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**POSTGRADUATE STUDENTS' READINESS IN BASIC  
COMPETENCIES FOR SUSTAINABLE QUALITY EDUCATION**

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**Abstract**

Today the provision of sustainable quality education at all levels requires the acquisition of 21st-century skills of critical reading, writing, numeracy, media and technology literacy. This becomes more critical when pursuing a postgraduate degree as one must sieve through volumes of literature. Studies have indicated that attrition and failure of postgraduate students to graduate on time have become issues of grave concern in most countries including Malaysia. Scholarly studies have attributed this failure to several reasons including the lack of postgraduate students' readiness for postgraduate study in terms of their basic competency skills required to undertake empirical investigations. Therefore, the aim of this paper was to examine postgraduate students' basic competency skills with a focus on critical reading, academic writing and research skills. The study involved a total of 110 first-year postgraduate students in a private university in Malaysia. Data were collected via a three-pronged approach involving competency tests, a questionnaire, and semi-structured interviews. The findings revealed that there was a significant difference between students' perceived and actual performance in critical reading and research skills. Their academic writing also left much to be desired. These findings indicate that the assumption that students embarking on postgraduate study come well-equipped with basic competencies can no longer be ignored. Thus, it is pertinent that initiatives need to be put in place to address postgraduate students' basic competencies so that more sustainable quality education can be provided at the postgraduate level.

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## 1. Introduction

In 2015 UNESCO outlined the 17 Sustainable Development Goals where the agenda for quality Education 2030 is encapsulated in SDG 4.0. It articulates the sustainability of the provision of quality education because the fundamental of all learning and quality of life rests upon a good foundation in basic competencies of literacy. This includes SDG 4.3 which focuses on equal access and affordable education at the tertiary level such as vocational, technical vocational and higher education – which includes postgraduate (PG, hereafter) education.

At this juncture, it is perhaps apt to note that at the turn of the 21st century, the advent of the Information Age witnessed the massification, democratization and commodification of education at all levels including postgraduate education. UNESCO's SDG target 4.3 points out that more than 225 million or 38% global participation lies in tertiary education. Studies have also revealed that close to 60% of PG students fail to graduate on time (GOT, hereafter). The University Transformation Plan Silver Book (Ministry of Higher Education Malaysia, 2017) pointed out that in Malaysia one (1) out of every five (5) PG students drop out. This without a doubt puts a dent on a nation's human resources because postgraduate education is one of the main sources of developing a critical mass of knowledge workers who can contribute to the advancement of knowledge, technology, and innovation in a country. Therefore, the Ministry of Education in developing countries like Malaysia often spends a substantial portion of the budget on education. Malaysia under the MyBrain15 initiative aspired to produce a critical workforce of 60,000 PhD holders by 2015. This aspiration, however, was not realized and under the Malaysian Education Blueprint for 2015-2025, the country now aspires to fulfil this by 2023.

Though numerous initiatives have been invested in higher education, the returns leave much to be desired. Moreover, studies have found that postgraduate students are often confronted with many issues ranging from the personal to academic and institutional levels (Kaur et al., 2017; Lim et al., 2016).

Nevertheless, both scholars and supervisors underscored the lack of PG students' readiness for PG study especially in terms of their basic competency skills such as critical reading, writing, speaking and digital literacy required to undertake empirical investigations. This is further acknowledged by MOE through its call for competency-based instruction to improve PG students' productivity from UniTP Silver Book (Ministry of Higher Education, 2017). Sidhu et al. (2022) note that is a grave concern among several stakeholders ranging from universities to supervisors and employers.

Therefore, it is fitting to explore the basic competencies of PG students in terms of critical reading, academic writing and research skills. This will ensure sustainable quality education that will empower PG students with the necessary knowledge, skills, values and attitudes to make informed decisions and take the necessary steps to enhance their readiness and success for PG study.

### 1.1. Literature review

Gray (2017) posits that postgraduate education is at the heart of innovation and modernization and is the push for new discoveries and technology. Moreover, postgraduate study in Malaysia is to develop human capital to transform Malaysia into a knowledge economy. Therefore, having a sustainable postgraduate program with a quality learning environment that provides quality education should be a

priority of all educational institutions. With the current high attrition rates and low completion levels in Malaysia and the global level, it is thus pertinent to explore PG students' basic competencies so that relevant measures can be taken to ensure the provision of quality education at postgraduate levels.

