



RESEARCH PRACTICE AND BELIEFS AMONG IN-SERVICE ENGLISH TEACHERS IN MALAYSIA: A CURIOSITY-DRIVEN STUDY

Teh, D. B.

Independent Researcher, New Zealand.

Corresponding Email :dteh640@aucklanduni.ac.nz

Abstract

Malaysian in-service teachers are familiar with concepts of “teacher practitioner” and “teacher researcher” but how do these permeate in their practice? A curiosity-driven study was planned to investigate how central research is to their continuous professional development. The study builds on this curiosity with the framing of crucial research questions and is followed by a bilingual online questionnaire which identified their research practices and beliefs. The findings were triangulated against current literature to illustrate the current research climate in the Malaysian education system. Findings show that positive school climate promotes classroom research among teachers, but heavy workload and lack of interest impede a research-driven practice in Malaysian schools. Teachers tend to conduct research alone, even when support from peers and superiors are present. Despite familiarity with various research paradigms, they produce little documented research output. Relevant suggestions and recommendations were highlighted towards cultivating better research climates to bring about positive impact and change to existing practices in Malaysian schools.

Keywords: Curiosity-Driven study, Research Practice, Research Beliefs, Teacher practitioner, Teacher researcher.

1. Teacher Research: A Curiosity

At a global stage, teacher research is not a new movement. Cochran-Smith & Lytle (1999) outlined as many as five major movements that took place in series since the early 70's in teacher research. Considerable amount of attention is given to empower teachers as decision makers in the classroom and developing teacher research into a distinctive paradigm of its own. Multiple conceptual frameworks flourish in various epistemological interpretations, which are followed by the emergence of critics against the rapidly developing teacher research movement (Cochran-Smith, Lytle, 1999).

Similarly, Crookes (1993) and Adler (1993) have both written extensively on how research carried out in the classroom has impacted on teaching practice. In particular, the introduction of action research as a reflective practice has “blurred boundaries between practitioner and researcher” (Adler, 1993, p.165). At the same time, teacher research has also allowed teachers to question previously unchallenged and “unquestioned value embodied in educational institution” (Cooke, 1993, p.137).

It is, therefore, ironic that the research-practice gap remains prominent in present literature. More recent scholars such as Korthagen (2007), Rust (2009) and Rahman & Pandian (2016) have highlighted that the gap between theory and practice remains large as ever, something that the literature is increasingly critical about even after decades since the advent of the teacher research movement.

2. Research Problem

Considering the amount of emphasis given to teacher research, we have yet to see it become a culture that permeates the classroom, both internationally and locally. Within the Malaysian context, the detachment of theory and practice is far more worrying. Studies have shown that teacher professional development is mostly perceived as highly structured and rigid, yet equally frustrating and ineffective in really enacting reform (Petras, Jamil & Abdul Rashid, 2012). Teachers are described as reluctant to change and improve their approach in the classroom (Saleh & Aziz, 2012), partly due to the existing power play between researchers and teachers, resulting in mutual distrust between both camps. Educational reform brought about by ambitious policy making (Malaysian Educational Blueprint, 2013) has yet to yield satisfactory outcomes, evident in the lack of a school culture towards cultivating a working environment that encourages research (Rauf, Ali, Aluwi, & Noor, 2018).

Since the importance of teacher research towards pedagogy cannot be understated, it is therefore crucial to understand the teachers' existing research practices and beliefs. Specifically, by understanding the extent how research is in their teaching philosophies, steps can be taken to help to reorient Malaysian in-service teachers towards a research-driven practice. Hence, the research questions outlined in this study are as follows:

Main Research Question:

What are the research practices and beliefs of Malaysian in-service teachers?

Sub-questions:

- (i) Are there any personal or professional factors in schools that encourage research among Malaysian in-service teachers?
- (ii) What are the most commonly used research procedures among Malaysian in-service teachers?

Since inferential statistics was required to answer sub-question (i), a research hypothesis is formulated as follows:

- (i) There is no relation between the respondents' personal or professional factors with their actual research practice in school.

3. Data Collection Methods

This study employs a curiosity-driven paradigm (Teh, 2019), with the focus highly oriented towards the investigation of a central and intriguing research question. Contrary to other common research frameworks, this paradigm calls for an investigation in the absence of literature until substantial findings are procured (Teh, 2019). The findings are only discussed against literature at the end since "working on literature early on in the study can discourage one from investigating further" (Teh, 2019), hence overlooking certain aspects of the study that may have gone unnoticed in current literature.

