

The Impact of the Linus Literacy Program on Reading Ability Skills in Malaysia

This study was conducted to identify factors contributing to reading proficiency among primary school students who attended the LINUS literacy Program in Malaysia. A total of 108 students were selected to participate in this study, which used a mixed method. The findings show no significant difference in the proficiency of reading aspects between students in terms of gender. However, the findings proved that students whose parents work in the government sector show better achievement than students from the family where their parents work in the private sector. This study also found that students obtained a better command in reading during the post-test was higher than during the pre-test stage. A qualitative approach is applied to obtain desired data by using observation, interview and document review techniques. The study found that the LINUS teachers used various methods such as demonstrations, instructions, drills and fun learning during teaching sessions while incorporating learning aids; for instance, scan cards and reading kits help students recognise syllables and increase reading ability. Low-income parents, type of occupation, passive LINUS students and frequent absenteeism are among the constraints identified in this study.

Keywords: Education, Program LINUS, literacy, primary schools

The problem of literacy mastery among students is an issue that has not yet been fully addressed. Various programs have been implemented to address the problem. The LINUS Program is one of the National Key Result Areas (NKRA) under the Ministry of Education (MoE) Malaysia. The LINUS program, which stands for literacy and numeracy screening, is a continuous step from the existing program and has been planned more systematically to address students who have not mastered basic literacy skills. The program is designed to ensure that students master the Malay language's basic literacy and numeracy skills in the first three years of schooling at the primary level.

Primary schools throughout Malaysia have implemented the LINUS Program to ensure that children successfully master the basic skills of LINUS. To prevent students from dropping out, the LINUS Program is planned and held to strengthen the education system in the country. Student outcomes can be improved from time to time with the LINUS Program. Teachers need to help students who are weak in mastering literacy skills and master those skills before the end of Level One schooling. Mastery literacy skills will make students more productive and confident to participate in society and the local community.

Not being able to master reading skills by school children is taken seriously by the government, which targets a zero illiteracy environment by 2020. Based on the MoE Report in 1993, 80,000 primary school students in Malaysia facing problems in basic proficiency, namely read and write. According to Jamian (2016), the reading process is essential and should be mastered by all students. Report of the Special Rehabilitation Program

1 Evaluation Study in the primary by the Planning and Policy Research (2002),
2 in 1999, 78,000 primary school students did not master reading and writing
3 ability in Malay language and need special remedial classes. The report also
4 outlined various cases related to special rehabilitation education.

5 The ability to be in primary school literacy in the Malay language subject
6 is a vital skill to be mastered by them from the early stages of schooling. Under
7 the NKRA, the MoE intended to ensure that every student should master
8 literacy in languages other than English, except for students with special needs
9 after three years of primary school education (Melissa, Gunasegaran, Kung
10 Lung Chiong, 2018). Therefore, to improve students' ability in literacy learning
11 the Malay language, the MoE has made a significant shift by implementing a
12 program of literacy and numeracy named Program Literacy and Numeracy
13 Screening (LINUS) since 2010. The LINUS program is a program that
14 identifies problems of dropout among Year One to Year Three to master
15 reading and writing skills. Following the implementation of this program, the
16 Malaysian Examinations Board has provided teachers and students modules
17 that adhere to an integrated literacy approach. Among the elements found in
18 the teaching and learning of the LINUS literacy program is teaching students
19 with entertaining activities such as singing, games, etc. Next, this study will
20 examine the extent to which demographic factors are closely related to the
21 reading aspects of the LINUS Literacy Program of primary school students.

22 This study looks at the demographic point of view, namely gender, whom
23 the student lives with, the student's early education, the parents' income and
24 level of education. Chakravarthy (in Palaniappen, 2009) proved that cultivating
25 the habit of reading plays a crucial role in a family. Nurturing the habit and
26 interest in reading has a very close relationship with the family lifestyle, the
27 relationship between the child and the parents at home, and the family's
28 socioeconomic status. Fostering a child's interest in reading through intimate
29 reading leaves nine positive effects.