The following section provides a brief review of some literature on basic academic competencies for successful tertiary and postgraduate study.

### **1.1.1. Reading skills**

Critical reading is vital for postgraduate students since it helps them locate useful information for their research. Wallace and Wray (2021) highlight the value of critical reading skills as one of the main requirements for postgraduate studies. Postgraduate students are required to read widely from various academic sources including documents, journals, books, and articles to aid them focus on their area of study. Moreover, reading entails active engagement with the texts which require critical reading skills. These include selecting materials and critically evaluating them to filter information that is relevant to their study. Postgraduate students' who are critical readers are also better able to articulate their views and perspectives.

Despite literature stressing the importance of critical reading, studies have shown that postgraduate students still lack critical reading skills. Sidhu et al. (2016) discovered that postgraduate students demonstrated limited critical reading skills as they have difficulty analysing and interpreting reading materials. According to Seng and Zainal (2017), many postgraduate students underestimate the demands and the challenge of academic reading when pursuing their postgraduate study.

## **1.2. Academic writing skills**

Besides critical reading skills, Sajid and Siddiqui (2015) also posit that writing skills underpin academic success in any tertiary course, irrespective of discipline. For students to be successful in college, it is essential that they are able to write in English (Houston, 2015). However, Goldfinch and Hughes (2007) note that few postgraduate students have adequate writing skills needed for academic success at tertiary levels. Ooi et al. (2022) also note that academic writing skills are crucial for a postgraduate student to express their research ideas as well as to publish in a constructive manner.

A study by Lim et al. (2016) investigated supervisors' and supervisees' perceptions of PG students' readiness in their writing skills. The findings show that postgraduate students perceived that they were moderately ready in their writing skills (in terms of writing content, content organization and language skills). There was however a significant difference recorded among their supervisors who felt that their students possessed rather limited readiness in academic writing skills for thesis writing. This was further affirmed by another study by Mohd Isa and Ahmad (2018). They found that the crucial issue confronting these postgraduate students is their inability to express their ideas, restructure sentences, construct research arguments and a general lack of writing skills. Shahsavar and Kourepaz (2020) also found that many postgraduate students have difficulty writing their literature review. Studies have shown postgraduate students' inability to define the focus of their study (Bierman & Jordaan, 2007) and failure to clearly present their ideas (Zakri, 2008) due to inadequate writing skills leading to eventual withdrawal from tertiary education. One reason as pointed out by Singh (2019) is that the writing practices of

postgraduate students differ from what undergraduate students are familiar with and this calls for investigation at the postgraduate level. Zotzmann and Sheldrake (2021) suggest that postgraduate students who take English as a foreign language have difficulties writing in English in a logical, coherent and convincing manner. Hence, it is important to examine postgraduate students' basic writing competencies in order to mitigate untimely completion rates and low success rates in postgraduate study.

### 1.3. Research skills

Research skills is the key focus in postgraduate programmes, particularly for students aspiring to contribute to knowledge and practice in their discipline of study. As Willison and O'Regan (2007) suggest, research and research skills are both the product and process of higher education that require explicit support and facilitation. The aim is to help research students progress along the research continuum of "*knowledge production, from knowledge new to the learner to knowledge new to humankind*" (p.394). Hence, the development of research skills becomes a critical element in determining the success of postgraduate students.

In recent years, there is an increased interest in research studies that have focused on the research skills of postgraduate students involving various themes that range from the role of supervisors, pedagogical model, motivation, and technology, to training and development of research skills for postgraduate research students (Aranda et al., 2022). Some studies have found the ability to become competent and self-regulated learners is one of the graduate attributes, where metacognitive skills could help postgraduate students to reflect on the reasons for success or failure in the research process (Gyuris, 2018; Rahman et al., 2014; Zuber-Skerritt, 1987). Some studies have found postgraduate students lacking in research skills, particularly their inability to identify research problems (Rahman et al., 2014; Zuber-Skerritt, 1987) and are weak in their research methodology (Al-Rayyashi & Hassan, 2014). Inability to articulate the research problem at the initial stage of the research process may lead to students getting distracted from the focus of the research project, or difficulty in identifying an appropriate research methodology, thus affecting the progress of thesis writing (Gyuris, 2018; Zuber-Skerritt, 1987). Meerah et al. (2012) also suggest that postgraduate students generally have moderate knowledge and competencies to conduct research. Hence, it is imperative for research students to be more ready for research and scholarly activities, and to move along the continuum of knowledge new to the students to generating new knowledge (Willison & O'Regan, 2007) through the utilisation of research skills acquired through effective support and strategies.