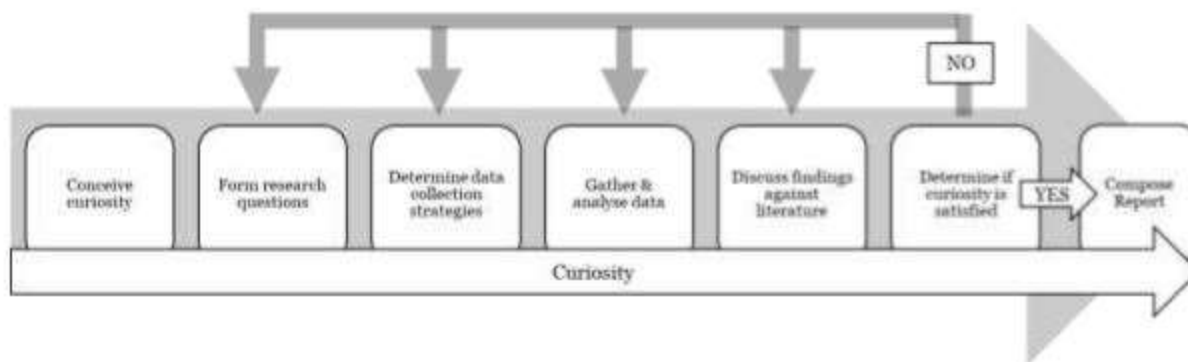


Figure 1 Revised Curiosity-driven Paradigm (Teh, 2019)

To address the research question, an online bilingual questionnaire was crafted using the webbased Google Forms application. The questionnaire consists of four major sections, namely:

Table 1 Questionnaire Topics

(i) Basic Personal Information	Basic information regarding respondents' teaching profession
(ii) Experience in Conducting Research	Information about respondents' experience in research
(iii) Common Research Practice	Respondents' preferred manner of conducting research
(iv) Research Beliefs and Philosophy	Respondents' underlying principles towards conducting research

In general, the items in the questionnaire are highly structured and close-ended, with only several items that are open-ended to collect some qualitative data from the respondents. The questionnaire was then administered via a Virtual Learning Environment (VLE) system that consists of mostly secondary English language teachers. Given the respondents familiarity with the VLE system, computerized communication and correspondence, it is safe to assume that they are relatively computer and social media literate. Several teachers in the group teach multiple subjects apart from English, hence some have experience in research that is not limited to language learning and teaching. Since this study looks at the research beliefs and philosophies of teachers, only educational research is taken into consideration. Studies that teachers may have undertaken in universities or colleges that are unrelated to education are excluded from this study.

4. Data Analysis

A total of 74 responses were received online. 2 responses were excluded due to incomplete and dubious responses. The responses were downloaded and transposed into Statistical Package for the Social Sciences (SPSS) Version 25. Two forms of analyses took place: (i) Macro (ii) Micro. Macro-analysis includes the use of Spearman's Rho Analysis and Chi-Square Test to investigate the relation among variables that may indicate any correlation between the respondents' personal and professional context with their actual research practice. Microanalysis involves the use of Frequency Analysis and percentage breakdown of the respondents' actual research practice to further illustrate how their practice might have been affected by their immediate working environment. Some open-ended responses were analysed in tandem with the general findings of the study.

5. Findings

Due to limited space, only findings that are essential to the study are presented here.

Respondents' personal and professional background:

Table 2 Respondents Personal and Professional Information

Types of Institution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary Education	4	5.6	5.6	5.6
	Secondary Education	65	90.3	90.3	95.8
	Tertiary Education	3	4.2	4.2	100.0
	Total	72	100.0	100.0	

Highest Academic Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma Degree	1	1.4	1.4	75.0
	Bachelor's Degree	53	73.6	73.6	73.6
	Master's Degree	18	25.0	25.0	100.0
	Total	72	100.0	100.0	

Discipline

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Humanities	6	8.3	8.3	8.3
	Language	63	87.5	87.5	95.8
	Remedy Teaching / Therapy	1	1.4	1.4	97.2
	Science & Maths	1	1.4	1.4	98.6
	Vocational	1	1.4	1.4	100.0
	Total	72	100.0	100.0	

Have you ever conducted any research/study before?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	18	25.0	25.0	25.0
	Yes	54	75.0	75.0	100.0
	Total	72	100.0	100.0	

54 respondents (n = 72) stated that they have experience conducting educational research while 20 respondents (n = 72) replied that they have never conducted any form of research prior to answering the questionnaire. They were immediately redirected and subsequently bypassed the rest of the questionnaire to the final section, where they were required to explain why they were not involved in any kind of research or studies (Table 6). This will be revisited in the latter section of the paper.

Table 3 Academic Qualification & Research Experience
Chi-Square Test

Crosstab					Chi-Square Tests		
Count		Have you ever conducted any research/study before?		Total	Value	df	Asymptotic Significance (2-sided)
		No	Yes				
Highest Academic Qualification	Diploma	1	0	1	Pearson Chi-Square	10.415 ^a	0.005
	Bachelor's Degree	17	36	53	Likelihood Ratio	14.468	0.001
	Master's Degree	0	18	18	N of Valid Cases	72	
Total		18	54	72	a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .25.		