30 Therefore, it is clear that cultivating the habit and interest in reading
31 among children is a great responsibility for every parent. According to Koh
32 (2006), illiterate students in Year One are more likely to experience similar
33 problems throughout their schooling. This is because failure to read well will
34 affect a child's mastery of skills in school. Reading problems are not
35 something to be taken lightly. Statistics in 2019 show that 40% of the 469.038
36 pupils in Year One face problems reading in Malay. According to the
37 researcher, several other factors cause students to lack mastery of reading and
38 writing skills, such as the role of students, school, parents, and the
39 environment.

40 The MoE has formulated and implemented the LINUS Program to ensure
41 that Year Three students in National Schools (SK) can master literacy and
42 numeracy from 2012 (Ministry of Education, 2010). Serious attention to the
43 issue of failing literacy and numeracy is considered as it relates to the country's
44 progress in the long run. The study of Muller and Murtagh (2000) found that a
45 total of 877 million people of the world in 2000 did not master the basic skills
46 of reading and writing. Meanwhile, the Tawau District LINUS Screening

1 Report (2016) shows that a total of 4,200 Year One students participated in the
2 LINUS program. Findings of the LINUS Literacy Screening Test 2 showed
3 that 190 or 4.52% of the students involved with the LINUS Literacy Program
4 did not master Constructs 1-2, while 737 (17.55%) students failed to master
5 Constructs 3-12. Meanwhile, out of a total of 4,326 Year Two students who
6 participated in the LINUS Program, a total of 25 students or 0.58% did not
7 master Constructs 1-2, and 22 or 5.18% students did not master Constructs 3-
8 12.

9 Therefore, it is clear that there is a problem of reading proficiency among
10 primary school students, namely in terms of the achievement of recognising
11 letters, syllables, words and sentences. Accordingly, this study will identify the
12 factors that affect the mastery of literacy, especially among students of the
13 LINUS Program. Therefore, the study was conducted based on the following
14 objectives: to identify demographic factors that affect aspects of reading among
15 primary school students that attended the LINUS Literacy Program; to examine
16 the teaching activities of teachers to students of the LINUS Literacy Program,
17 and to identify the constraints faced by LINUS Literacy Program students in
18 terms of reading ability.

19 The ability to read is a vital aspect of the process of applying knowledge.
20 This view implies that reading activities coincide with human behaviour that
21 will involve comprehension. Therefore, teachers involved in reading teaching
22 and learning activities need to ensure that both elements are taught in an
23 integrated manner to students, especially students who follow the LINUS
24 Program. The researcher hopes that the MoE, State Education Department,
25 District Education Office, principals, and researchers who teach the LINUS
26 literacy program will benefit from this study.

27

28

29

Literature Review

Theories Underlying the Study

30

31

32 The study was based on three theories: Vygotsky's Proximity Theory,
33 Cognitive Development Theory, and Bronfenbrenner's Ecological Theory.
34 Proximity Theory explains that the development of children's cognitive
35 thinking results from extensive social interactions, which allows them to
36 connect the basic knowledge with new acceptances. Children's social
37 interactions and behaviours also develop in stages based on their development
38 and growth process. Based on this theory, children are influenced by the social
39 world; children's interaction with others is a significant influence that could
40 improve their thinking. In the meantime, parents are the first human beings for
41 children to receive the experience of mastering the language. In the meantime,
42 according to the Theory of Cognitive Development, the concept of Proximal
43 Development Zone (ZPD) involves the following aspects:

44

- 1 i. Children that have the opportunity to be actively involved among more
2 mature and more adult members of society will become more skilled
3 and always think of something in their cultural circle; and
- 4 ii. Children will be more easily involved in society's culture and respond
5 to the environment by using the advantages of thinking, dialogue and
6 language mastery.

7
8 Sigelman and Rider (2003), through Bronfenbrenner's Theory of Ecology,
9 explained the aspects of human development and behaviour. The human social-
10 ecological environment is based on how individuals interact and consists of
11 five systems: the microsystem, the mesosystem, the exosystem, the
12 macrosystem, and the chronosystem. The microsystem is the system that has
13 the most influence on the development of children. The system covers one's
14 environment, such as around the house with parents and children or around the
15 school, with teachers and friends. According to White and Coleman (2000),
16 based on the philosophy of family ecology theory, schools and communities
17 are the responsible parties in providing early childhood education.