## 2. Research Methods

This study utilized a descriptive case study and was conducted in a local private university in Malaysia. The population sample comprised Year One Semester One postgraduate students who had enrolled in either a Master of Education (MEd) or PhD (Education) programme by research mode. The final sample size consisted of 110 students at the faculty of education at the private university. Data for the study were collected via a three-pronged approach involving both quantitative and qualitative tools such as competency tests, a questionnaire and semi-structured interviews.

In this study, the respondents sat for three competency tests. The aim was to examine respondents' actual competency in critical reading, writing, and research skills. The reading test was based on past year MUET Reading Test passages. The validity and reliability issues were not addressed here as the MUET (Malaysian University English Test) is prepared by the Malaysian Examination Council. The reading comprehension test is often prepared by a panel of experts and the pilot test for each passage would have undergone rigours validation and reliability process before it is included in the national public MUET Reading Test for pre-university students. In this study, the Writing Test comprised three writing tasks. The first writing task required respondents to summarise and synthesise information for a passage whilst task two entailed the writing of an academic report based on a non-linear stimulus (a graph and a table). This task required respondents to analyse and interpret the data to write a report of about 120 words. The third task was an open-ended essay investigating their persuasive writing skills. Finally, students' research skills competency was assessed through the following aspects: research paradigm, research problem, research methodology as well as data analysis and interpretation. The research skills task comprised two main sections. Section A examined the respondents' basic research methodology knowledge where 15 statements were given, and respondents had to indicate if the statements were true or false. Section B consisted of eight (8) open-ended questions which examined respondents' application of basic research knowledge and skills.

The questionnaire aimed to investigate the students' demographic profile, their self-perceived ability, and perceptions of these three basic competency skills. Section A investigated their demographic profile and included questions such as age, gender, their field of study in education and their current research study. Section B investigated their perceptions on the importance of skills required for PG study. The findings of this section will not be reported here as it is outside the scope of this paper. In Section C Respondents were required to respond to their ability in the three competencies based on a 5-point Likert wherein a score of one (1) indicated weak ability whilst a score of five (5) revealed excellent competency.

The semi-structured interviews were conducted with five focus group students (Groups A to E) comprising a total of 25 volunteer students. Each group comprised between four to five students. These students were a sub-sample from the 110 respondents in this study. The aim of the interviews was to obtain respondents' perceptions of their basic competency skills for postgraduate study and to triangulate findings obtained from the quantitative tools.

The content validity of the questionnaire and the tests was established by a panel of three experts while the reliability of the questionnaire was established via a pilot study with another group of postgraduate students from another faculty in the same university. The process established a Cronbach alpha value of 0.778 which is considered high by Tavakol and Dennick (2011). The quantitative data obtained were analysed utilizing both descriptive and inferential statistics whilst the qualitative data were analysed through a thematic approach.

Keeping in line with ethics in research, prior permission was obtained from all the relevant authorities and consent was obtained from all respondents before the actual data collection process. No respondent was compelled to participate in the study, and all were given the right to withdraw from the study at any time. To maintain confidentiality and anonymity all respondents were coded using numerals such as S1, S2 to S110 (S=student). All five focus group respondents were coded based on the group

(Groups A, B, C, D, and E). Example R3GB referred to Respondent 3 from Group B. All data collected were stored in password-encrypted laptops.

### 3. Findings

Out of 110 participants involved in this study, 80 were female students while the remaining 30 were male. Majority of the postgraduate students are married (63.6%) and most of them chose to apply mixed methods approach for their postgraduate study.