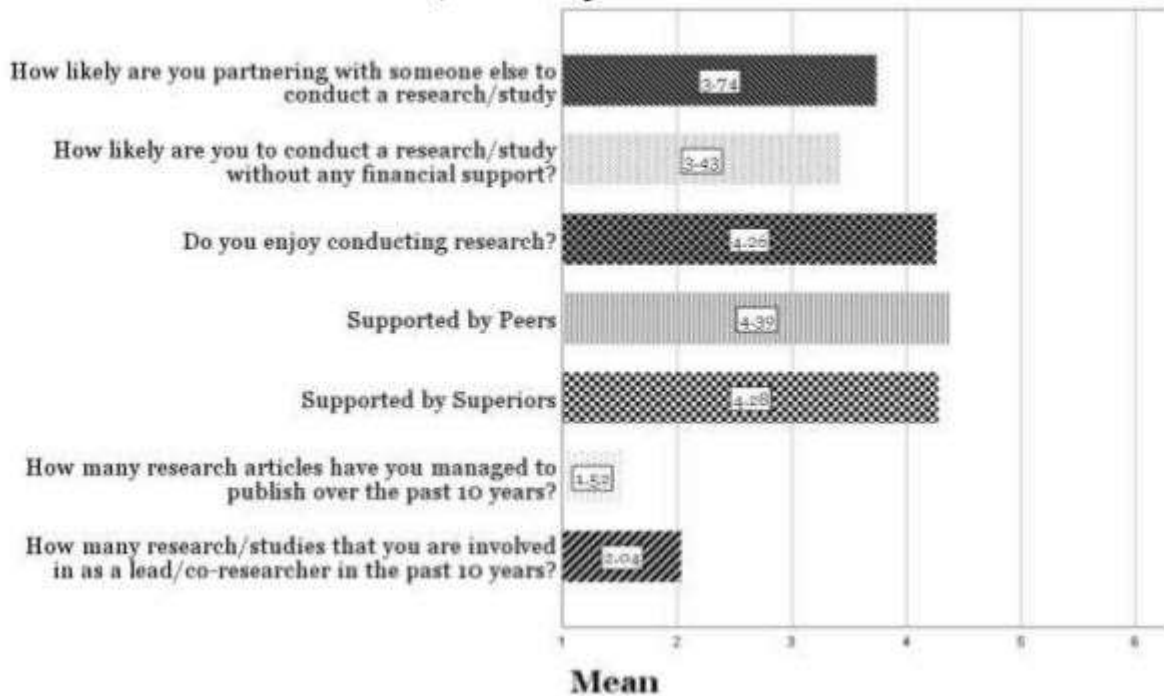
A Chi-Square test was conducted to see if these factors influence any of the respondents' decision to engage in research. Particularly, the respondents' academic qualification indicated a corresponding relation with their research experience ($n = 72$, $\chi^2 = 10.415$, $p < .01$). This is unsurprising considering that most educational degrees today require some sort of research paper as a requirement to graduate or complete a course. Halim & Meerah (2016) noted that "the use of research findings by teachers would be a culture when they seek for higher education" (p.90), which supports this finding. Follow-up investigation can measure the exact number of research that the respondents had conducted as they progress towards higher academic qualification. But, based on this information, it is not far-fetched to speculate that they have a higher tendency to conduct more classroom research outside their studies.

Those who indicated zero experience in research could have entered the teaching profession much earlier, when once Malaysian teachers were only required to be certificate and diploma holders (Salih, 2006), so they were not expected nor required to do any form of research. It was only as recent as 1998 when the Ministry of Education, Malaysia, launched a nationwide upscaling programme for teachers with diploma qualification or lower called the Program Khas Pensiswazahan Guru (PKPG) (Salih, 2006). The programme, now commonly known as Program Pensiswazahan Guru (PPG), is still implemented as recent as 2013, with the last batch graduating in 2017. As of 2019, no new intakes have been announced yet.

6. Research Experience

Respondents were requested to answer each item using a 6-point Likert scale, with "0" being very negative or nearly non-existence to "6" being very positive and very productive (more than 10). Overall, the respondents were moderately positively when it comes to conducting research in schools, reflected in the mean score of 4.26 regarding research enjoyment (Table 4).

Table 4 Research Experience Mean Value



The respondents' positive perception towards research is further enhanced by the fact that they feel supported by their peers ($\bar{x} = 4.39$) and their superiors ($\bar{x} = 4.28$). A Spearman's Rho crosstab analysis (Table 5) further revealed that respondents were more likely to engage in classroom research alone without any financial support or research grant as long as they feel supported by their peers ($n = 54, r = .478, p < .01$) and superiors ($n = 54, r = .348, p < .05$). This also shows that peer encouragement is seemingly more valued compared to recognition given by their superiors (Table 5), although having support from both parties would provide the best extrinsic motivation for them to be more research-oriented ($n = 54, r = .70, p < .01$).