18 19 20 **Past Studies**

21
22 Literacy is an aspect related to one's culture and background. Children will
23 acquire language knowledge and skills through their parents and others around
24 them. Children will understand written material better in a language they know.
25 In revealing a child's literacy based on family and community background, it
26 depends on how the child involved is given a broader meaning about literacy
27 (Gillen & Hall, 2013). Thus, several studies examined the relationship of
28 parents, academic level of parents, and other aspects of demographics with
29 literacy ability among children. According to Hoff (2013), children from low
30 economic status are those from families whose parents have low income and
31 academic qualifications. Such children have a different level of language
32 development than children from the middle class, and they usually master one
33 language compared to middle-class children. Upon entering the school
34 environment, the child will face problems in the language class and obtain
35 lower marks than middle-class children. Jumiya (2014) stated that factors that
36 influence students' achievement include the attitude of students and parents,
37 self-identity, cultural differences, economic status, learning style, mother
38 tongue and teachers-students relationship.

39 Several studies in Malaysia have examined the relationship between
40 demographic factors and literacy proficiency among students. Among them is
41 Ruslida's (2005) study, which involved 125 parents and 125 preschool children
42 in five preschools, under the supervision of the MoE, in Petaling Jaya,
43 Selangor. The study examined the involvement of parents in four aspects,
44 namely providing guidance and material supports to their children, storytelling,
45 interaction and spending reading time with their kids. The study found a

1 significant relationship between parental involvement and the achievement of
2 essential reading skills among preschool children.

3 The study of Christopher et al. (2013) has explored the aetiology of
4 individual differences in reading development from kindergarten to fourth
5 grade by analysing data involving 487 pairs of twins in Colorado. Data from
6 three reading measures and one spelling measure were used to study
7 behavioural genetics regarding the aetiology of early reading development
8 among twins. The longitude study found a genetic influence on individual
9 differences from kindergarten to fourth grade. Lau's (2013) study has
10 examined five characteristics of parental involvement that could improve
11 students' command and proficiency. The five characteristics are the roles of
12 family, resilience, social supports, concrete supports, and attention. The study
13 of Raban and Nolan (2006) showed that early reading practices and exposure at
14 home would bring various advantages to children in mastering basic reading
15 skills. A study conducted in Victoria, Australia, showed that parental
16 involvement has started since their child was three years old. The results show
17 that reading storybooks to children will help them improve language skills and
18 inject a desire to learn and read. Chakravarthy (in Palaniappen, 2009) proved
19 that reading practices positively affect a child's reading habits.

20 A study by Hasnalee and Zulkifley (2001) found that demographic factors
21 of students and teachers do not affect reading and comprehension skills among
22 students. The expertise of LINUS Program teachers in determining the
23 readiness of students and the level of assistance given to LINUS Program
24 students will improve students' literacy mastery. The results also show that the
25 inability of teachers to identify children's problems at the time they first enter
26 school will impact the learning process and would prevent children from
27 gaining the full benefits (Achenbach, 1991; Offord & Lipman, 1996; Rimm-
28 Kaufman, Planta, & Cox, 2000).