The following section discusses the main findings of the research questions that guided the study.

#### 3.1. Reading skills

The first section of the main findings explored postgraduate students' perceived and actual critical reading skills. The items in this section were divided into four main skills, namely summarising, making inferences, analysing and drawing conclusion.

From the findings in Table 1, PG students rated their overall critical reading skills as fairly good ( $M=3.75$ ,  $SD=.787$ ) with summarising and drawing conclusions recognised as skills they had most confidence. Nonetheless, their actual performance based on their performance on the Reading Comprehension Test indicated rather limited ability ( $M=2.65$ ,  $SD=.769$ ), especially in making inferences ( $M=2.47$ ,  $SD=.754$ ), drawing conclusions ( $M=2.68$ ,  $SD=.683$ ) and synthesising ( $M=2.34$ ,  $SD=.779$ ).

**Table 1.** Paired sample t-test results for PG students' perceived and actual performance in critical reading skills

	Perceived	Actual	Mean difference	t	Sig. (2-tailed)
Summarising	4.25	3.12	1.13	6.87	.000
Making Inferences	3.23	2.47	.76	3.23	.000
Synthesising	3.50	2.34	1.16	6.94	.000
Drawing conclusion	4.01	2.68	1.33	7.25	.000
Overall	3.75	2.65	1.10	6.72	.000

Scale: 1=Weak, 2=Limited, 3=Fairly, 4=Good, 5=Excellent

Further in-depth analysis was conducted to see if there was a statistically significant difference in the mean scores between postgraduate students' perceived ( $M=3.75$ ) and actual performance ( $M=2.65$ ). The results displayed that there was a statistically significant difference in the mean scores between postgraduate students' perceived and actual performance in all the four critical reading skills being tested;  $t(109)=6.72$ ,  $p<0.000$ .

Qualitative data obtained from interviews further corroborated the quantitative findings as more than half of the students interviewed admitted possessing limited critical reading skills. For example, Respondent 2 from Group D (R2GD) emphasized that "personally for me reading is difficult as it takes a lot of time because when you read, you have to compare with all other readings, and this is time consuming and takes a lot of our energy too as we have to read many times to understand what we read in journal papers."

A majority also highlighted that critical reading demands critical thinking and is an important skill for postgraduate study. This aspect was well articulated by Respondent 4 from Focus Group D (R4GD) who stressed that “critical reading and critical thinking are most important among all skills... because ...we need to find the problem and conduct a study to solve the problem and when reading journal articles we have to learn how to compare and contrast opinions from different authors and from different perspectives... this is challenging and so to do well we need to improve our reading skills.”

The above findings reveal that though postgraduate students possessed moderate English language proficiency they still needed help to improve their critical reading skills as they needed to read a lot for thesis writing. This finding further confirms that the lack of basic competency in critical reading may impede postgraduate students’ ability to complete their study successfully to GOT.

### 3.2. Academic writing skills

The second basic competency investigated was postgraduate students’ academic writing skills based on three main writing tasks with a focus on summarising, analysing and synthesising information from both linear and non-linear texts.

The findings displayed in Table 2 revealed that postgraduate students perceived they possess moderate academic writing skills (M=3.06, SD=1.062). Nonetheless, actual performance indicated rather limited ability (M=2.93, SD=1.03) especially in synthesising (M=2.89, SD=1.01) and analysing information (M=2.83, SD=1.02). Further analysis employing a paired sample t-test indicated that there was no significant difference in the mean scores between postgraduate students’ perceived (M=3.06) and actual performance (M=2.93), conditions;  $t(109) = 1.65, p = .782$ .

The quantitative findings above demonstrate the limited writing ability of the students. A similar sentiment was also expressed by all the respondents during the interview sessions. All agreed that academic writing is a very important skill in writing a thesis. A large majority also claimed that they possessed limited writing ability and felt they needed help and guidance to improve their academic writing skills.

Respondent 2 from Group B (R2GB) admitted that “the most difficult skill for me is writing. . I have ideas in my mind ... but I struggle to put the ideas into words when writing.”