These are therefore crucial elements that would help cultivate a positive school climate which "promotes collaboration and learning communities" (Cohen, McCabe, Michelli & Pickeral, 2009, p.186) especially among its teaching staffs. A supportive school climate, Cohen et al. (2009) added, will create stability and provide a platform for teachers to be adventurous and engage in exploratory investigations in the classroom.

These findings, nevertheless, also contradicted what Petras, Jamil & Rashid (2012) reported in their study, as the obstructive attitude of the school management or administration towards research and the "lack of support by school administration" discourage any attempt for professional development (p.63). Echoing this, Crooke (1993) had long warned and foreseen that school administrators may have contradictory objectives than the teaching staffs, and as a result are more likely to be resistant to educational reform. Cohen et al. (2009) too cited inadequate support from school administrators as one of the reasons for unsupportive school climate towards a research-driven practice.

		Research participation over the past 10 years?	Research publication over the past 10 years?	Supported by Superiors	Supported by Peers	Tendency for Research without financial support?	Tendency for research partnership?
Research participation over the past 10 years?	Correlation	1.000	.270*	.212	.175	.233	-.048
	Coefficient						
	Sig. (2-tailed)	.	.049	.125	.206	.090	.729
	N	54	54	54	54	54	54
Research publication over the past 10 years?	Correlation	.270*	1.000	.162	.010	.200	.085
	Coefficient						
	Sig. (2-tailed)	.049	.	.243	.944	.148	.541
	N	54	54	54	54	54	54
Supported by Superiors	Correlation	.212	.162	1.000	.700*	.348*	.219
	Coefficient						
	Sig. (2-tailed)	.125	.243	.	.000	.010	.112
	N	54	54	54	54	54	54
Supported by Peers	Correlation	.175	.010	.700*	1.000	.478*	.216
	Coefficient						
	Sig. (2-tailed)	.206	.944	.000	.	.000	.116
	N	54	54	54	54	54	54
Tendency for Research without financial support?	Correlation	.233	.200	.348*	.478*	1.000	.048
	Coefficient						
	Sig. (2-tailed)	.090	.148	.010	.000	.	.732
	N	54	54	54	54	54	54
Tendency for research partnership?	Correlation	-.048	.085	.219	.216	.048	1.000
	Coefficient						
	Sig. (2-tailed)	.729	.541	.112	.116	.732	.
	N	54	54	54	54	54	54

*. Correlation is significant at the 0.05 level (2-tailed).

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

It was lamented how teachers are being subverted in their purpose as educators, with their professional values as innovators in the classroom and their role as catalyst for educational reform ignored (Crooke, 1993). In contrast, the findings of this study indicate that school administrators and leaders may have embodied a more positive outlook towards classroom research, with most respondents reporting more supportive and encouraging superiors in schools.

However, the respondents (Table 4) were neither positive nor negative towards collaborating with others when it comes to research ($\bar{x} = 3.74$). The Spearman's Rho crosstabulation analysis (Table 5) further confirmed this phenomenon, where support by peers ($n = 54, r = .216, p > .05$) and superiors ($n = 54, r = .70, p > .05$) yielded weak correlational strength. Unsurprisingly, Korthagen (2007) also wrote that "even within the research community itself, collaboration is

lacking” (p.304). To this, Adler (1993) and Crooke (1993) warned against reflective practice being an individual endeavour as classroom inquiry will be more successful at bringing change to existing practice (Rust, 2009). While these findings are far from conclusive, it is worrying that the collaborative culture in research is relatively absent among the respondents.

As mentioned previously concerning the correlation between the respondents’ academic qualification and tendency towards a research-driven practice (Table 3), Halim & Meerah (2016) speculated that classroom research among Malaysian teachers are usually individualistic because of their experience during their academic studies - research projects tend to be completed alone and are summative in nature, in addition to be geared towards graduation and obtaining certification. This is especially true since most respondents are indifferent towards forging partnership in classroom research (Table 4).

These findings suggest that there is still room for Malaysian teachers to be further encouraged to engage in collaborative research. However, it is confounding that the respondents’ research output over the past 10 years of service has been limited, both in terms of studies conducted and papers published despite their positive attitude towards research. One respondent noted that he often does research informally in the classroom but there was no real need for academic documentation and publication.

”As I did not further my studies so it’s natural that I would not be involved in any Formal Research or studies but informally as teachers we do research and studies on our students all the time...So mind you, we teachers do research but not formally.”
(Respondent 42)

But this was only one response out of a total of 18 who stated that they have no experience with classroom research. The fact that financial considerations ($\bar{x} = 3.43$) when conducting research (Table 5) is ranked as a relatively minor concern further compounds this mystery. What is stopping Malaysian teachers from participating in more classroom research, especially when the conditions are primed for a research-oriented practice to prosper in Malaysian classrooms?