31 **Conceptual Framework**

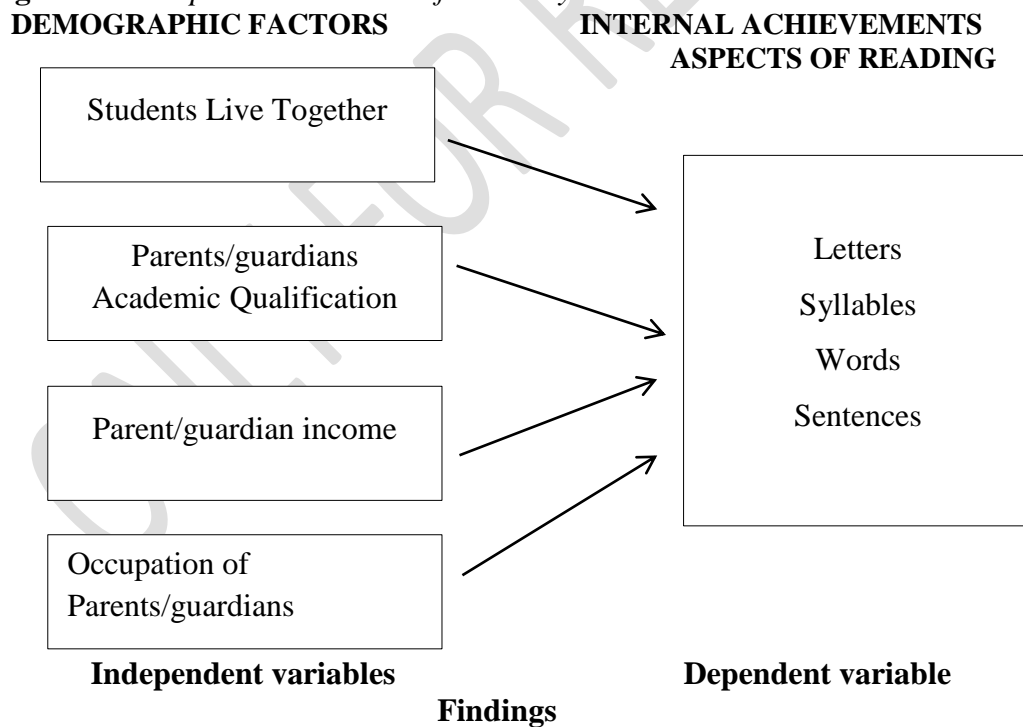
32
33 Based on the findings of previous studies, the researcher found that several
34 demographic characteristics have a relationship in terms of reading ability
35 among students. Thus, the researcher concluded that the factors that influence
36 the reading aspect of students are demographic factors such as early education
37 of students, gender, socio-economic level of their family, place of residence
38 and parental education level. Thus, Figure 1 is the study's conceptual
39 framework that summarises the variables used by the researcher.

40 **Methodology**

41
42 To collect the relevant data and meet the objectives outlined, the
43 researcher used a hybrid approach, a quantitative approach followed by a
44 qualitative method. Quantitative data was used to detect demographic factors
45 on aspects of reading command among LINUS Literacy Program students. The
46 study used two types of research instruments: a questionnaire to collect

1 information related to student demographics and achievement tests to measure
 2 student literacy. The achievement test that was used is the LINUS Screening
 3 Test. Inferential statistical analysis – t-test and ANOVA were applied to
 4 identify the effect of demographic factors on aspects of reading commands and
 5 determine the differences in the achievements, both at pre and post-test levels.
 6 In the meantime, qualitative data were obtained through the observation
 7 method by using parent-teacher interview instruments, teachers’ teaching
 8 reflections and researcher field notes. Under the quantitative approach, the
 9 researcher selected 108 students, involving five primary schools in the urban
 10 zone of the Tawau district. The researcher only focused on LINUS Literacy
 11 Year Three students and selected them using the sampling method based on
 12 Krejcie and Morgan formula. In the meantime, the researcher also ensured that
 13 the study complied with legal provisions, including laws related to children,
 14 minors and students' fundamental rights. Therefore, every student and parent
 15 involved in the study have the right to know about the purpose of the study.
 16 Apart from providing adequate information and explanations, all respondents,
 17 including teachers, were protected from ethics and confidentiality and were
 18 given assurance that information and responses shared only be used for
 19 academic purposes.

20
 21 **Figure 1** *Conceptual Framework of the Study*



42
 43 As described earlier, through this study, the researcher examined to
 44 identify the effect of demographic factors on aspects of reading proficiency
 45 among primary school students and the data were analysed using independent
 46 sample t-test and ANOVA. Meanwhile, the researcher had measured the
 47 differences between pre-test and post-test by using a matching t-test. Of 108

1 respondents, 65 or 60% are male students, and the balance is female students.
 2 In addition, 92.6% of students live with their parents, three or 2.8% of students
 3 stay with mothers while the remaining students with their guardians. In terms
 4 of education, a total of 51 or 47.2% respondents are students with early
 5 education in government kindergartens, and the balance 57 or 52.8% are
 6 students with early education in private kindergartens.

