Some effective supervising methods are presentation, weekly progress report and utilizing results as assessments. Presentation method will not only test students in their public speaking skill but will also urge them to always be prepared and updated since, the presentation is done weekly. Same goes to the weekly progress report where students have to submit weekly activities and progress on their researches. Supervisor needs to come up with a standard format so that important details are not left out when the reports are submitted.

One crucial aspect that supervisor needs to highlight is the truthfulness and honesty of the research. Harold Hillman, commented in his study *Honest research*, academics have an extra responsibility because they are believed to be objective seekers after truth, not influenced by commercial motivation, self interest or ambition. In other words, they and the public both believe that academics have intellectual integrity and steps should be undertaken to ensure that this belief is correct. This will help the research which is performed with maximal intellectual integrity to produce result in real advances. Integrity is also important because it measures the wholeness and the completeness of the research.

The number of students undertaking master's degree is increasing especially master of science degrees which have become immensely popular. Master theses are required for the completion of these degrees which indicates more academic staffs are needed to perform the supervisory tasks including those with limited supervisory experience. Better master thesis results will determine the quality of academic achievement and future career prospect for these students which will also reflect the supervisors' capability in handling their students and all the resources. Academic reputation is also at stake in the master thesis supervision because supervision process is included in evaluations during academic visitation and accreditation procedures.

Research etiquette: Zaman also pointed out that there are four crucial research ethics that both student and supervisor need to understand. The 1st one is confidentiality etiquette which obstructed some of the

details and results from being made public for example, sensitive racially induced information or on hazardous and contagious disease. This problem however can easily be solved by producing a non-disclosure disagreement. Writing etiquette is next which focuses on the main writer's name to be included in the piece. A good communication between the supervisor and student is also an important factor which is why etiquette on communication is created where the main focus is enhancing the bond between them. Etiquette on research itself is also important and its purpose is to protect the informants and research samples. Supervisor needs to give students some guidance on etiquettes that involve humanity, animals, plants, ecology and law such as data protection act to which is relevant with the research. These codes of conduct are designed to assist research supervisors to become more eloquent which will provide the students the benefit of their experience and to help research groups identify inconsistencies in practice among their own investigators so as to develop rational policies that will help students deal with these differences. Below are several successive feedbacks according to Whitbeck (2001) which have helped research groups to work together to:

- Establish norms for research practice in response to new circumstances of research
- Find constructive solutions to common problems
- Improve communications in the supervisor-supervisee relationship
- Prepare research supervisors of a department or research group to collectively transmit their experience to the next generation of investigators-in-training

All of these will help students to acquire a more secure foundation for evaluating their own research management and are better prepared to carry high standards of integrity into their own careers. Students should have the option to refer to other people, not just relying on their own supervisor if they have questions on ethics and practices. This will allow them to have better grasp on all the morally relevant aspects of such situations.

Factors that are able to influence the effectiveness of supervision: A great communication between supervisor and student is difficult to achieve. Four factors that contribute to the effectiveness of supervision are as follows; gender, citizenship, academic field and age. Female students are more likely to accept psychological activities such as acceptance, certification, role-modeling

and counseling from their supervisors which will help them in career planning and self-esteem building. Male students on the other hand are more likely to demonstrate skills such as self-organizing the conference and invited to assist in manuscript writing which lead them to become better leaders, courageous team-members and risks-takers. The citizenship factor focuses on the multinational environment that involves international students who experience difficulties in adapting to the new learning environment mostly due to cultural gap and language constraint. Social support is very effective in reducing academic pressure faced by international students and they are more comfortable with supervisors who understand these problems. There are any supervisors who are willing to help these students even though it will be difficult initially. This problem, however can be overcome by increasing cultural sensitivity and tolerance among supervisors and encourage these students to come out of their comfort zone.

Students from social science and art background are more likely to identify other faculty mentors other than their supervisor compared to students from pure science background. The reason for this was mainly due to the research done by pure science students are mostly done in the laboratories which involve the handling of dangerous apparatus and substance that requires attentive guidance from specific professors. Age also plays a role in creating an effective student supervisor relationship. Older students often do not expect to get professional development such as fellowships and recommendations for 1st jobs which are totally different with younger students. They really need all the support they can get to succeed because of insufficient experience and their self development is still at the primary level.