7. Current Obstacles towards Classroom Research

The 18 respondents (n = 72) who indicated zero experience in research prior to this study provided a total of 22 reasons why they were not involved in any form of research in their practice. It is also noted that some respondents provided more than 1 response, hence the discrepancy between the number of respondents and the total number of responses. The reasons are categorized into six main factors.

Table 6 Factors Impeding Classroom Research

No.	Category	Tally	Percentage
1	Lack of knowledge and skills	3	13.64%
2	Lack of support/opportunities	1	4.55%
3	Lack of interest/motivation	9	40.91%
4	Heavy workload/time constraint	7	31.82%
5	Focus on application/Consumption of research	1	4.55%
6	Informal research	1	4.55%
Total		22	100%

The percentage breakdown of the factors impeding classroom research (Table 6) clearly shows that lack of interest/motivation (40.91%) is a major obstacle to classroom research in Malaysia. This finding resonates with what Petras et al. (2012) reported in their study, where educational policy-makers treat Malaysian teachers as mere “rational and instrumental actor” (p.52). Consequently, teachers are seen and treated as consumers of research rather than potential contributors (Petras et al, 2012). This is evident and reflected in the recent aggressive push

towards standardizing the Malaysian English language syllabus based on the British-centric Common European Framework of Reference (CEFR). The present top-down, heavily regulated curriculum approach in the Malaysian education system does not provide room for teachers to explore the use of research to inform practice (Halim & Meerah, 2016, p.90).

On top of that, the “relative under-payment of educators” (Petras et al., 2012, p.56) is not a strong motivation for teachers to undertake extra clerical work, to collect data, produce report and publish their findings. Likewise, teachers who “conduct research or completed their further studies” (Halim & Meerah, 2016) were not rewarded for their efforts in terms of career progression, thus further dampening any intentions of investing time and money into their own professional development.

Secondly, heavy workload in schools (31.82%) is another major concern why the respondents are reluctant to engage in classroom research. Malaysian teachers have quoted “numerous administrative duties” and “direct teaching tasks” as the largest source of heavy workload in schools (Petras et al., 2012, p.55). In addition to being saddled with issue of large class size (p.63), Malaysian teachers have little to no time for other endeavours such as classroom research.

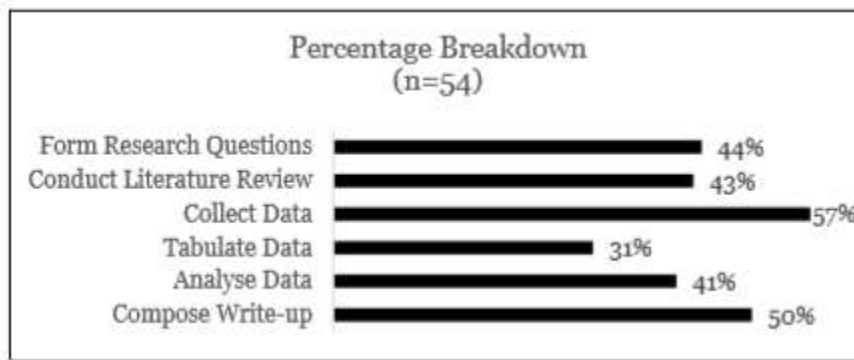
Thang et al. (2012, in Petras et al., 2012, p.56) wrote that “the lack of time has a reportedly serious impact on the use of new tools, ideas and practices”. Halim & Meerah (2016) partly attributed this to the “heavily centralized education system” (p.90), where a culture of research is not given priority. To her credit, the Ministry of Education (MOE), Malaysia, recognises the “overly centralised structure in the system” that is manifested in the form of a “top-down policy making” procedure (MOE, 2013, p.6-1). In response, the ministry subsequently attempted to address this issue in the form of the National Education Masterplan (2006 – 2010) and National Education Blueprint (2013 – 2015).

A series of reforms was introduced, such as providing “online context to share best practices” in key subjects (MOE, 2013, p.31), “full time teaching support” in the form of School Improvement Specialist Coach (SISC+) (p.4-3) and “increasing research and innovation activities” in teacher training colleges (p.5-5). But, the outcomes of these reforms remain unconvincing. While research is encouraged in teacher training colleges, there was, ironically, no mention of encouraging research among Malaysian in-service teachers serving in schools.

8. Common Research Practice

The respondents were also asked to indicate the order of research procedures that they usually observe when conducting research. The respondents followed a general trend as proposed in most social science and educational research textbooks (Cresswell, 2002; Punch, 2014).