7 Meanwhile, 103 or 95.4% of respondents are parents with SPM academic
 8 qualifications, only one or 0.9% of parents have a Diploma, and the remaining
 9 four or 3.7% obtained a Bachelor's Degree. In terms of income of parents and
 10 guardians of the students, a total of 70 or 64.8% of them earning between
 11 RM500 and RM2,000, 35 or 32.4% (RM2,001-RM4,000), and only 2.8%
 12 earning RM4,001 and above. Furthermore, the data obtained showed that 45 or
 13 41.7% of the parents work in the government sector, 40 or 37% work in the
 14 private sector, while the remaining 23 or 9.8% are self-employed parents.

15
 16 **Table 1.** *Differences in terms of post-test scores from a gender perspective*

Gender	N	Mean	Standard deviation	t	Sig.
Male	64	4.98	.125	.93	0.65
Female	44	4.95	.211		

17
 18 Independent sample t-test results show that there is no significant
 19 difference in test scores in terms of gender ($t = .93$, $p > 0.05$) (Table 1). This
 20 means that male and female post-test scores are the same.

21
 22 **Table 2.** *Differences in terms of achievement from respondents' residence*
 23 *perspective*

Residence	Sum of squares	df	Mean of squares	F	Sig.
Between groups	0.07	2	0.003	.120	.887
In groups	2.91	105	0.028		
Amount	2.92	107			

24
 25 Meanwhile, one-way ANOVA test analysis shows that there is no
 26 difference in post-test scores according to the residence of the respondents ($F =$
 27 $.120$, $p > 0.05$) (Table 2). This suggests that the post-test scores obtained were
 28 no different whether living with a parent, mother or guardian.

29
 30 Based on Table 3, the independent sample t-test results show a significant
 31 difference in the post-test scores according to the early educational background
 32 obtained by the respondents, i.e. ($t = 1.67$, $p < 0.05$). This means that the post-
 33 test scores of government and private kindergarten students are different.

1 **Table 3.** Differences in terms of post-test scores from early education level of
2 respondents

Post-test scores	N	Mean	Standard deviation	t	Sig.
Government Kindergarten	51	5.00	.000	1.67	0.001
Private Kindergarten	57	4.95	.225		

3
4 **Table 4.** Differences in terms of post-test scores from the academic level
5 perspective of parents/guardians

Academic level	Jumlah kuasa dua	df	Min kuasa dua	F	Sig.
Between Groups	.008	2	.004	0.14	0.87
In Groups	2.91	105	.028		
Total	2.92	107			

6
7 Based on the description in Table 4, one-way ANOVA test analysis shows
8 no difference in post-test scores according to the academics level of parents or
9 guardians of students ($F = .14$, $P > 0.05$). This situation illustrates that whether
10 the parents have an SPM, Diploma or Bachelor's Degree qualifications, the
11 post-test scores are no different.

12
13 **Table 5.** Differences in terms of post-test scores from income perspective of
14 parents/guardians

Income	Sum of squares	df	Mean of squares	F	Sig.
Between Groups	.29	2	.146	5.86	.004
In Groups	2.62	105	.025		
Total	2.92	107			

15
16 On the other hand, one-way ANOVA test analysis shows that there is a
17 difference in post-test scores in terms of income ($F = 5.86$, $P < 0.05$) (Table 5).
18 This indicates that post-test scores obtained are different in terms of the level
19 of income of parents and guardians.

20
21 **Table 6** Differences in terms of post-test scores from the sector of occupation
22 perspective of parents/guardians

Sector of occupation	Sum of squares	Df	Sum of mean	F	Sig.
Between Groups	.17	2	.087	3.32	.040
In Groups	2.74	105	.026		
Total	2.91	107			

23
24 The results of one-way ANOVA test analysis shows that there are
25 differences in post-test scores in term of the sector of occupation ($F = 3.33$, p
26 < 0.05) (Table 6). Indirectly the finding indicates that working parents, whether

1 in the government, private sector or self-employed, the post-test scores
2 obtained show a significant difference.