Survey questions were distributed to 100 students in a high ranking local university. The samples were comprised of postgraduate students from different academic backgrounds. The 50 sets were given to students from pure science background and the rest were distributed to students from social science background. From the 50 sets given to students with pure science background, 20 sets were given to students in Engineering Faculty, 20 sets were given to students in Science and Technology Faculty and 10 sets were given to students in Information Science Technology Faculty. From the Social Science background, 20 sets were given to students in Social Science and Humanity Faculty, 20 sets were given to students in Economy and Business Faculty and 10 sets were given to students in Islamic Studies Faculty. The purpose of this survey is to determine the reaction and opinion of students towards their supervisor's style of research management. Students

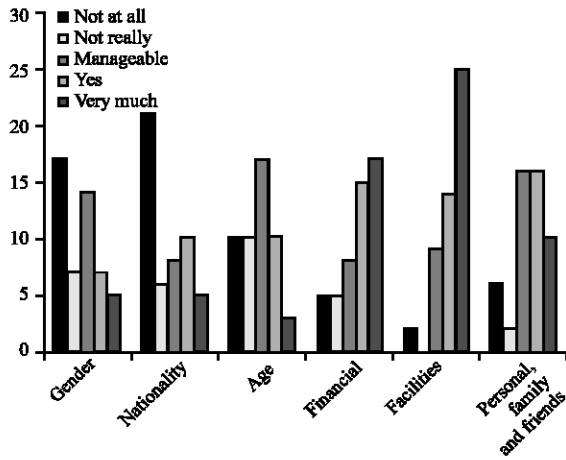


Fig. 1: The opinion of students from pure science background regarding the factors that could affect the quality of their research

from Pure Science background have a tendency to rely solely on their appointed supervisor, especially those conducting research that require complex experimental procedures and instruments/chemicals handling. Most of these supervisors are the only experts in their particular field in a particular institution which explains why their students only trust them with the research. Things are different with students from social science background where most students prefer independent way of researching. Their supervisor's main role is to ensure that their research is leading towards the right direction.

According to Fig. 1, the highest factor that has the possibility to affect the quality of research is the facilities factor followed by financial and personal factors respectively. For pure science, students from engineering faculty and science and technology faculty were chosen as samples. The result of the survey indicates that students who pursue their research in pure science fields really need to have sufficient facilities to enable them to obtain good result in their research. Most of their researches are experimental which require laboratories, computers, equipments and exhaustive materials. This also refers to the financial factor because funding is needed to purchase these items. This is an important factor to consider because when allocation of money is decided for each faculty, the portion must be appropriate because the price of high-technology equipments and materials is high. However, the situation is different with students in social science field as in Fig. 2. Factors such as financial, facilities and personal do not really affect the outcome of their researches. It does not mean that they do not need financial aid in executing their researches but the nature of their researches is different than pure science. Most of their researches utilize surveys, verbal

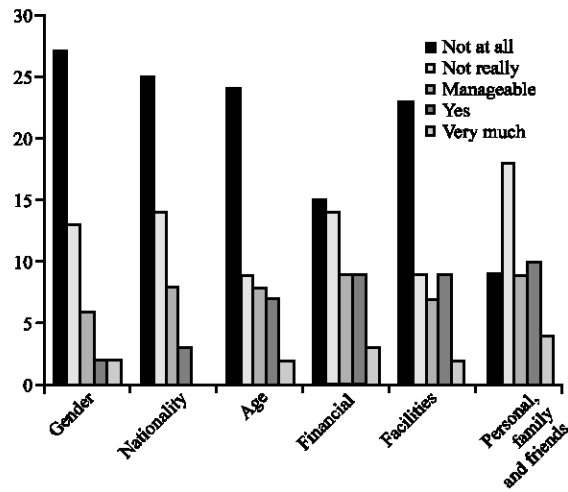


Fig. 2: The opinion of students from social science background regarding the factors that could affect the quality of their research

interviews, site visits and archive digging. Some courses in social science do require laboratories and equipments but the number is relatively small. High numbers of social students do not mind at all about their supervisors' gender, nationality and age. This is because they work independently on most parts of their researches and meetings with their supervisors are limited. Personal problems affect students in pure science field more than students in social science field, most probably because some researches especially in the chemical and medical fields are really complex which put more pressure on the students.