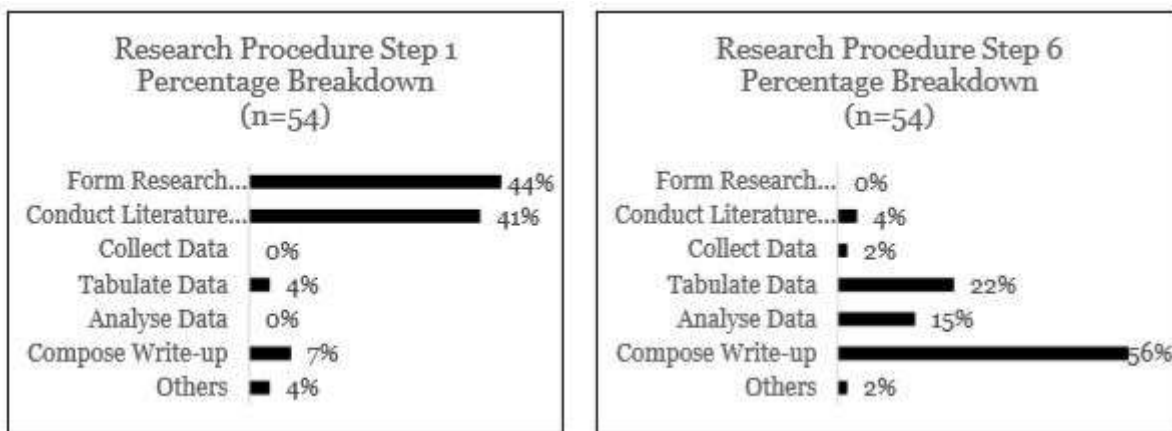
Table 7 Research Procedure (Composite View)



When looking at the percentage breakdown at each procedure, it is obvious that not all the respondents followed the same order. 41% of the respondents (Table 8) began their research by conducting literature review without first constructing a research question, contrary to what is typically suggested by scholars (Cresswell, 2002; Punch, 2014). A small number of respondents (7%) stated that they write as their research progresses, an approach that could suit teachers who are too busy with school work to set aside a dedicated time for classroom research.

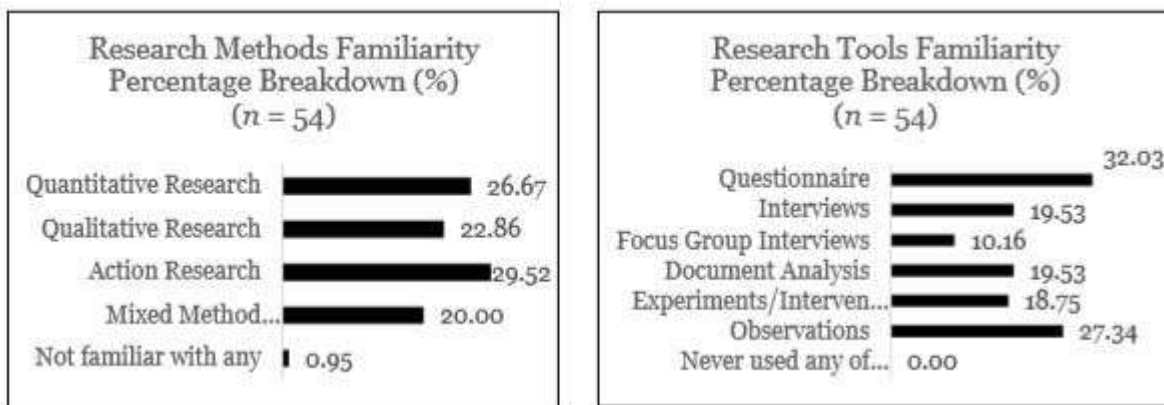
Interestingly, 4% of the respondents (Table 8) conducted their literature review towards the end of the study. Again, this could be indicative that the respondents were unable to conduct extensive literature search due to heavy workload and time constraint. This reinforces the idea that teachers are discouraged from referring to literature for practical application and solution to address the problems they encounter in the classroom. Unsurprisingly, this is mainly due to the existing research-practice gap (Cookes, 1993; Korthagen, 2007; Wahid & Sulong, 2013; Rahman & Pandian, 2016).

Table 8 Commonly Practice Research Procedures (Selective View)



9. Familiarity towards Research Methods and Tools

Table 9 Percentage Breakdown according to Research Methods and Tools



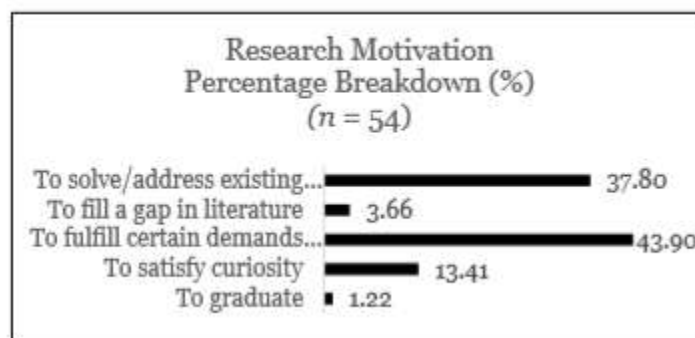
Similarly, the respondents provided further insights about their familiarity with research methods and tools (Table 9). 30% of the respondents indicated that they are most familiar with Action Research as it has been “propagated since 1994” among teachers (Halim & Meerah, 2016, p.90). It is safe to assume that the respondents understand action research as “local capacity of inquiry and problem-solving” (Cookes, 1993; Adler, 1993), “emancipatory and empowering”