3 In the meantime, the researcher also tested the difference between the two
4 mean dependent variables by selecting a sample to test the null hypothesis. The
5 researcher studied the differences between achievement scores (reading
6 command) before treatment (pre-test) and after treatment (post-test). The
7 scores obtained for each test shown in Table 7. The finding shows that there is
8 a significant difference between the achievement level during pre-test and post-
9 test ($t = 13.223$, $p < .05$), and the post-test score was higher (mean = 4.97) than
10 the pre-test level.

11
12 **Table 7.** Differences in the achievement level during pre-test and post-test of
13 *LINUS Literacy Program*

Test	N	Mean	Standard deviation	t	Sig.
Pre	108	4.35	.480	-13.223	.000
Post	108	4.97	.165		

14 $p < .05$

15 16 17 **Teaching Activities of Reading Aspects of the LINUS Program**

18
19 Teachers have implemented various activities in teaching the reading
20 aspect of the LINUS Program, which contains ten constructs focused on in this
21 study. The study's findings show that LINUS teachers have implemented
22 several activities that help the mastery of the reading aspects of LINUS
23 students. Among them are teaching using the syllable method, entertainment,
24 scan cards and pictures.

- 25
26 i. The syllable method is a method used by teachers in teaching the
27 reading aspect of the LINUS Program. Findings of the study show that
28 this method is the choice of teachers in teaching and learning activities,
29 especially for ten constructs in the aspect of reading;
- 30 ii. *Didik hibur* is also an activity that is the choice of teachers to teach
31 aspects of reading in this study. Entertainment activities involve
32 singing, acting, elements of obsession and so on. Teachers were found
33 to use singing techniques in teaching the reading aspect of the LINUS
34 Program;
- 35 iii. Reading skills teaching activities for ten constructs were also
36 implemented by teachers using pictures. Pupils are shown pictures and
37 asked to read sentences and examine the information shown. The
38 researchers' field notes further reinforce these findings. Teaching that
39 uses pictures and scan cards will make students more involved in the
40 learning process; and
- 41 iv. The teaching and learning of reading aspects of the LINUS Program are
42 also implemented using teachers' reading kits. The kit contains
43 colourful reading cards to make it easier for students to identify

1 syllables. In addition, this reading kit is equipped with coloured reading
2 cards that can be used and applied repeatedly until students can master
3 the aspect of reading.
4

5 6 **Constraints in Mastery of Reading Aspects of the LINUS Program**

7
8 Students who already have difficulty in reading will usually have difficulty
9 mastering other skills. Past studies have shown that the problem of illiterate
10 students is still prevalent, and the occurrence is due to various factors. The
11 findings of this study have identified several constraints that cause LINUS
12 students to have problems in mastering aspects of reading, namely:
13

- 14 i. Constraints related to parents' income: There is a significant
15 relationship between parents' income and the level of mastery among
16 the LINUS Program students. Parents who have a high income or
17 substantial financial resources can provide better learning facilities for
18 their children.
- 19 ii. Constraints related to the type of occupation of students' parents or
20 guardians: The type of occupation will determine whether they have the
21 conducive space and opportunity to assist their children to study or do
22 homework at home. Parents working in the private sector or self-
23 employed spend more time at the working or business place than
24 government sectors.
- 25 iii. Constraints related to the level of education: Parents who have higher
26 academic qualifications tend to monitor their children's learning
27 progress closely. The finding shows that parents with a higher
28 educational background, such as a degree or diploma holder, will
29 concern more on the educational development of their children.
- 30 iv. Constraints related to students capability: Students who have difficulty
31 reading and writing skills, especially in Bahasa Melayu, could not learn
32 like regular students. Therefore, they need teachers' determination and
33 parents' support to improve their skills and command.
34
35

36 **Discussion And Implications**

37
38 The discussion and summary of the findings of this study justify that this
39 research has been able to meet the objectives and answer the research
40 questions. In addition, a description of the study's implications to justify the
41 contribution of this study to education and research. Regarding one of the
42 components related to the first research question, namely whether there is an
43 effect of gender factors on reading by following the LINUS program, the
44 results show no significant difference between male and female students. The
45 findings of this study are slightly different from the study of Von Suchodoletz
46 et al. (2013), who found that there were differences between male and female

1 students in reading skills in Germany and Ireland. Regarding the effect of
2 living together on reading, the findings also show no significant difference
3 between students who live with their parents and students who live with their
4 mothers or guardians. The findings of this study are slightly different from the
5 findings of the study of Christopher et al. (2013), who found a difference
6 between students living with parents and students living with mothers or
7 guardians. This is probably due to the cultural differences between Eastern and
8 Western societies.