Supervisors who are patient and always available score the highest with students in the pure science field when it comes to characteristics of the supervisors that will push them to produce a good research result. As mentioned before, majority of the researches in this field are experimental which means a long period of time is required to obtain positive results. Other characteristics such as motivational, objective-driven, supportive and negotiable are favoured by students from both groups. This can be shown in Fig. 3 and 4 where the percentage of students who chose Yes in these characteristics are almost the same. Based on Fig. 4, students in social science field chose Manageable in most of the characteristics. This is mainly due to the fact that they spend most of the time working on their projects independently and outside of the faculty which require them to make decisions by themselves most of the time and less meetings with supervisors. Group mentoring is also effective in addressing several crucial needs primarily by fostering a well founded trust among group members.

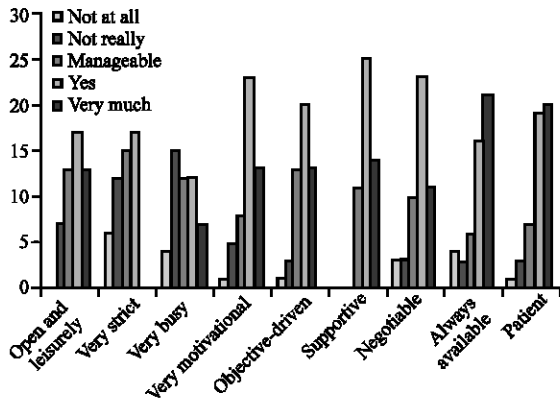


Fig. 3: The opinion of students from pure science background regarding the supervisor's characteristics that will drive them to produce a good research result

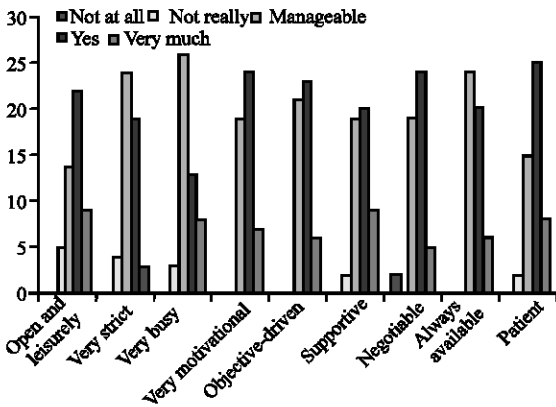


Fig. 4: The opinion of students from social science background regarding the supervisor's characteristics that will drive them to produce a good research result

Students need a secure way to evaluate their own behavior and be aware of their supervisors' individual policies in order to develop their knowledge in certain area and become more proficient in solving problems in an appropriate way. The trust level among the group members will be higher by performing open discussion on the said matters. Ever changing forms of research require special attention from faculty members to avoid conflicts of practices in the future.

This also applies to the expanding collaborations of research groups from different universities which involve a lot of interdisciplinary research where a standard ethical/responsibility practice has to be devised. Another method is by performing mutual problem-solving sessions that cover situations taking place in practice which is very important in group mentoring method and can establish a clearer supervisor-supervisee relationship.

There are a number of strategies that can be adapted to publish high-quality writings such as selecting high-quality journals, understanding the guide and format of journal writing and enhancing the skill of writing itself. Selection of high quality journals is very crucial because they are categorized by determining the authenticity of their reviewers and the impact level and index are also considered. Non-index journals have the lowest prestige value and not recognized among international publishers, something a good writer wants to prevent from happening.

Writer should also note that the format and style prescribed by the journals body have to be followed religiously because this will make it easier for the study to be accepted at international level and thus increase the potential for publication. Boice (1990) stated that researchers should be skilled in writing a manuscript by using good and proper language structures. English language is the main language in the world of academic journals so efficiency in this language is a must. Researchers however are given the choice to obtain services from bodies such as American journal expert to improve their English sentence structures. Peer review is also beneficial and rewarding in this case.

CONCLUSION

Creating high quality students is a win-win situation for both supervisors and students. This will be a personal achievement for the supervisor and students can gain a lot of benefits such as becoming more knowledgeable, more attractive to future employers and better individuals. A good relationship will not only reward during the research period but it goes a long way.

During this period, it is important to reap as much benefits as possible such as producing high quality researches and try to get them published by international and prestige journals because this is the most productive period for students to be involved in such activities. Barriers such as age, genders, race and so forth are just barriers which can be put aside because the most important thing is the willingness to go further and succeed.

Strategic planning is also very important and supervisors who have vast experience can guide their students in doing so. It is very important for students to push aside any ego because supervisors know what they do even though some methods are eccentric and out of the ordinary. This is where a good communication takes place and both students and supervisors need to be at ease with each other to create a positive and conducive research environment for the benefits of not only the academic society but also the entire generation.

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