**Table 2.** Paired sample t-test results for PG students’ perceived and actual performance in academic writing skills

	Perceived	Actual	Mean difference	t	Sig. (2-tailed)
Summarising	3.08	3.07	.01	1.02	.954
Analysing	3.06	2.83	.23	1.92	.564
Synthesising	3.04	2.89	.15	1.85	.735
Overall	3.06	2.93	.13	1.65	.782

Scale: 1=Weak, 2= Limited, 3=Fairly, 4= Good, 5= Excellent

Respondent 5 from Group D (R5GD) further added, “In my own opinion, I think writing is more important than all other skills. . even though I can think critically, it is not easy for me to write critically... good academic writing skills demand a long, long time for practice in writing ... when I write

I need to select the accurate word and then express exactly the meaning that I want to express. That is quite a challenge for me.”

Respondents’ call for help in writing was expressed by many, like Respondent 3 from Group A (R3GA) who said: “I think all of us need more writing practice and good teachers to instruct us to write and express specific knowledge ...this is more useful in the future.”.

The above excerpts further validate the respondents’ limited writing ability, a basic competency of critical importance for all postgraduate students. These students are research mode students and are required to write a thesis for the attainment of either a Master’s or PhD in education.

### 3.3. Research skills

The final basic competency investigated was postgraduate students’ research skills. This is an important skill especially for postgraduate study as students are required to conduct an empirical investigation into a current issue or problem in their respective field of interest. As mentioned above, students’ competency in research skills was viewed from four aspects, namely research paradigm, research problem, research methodology as well as data analysis and interpretation.

The findings (Table 3) revealed that PG students perceived their research skills as fairly good (M=3.25, SD=1.079) with the highest confidence recorded for research paradigm (M=3.33) and the lowest for research methodology (M=3.19). Their actual performance, however, displayed a mismatch indicating rather limited ability (M=2.92, SD=.638) with a poor performance recorded for data analysis and interpretation (M=2.79, SD=.367), research problem (M=2.87, SD=.543) and research paradigm (M=2.90, SD=.765).

**Table 3.** Paired sample t-test results for PG students’ perceived and actual performance in research skills

	Perceived	Actual	Mean difference	t	Sig. (2-tailed)
Research paradigm	3.33	2.90	.43	3.67	.000
Research problem	3.27	2.87	.40	3.25	.000
Research Methodology	3.19	3.10	.09	1.56	.452
Data Analysis and Interpretation	3.20	2.79	.41	3.49	.000
Overall	3.25	2.92	.33	2.86	.000

Scale: 1=Weak, 2= Limited, 3=Fairly, 4= Good, 5= Excellent

The paired sample t-test conducted further revealed that there was a significant difference in the mean scores between students’ perceived and actual performance,  $t(109)=2.86$ ,  $p<.000$ . Further results indicated that there was a statistically significant difference in three aspects of research skills except for research methodology.

Despite its importance, most of the students in the study rated their research skills as poor as they were not really exposed to research before joining the postgraduate program. The participants who were interviewed relayed in detail their perceptions associated with research skills. Respondent 2 from Group C emphasized that “before I joined the program, I really do not know clearly what research is all about, without exaggeration. I have grasped some research skills and writing skills.”



This similar sentiment was also shared by Respondent 3 from Group C (GCR3) who stressed that she lacked the “professional knowledge and training in research methodology to conduct a study for my PhD.” Likewise Respondent 5 from Group C further added that “ this (research skills) is a very new scope for me as I never knew anything about quantitative and qualitative studies before but since I joined the program I have learnt about research here... and I think it is very important to learn this.”

Postgraduate students need to conduct a research study to get answers for a particular academic problem they are investigating. This was mentioned by Respondent 7 in Group D (R7GD) when she said: “We need more research skills for our thesis preparation. Sometimes, we have the ideas for research but are not sure of the methods needed to be used...so I think we all need for knowledge in this area.”

The above excerpts further verify the students’ limited competency in research skills and signal the need to address this basic competency if we want students to succeed in their postgraduate study successfully.

#### **4. Discussion of Findings**

The main aim of this study was to investigate students’ basic competencies for postgraduate study. The findings revealed that their basic competencies for all three skills investigated left much to be desired. The following section provides a brief discussion of these findings.