9 In terms of the academic level of parents on the aspect of reading, the
10 results show that there is no significant difference between students and the
11 academic qualifications of parents. The finding of this study differs from the
12 view of Hoff (2013), who found that students in the United States whose
13 parents had low academic qualifications had lower literacy proficiency than
14 students whose parents had high academic qualifications. However, there is an
15 effect of early education factors on students' skills. The researcher found a
16 significant difference in post-test scores based on the type of early education of
17 students. For example, post-test achievement scores of government
18 kindergarten and private kindergarten pupils are different. The finding is in line
19 with Muhammad, Song, Guang, Altaf Marwat and Bilal (2014), who stated that
20 there are infrastructure differences between public educational institutions and
21 private educational institutions in Pakistan. The results of this study prove that
22 different types of institutions influence the findings of the study. This is
23 because each country has different policies on public institutions and private
24 institutions.

25 Another component in the first research question is the effect of parents
26 employment factors. The study's findings found a significant difference in post-
27 test scores according to the type of parents' occupation. Post-test achievement
28 scores of students whose parents work in the government, private and own
29 sectors are different. This study found a difference in the level of literacy
30 mastery based on the parents' occupation. Moreover, the findings of this study
31 are in line with the writings of Raban and Nolan (2006) and Chakravarthy (in
32 Palaniappen, 2009), who had stated that parents leave a positive impact in
33 cultivating their child's interest in reading. Parents who work in the
34 government sector have more time at home than parents who work in the
35 private sector. Regarding the effect of parental income factors on reading, this
36 is also similar to Cooper's (2006) study, which stated that parental income
37 affects the level of literacy mastery of students. According to Cooper, students
38 who come from high-income families have better literacy levels than students
39 who come from low-income families.

40 Meanwhile, in terms of differences in pre-test and post-test achievement of
41 reading skills, the researcher found a significant difference. The finding shows
42 that there are effective practices in psycholinguistics to master basic reading
43 materials in Bahasa Melayu. Therefore, the results of this study are similar to
44 the finding of Nur Shakirah and Muhammad (2017), which show that the level
45 of reading proficiency of LINUS students increased in Screening Test 2

1 compared to Screening 1 and the level of reading comprehension of LINUS
2 students was in a suitable category.

3 The findings of this study show that the activities applied by teachers are
4 more student-centred activities and use methods of learning while playing,
5 such as puzzles and singing. Maddahiri, Khairuddin, Jerry and Mosin, (2018)
6 suggested that LINUS Program teachers need to be more innovative in using
7 teaching techniques appropriate to the ability level of LINUS students.
8 Innovation in teaching techniques can engage students and help them master
9 basic literacy skills better, and it supports the opinion shared by Kyle, Kujala,
10 Richardson, Lyytinen and Goswami (2013), and Maszuraini and Hamedi
11 (2015).

12 This study also shows that activities in the classroom trigger students'
13 interest, but learning only occurs in the classroom and does not continue at
14 home. This is due to the limited time factor that has caused parents to be too
15 busy at work and not spend time reading books with their children. The study
16 of Sim, Berthelsen, Walker, Nicholson, & Fielding-Barnsley (2014) showed
17 that the reading culture of parents with their child from an early age would
18 improve reading skills among children.

19 In terms of constraints in the mastery of reading skills, the researchers
20 found two factors. For example, low-income parents are not affordable to buy
21 books for their children or send their children for extra classes, and parents
22 who are less educated tend to hand over teaching to the school. On the other
23 hand, parents with a high level of education will always try to take care of the
24 status and development of their children. The findings are similar to the study
25 of Heath et al. (2014), who had stated that parents with low economic and
26 educational levels pay less attention to their child's literacy development.
27 Constraints in the mastery of reading skills of the LINUS program are also due
28 to student factors. The findings of this study show that there are students who
29 are passive in learning and do not want to engage in learning.