(Cooke, 1993; Cochran-Smith & Lytle, 1999), “collaborative” (Cooke, 1993; Adler, 1993; Cochran-Smith & Lytle, 1999) and “teacher-oriented” (Cooke, 1993).

Considering their familiarity with this method, it is reasonable to believe that Malaysian teachers often carry out action research in the classroom. Yet, they lack time for research (Rahman & Pandian, 2016), expertise to “translate evidence-based teaching into their practices” (Halim & Meerah, 2016, p.86) and freedom to enact change in classroom practice (Adler, 1993; Petras et al., 2012; Rahman & Pandian, 2016), thus preventing a more consistent effort to share and publish their research findings.

In terms of research tools, the respondents are most familiar with questionnaires and observations, the two staples in quantitative and qualitative research, and by extension, action research. Apart from these two, the respondents seemed to be equally familiar with the other instruments, again reinforcing the notion that they are well-informed about different ways data can be collected in the classroom. This validates Rust’s (2009) description of teacher research as “inquiry that draws on techniques that are generally already part of the instructional tool kit of most practitioners” (p.1883). Hence, the respondents represent what Cochran-Smith & Lytle (1999) envisioned a teacher-researcher to be - both “knower and agent of change” (p.22), putting them into position to highlight political and social issues to facilitate change and reform in schools.

Table 10 Percentage breakdown according to Research Motivation



Unfortunately, these aspirations may not be apparent and evident among the research practice and beliefs of Malaysian teachers. When examining the respondents’ motivation to do research (Table 10), it is noticeable that their primary objective is either “to solve/address existing problems or issues” (37.80%) or “to fulfill certain demands in the field” (43.9%). This finding correlates with present literature, where research is conceived by teachers to “problem solve” (Cooke, 1993; Fries & Cochran-Smith, 2006; Green et al., 2016) and to address the “growing credentialism of formal professional development” (Petras et al., 2012, p.55), where massive drive initiated by Ministry of Education to upscale Malaysian in-service teachers to achieve statistical idealism takes precedence.

10. Conclusion

The findings of this study are deemed sufficient to address the curiosity and answer the research question and sub-questions outlined in the beginning of the paper. A brief summary is attempted here to consolidate the findings within the context of Malaysian in-service teaching community.

Resolving Curiosity: A Summary

Malaysian in-service teachers generally hold positive outlook towards classroom research, which is evident in the data presented in this paper. Specifically, it is shown that a research positive

school climate and combinations of several personal and professional factors, are quintessential for classroom inquiry or research to take place in the Malaysian classroom (Table 4). Also, the teachers' own academic background, especially if they have undertaken postgraduate studies, greatly enhances their own research practice and beliefs (Table 3).

Concurrently, it is noted that they are familiar with major research methods and tools, despite a preference for action research due to their focus on problem-solving practical issues in the classroom. These effectively disprove the research hypothesis, reaffirming that personal and professional factors in schools do affect research practice and beliefs of Malaysian teachers.

However, the findings suggest that Malaysian in-service teachers are indifferent about collaborating with others in research (Table 4 & 5), even when supported by both peers and superiors, especially when heavy workload is cited as a major obstacle to classroom research (Table 6). Equally worrying is the fact that there is severe lack of research output among Malaysian in-service teachers (Table 4 & 5), which indirectly discourages a culture of research among the teaching community. This is further compounded by the fact that some teachers conduct research merely to achieve basic credentials for them to continue teaching (Table 10).

Methodology Review

From a methodological point-of-view, the findings of this study resonate with the Curiosity-driven paradigm (Teh, 2019), which proposes delaying literature review towards the end of the study, allowing the curiosity-driven research question to take the central stage. Likewise, the eclecticism of the paradigm's data collection methods also plays well with the respondents' tendency to focus on research tools (Table 9), as opposed to any overarching research methodology, considering that action research itself is very much eclectic. A curiosity-driven paradigm would encourage teachers to conduct and publish more classroom research to satisfy their curiosity (13.41%), something that this study discovered to be lacking (nearly nonexistent) among the respondents (Table 4 & 10).

Nevertheless, more detailed studies into the teachers' actual research practice in classrooms could further determine the suitability of this paradigm in teacher research, but at present it appears to be promising.