Critical reading skill is recognised as one of the main pillars of postgraduate studies (Wallace & Wray, 2021) as it helps them provide valid arguments and locate useful information for their research endeavours (Khalil, 2019). This study also found that there was a significant difference between respondents’ perceived and actual performance and a similar finding was also recorded by Sidhu et al. (2016). Students need to understand that good critical reading skills will help them evaluate a piece of reading and question the validity of the facts. Nonetheless, a majority of the students acknowledged their limitations and the importance of possessing good critical reading skills as they are required to read volumes of materials to complete their thesis. This study has highlighted the need for postgraduate students to take the necessary steps to improve their reading skills.

The study showed that postgraduate students have limited academic writing skills even though they perceive that they have moderate academic writing skills. There appears to be a mismatch in the perceived and actual performance of PG students’ academic writing skills, particularly in analysing and synthesizing skills. This mismatch is echoed in another study by Lim et al. (2016) who found that postgraduate students perceived that they were moderately ready whereas their supervisors found them to have limited readiness suggesting that postgraduate students are less ready to handle writing for PG study. Jeyaraj (2020) also articulated similar findings when she highlighted that postgraduate students required support in academic writing. She further elaborated that student required support and explicit guidance in writing from supervisors.

One reason for postgraduate students’ limited academic writing skills could be due to the linguistic writing demands of academic writing. This could be because some participants of the study are international students where English is taught as a foreign language in their home country. A study by (Abdulkareem, 2013; Zotzmann & Sheldrake, 2021) also found that postgraduate students faced

challenges relating to vocabulary, sentence structure and clarity in writing. The implication is that they need some form of academic writing skills support for them to move forward in their postgraduate study.

Moving on, findings in this study also demonstrated that students possessed rather limited research skills and there was a significant difference between their perceived and actual performance. Since research begins with curiosity and continues to answer questions, it is essential for postgraduate students to be supported with effective strategies to acquire research skills to carry out their research projects. Even though research skills is an important skill set for students in their preparation into postgraduate education (Gilmore & Feldon, 2010), many who come into the programme are found to be ill-equipped with research skills (Rahman et al., 2014; Zuber-Skerritt, 1987), as commented by most of the participants in this study who felt their research skills were limited and there is still much to be learnt as a research student. Hence, it is imperative for students to reflect and become aware of their limitations and actively seek knowledge to improve their research skills. Self-regulated learners can develop competency through metacognitive skills where students can identify the right strategies to learn and manage the learning process more effectively for self-improvement (Gyuris, 2018; Rahman et al., 2014; Zuber-Skerritt, 1987).

Finally, it is pertinent to note that Sidhu et al. (2023) found that all these three skills of reading, writing and research skills do influence postgraduate students' ability to graduate on time. Further in-depth analysis employing SmartPLS displayed that among the three, critical reading skills have a significant effect on success in postgraduate study. Henceforth, to ensure sustainable success in postgraduate study, it is critical for research-based students to be well-equipped with advanced literacy skills of critical reading and academic writing alongside research skills. This will enable them to move along the continuum of knowledge new to the students to the generation of new knowledge as aspired by most postgraduate students.

## 5. Conclusion

In this study, the authors found that critical reading, academic writing and research skills are essential basic competency skills required for postgraduate students in conducting research and showcasing their scholarship. These adult students need to be nurtured in an ecosystem that is both conducive and supportive. The researchers here note that majority of supervisors in educational institutions often assume that students embarking on a postgraduate study programme come well-equipped with the necessary competencies for postgraduate study. The findings of this study have however revealed the opposite implying that the matter can no longer be ignored. It must be addressed to sustain quality education at the postgraduate level.

Finally, it is perhaps pertinent to note that though this study involved a small sample size of only 110 postgraduate students from one university, the findings have shed light on an important area of concern. We must embrace that with the democratisation and flexibility of today's 21st-century learning environment, the profile of the 21st-century postgraduate scholar needs a revisit. It is perhaps timely to relook into the candidates' entry requirements for postgraduate study. The findings also suggest that postgraduate education today requires a sustainable quality environment that can provide structured and

progressive support to address the basic competencies of postgraduate students so that they develop into autonomous life-long scholars capable of taking responsibility for their own learning.

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