Research Limitation

Since this study involves a very small sample size, the findings will be far from representative of all Malaysian in-service teachers. At best, due to the nature of the sampling method and profiling, these findings are mainly applicable for secondary English language teachers who are technologically savvy enough to navigate through and utilise VLE systems as part of a Public Learning Community (PLC).

Recommendations for Future Studies

While qualitative data collected in this study can explain some of the phenomena highlighted in this paper, future studies would benefit from a more in-depth and possibly narrative exploration. Some suggested topics of interest that could be worth investigating as proposed by existing literature include:

- (i) Educational reform and change
 - a. how existing educational policy and structure can further encourage classroom research (Rust, 2009; Coburn & Penuel, 2016; Rahman & Pandian, 2016); and
 - b. how classroom research can inform educational policy (Cochran-Smith & Lytle, 1999; Fries & Cochran-Smith, 2006; Korthagen, 2007; Rust, 2009; Halim & Meerah, 2016; Rauf et al., 2018):
- (ii) Innovation in teacher research

- a. innovative forms of research that address the obstructions and challenges in classroom or educational research (Cooke, 1993; Teh, 2019);
- (iii) Teacher professional development
 - a. creating platforms to recognise and appreciate teacher research (Fries & Cochran-Smith, 2006; Halim & Meerah, 2016); and
 - b. creating transparent opportunities for teachers to address concerns about educational and social policies (Cooke, 1993; Adler, 1993; Cochran-Smith & Lytle, 1999; Rust, 2009; Petras et al., 2012; Rahman & Pandian, 2016; Rauf et al., 2018)



References

- (i) Adler, S. A. (1993). Teacher education: Research as reflective practice. *Teaching and Teacher Education*, 9(2), 159-167.
1. Coburn, C. E., & Penuel, W. R. (2016). Research–practice partnerships in education: Outcomes, dynamics, and open questions. *Educational researcher*, 45(1), 48-54.
2. Cochran-Smith, M., & Lytle, S. L. (1999). The teacher research movement: A decade later. *Educational researcher*, 28(7), 15-25.
3. Cohen, J., McCabe, L., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers College Record*, 111(1), 180-213.
4. Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative research*. New Jersey: Prentice Hall.
5. Crookes, G. (1993). Action research for second language teachers: Going beyond teacher research. *Applied linguistics*, 14(2), 130-144.
6. Fries, K., & Cochran-Smith, M. (2006). Teacher Research and Classroom Management: What Questions Do Teachers Ask? In C. M. Evertson & C. S. Weinstein (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues*. Routledge.
7. Halim, L., & Meerah, T. S. M. (2016). Science education research and practice. *Malaysia Science Education Research and Practice in Asia* (pp. 71-93). Springer.
8. Korthagen, F. A. (2007). The gap between research and practice revisited. *Educational Research and Evaluation*, 13, 303-310.
9. Ministry of Education, M. (2013). *Malaysia Education Blueprint 2013-2025 (Preschool to Post-Secondary Education)*. Putrajaya: Ministry of Education, Malaysia
10. Petras, Y., Jamil, H., & Abdul Rashid, M. (2012). How do teachers learn? A study on the policy and practice of teacher professional development in Malaysia. *KEDI Journal of Educational Policy*, 9(1).
11. Punch, K. F. (2014). *Introduction to Research Methods in Education*. Sage.
12. Rahman, M. M., & Pandian, A. (2016). The gap between research and practice in the field of SLA: The rationale behind it and bridging the gap. *Journal of Applied Linguistics Language Research*, 3(3), 162-172.
13. Rauf, P. A., Ali, S. K. S., Aluwi, A., & Noor, N. A. M. (2018). The effect of school culture on the management of professional development in secondary schools in Malaysia. *MOJES: Malaysian Online Journal of Educational Sciences*, 2(3), 41-52.
14. Rust, F. (2009). Teacher research and the problem of practice. *Teachers College Record*, 111(8), 1882-1893.
15. [16] Saleh, S., & Aziz, A. (2012). Teaching practices among secondary school teachers in Malaysia. *International Proceedings of Economics Development Research*, 47(14), 6367.
16. Salih, M. (2006, 26-28 Jun 2006). Performance of Bachelor of Education (science) Graduates of Universiti Pendidikan Sultan Idris (UPSI) from the PKPG Programme: A survey. Paper presented at the Persidangan Biologi Kebangsaan, Kuala Lumpur, Malaysia
17. Teh, D. B. (2019). Curiosity-Driven Study: A Paradigm Revisited. *Malaysian Journal of Social Sciences and Humanities*, 4(3), 33-43.
18. Wahid, R., & Sulong, S. (2013). The gap between research and practice in the teaching of English pronunciation: Insights from teachers' beliefs and practices. *World Applied Sciences Journal*, 21, 133-142.