30 31 32 **Recommendation**

33
34 Almost all countries are aware of the importance of parents spending time
35 with their children. Japan is a developed country that attaches great importance
36 to the practice of parents spending time with their children. Therefore, Japan
37 has implemented several policies, including giving working mothers long leave
38 to take care of their children. The Malaysian government needs to take
39 proactive measures as practised by Japan in ensuring that parents give adequate
40 attention. MoEs need to be more sensitive to students who are less literate and
41 come from low economic status. They need to be given appropriate assistance,
42 such as giving reading materials to the student. The LINUS program can also
43 be implemented based on various approaches that appropriate according to
44 students' needs. Teachers need to provide early exposure to the concept of
45 printed materials, i.e. the introduction of literacy before teaching reading skills.
46 Parents should also be encouraged to attend parenting courses, primarily

1 developing their children's minds and literacy improvement. Studies have
 2 identified several important factors that influence the literacy mastery of
 3 LINUS students. Therefore, this research has been able to identify the
 4 demographic impact on literacy mastery, particularly reading skills. However,
 5 there is still room and opportunity to add value to literacy-related research. The
 6 added value can provide a more accurate picture of all the crucial things in the
 7 teaching and learning literacy among LINUS students in Malaysia.

8

9

10

Conclusion

11

12

The findings of this study are in line with the views put forward by
 13 Shapiro and Waters (2005), Sagarra and Alba (2006), and Atay and Ozbulgan
 14 (2007), who found that the use of keywords can produce significant learning
 15 effects. Atkinson (1975) once emphasised that the keyword method is the most
 16 effective method to improve memory among the many vocabulary learning
 17 strategies. Findings show that teachers apply student-centred teaching activities
 18 by using demonstration methods, giving instructions, drills and entertaining
 19 learners such as puzzles and singing. The innovation of LINUS Program
 20 teachers in teaching techniques can attract students and help them master
 21 literacy skills even better.

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

References

38

39

40

41

42

43

44

45

46

- Achenbach, T.M. (1991). *Manual for the child behavior checklist/4-18 and 1991 profile*. Burlington, VT: University of Vermont. Retrieved from [https://books.google.com.my/books?hl=en&lr=&id=YxCXh5ZvTksC&oi=fnd&pg=PA372&dq=Achenbach,+T.+M.+\(1991\)](https://books.google.com.my/books?hl=en&lr=&id=YxCXh5ZvTksC&oi=fnd&pg=PA372&dq=Achenbach,+T.+M.+(1991))
- Atay, D., & Ozbulgan. C. (2007). Memory strategy instruction, contextual learning and ESP vocabulary recall. *English for Specific Purposes*, 26(1), 39-51. Retrieved from <https://www.sciencedirect.com>
- Atkinson. RC (1995). Mnemotechnics in second-language learning. *American Psychologist*, 30(8), 821-834. Retrieved from <http://psycnet.apa.org>

- 1 Bahagian Perancangan dan Penyelidikan Dasar Pendidikan. (2002). Kementerian
2 Pelajaran Malaysia. *Laporan Kajian Pelaksanaan Pemulihan Khas di Sekolah*
3 *Rendah*. Putrajaya: EPRD. [Education Policy Planning and Research Division.
4 (2002). Malaysian Education Ministry. Study report on the implementation of
5 special rehabilitation in primary schools. Putrajaya: EPRD].
- 6 Christopher, M.E. et al. (2013). Modeling the aetiology of individual differences in
7 early reading development: Evidence for strong genetic influences. *Sci Stud*
8 *Read*, 17(5), 350-368. Retrieved from [http://doi.org/10.1080/10888438.2012.729](http://doi.org/10.1080/10888438.2012.729119)
9 [119.Modeling](http://doi.org/10.1080/10888438.2012.729119)
- 10 Gillen, J., & Hall, N. (2013). *Handbook of early childhood literacy*. Cambridge: Sage
11 Publication.
- 12 Hasnalee Tubah & Zulkifley Hamid. (2011). *Pengaruh demografi terhadap*
13 *kemahiran membaca dan memahami dalam kalangan murid-murid LINUS.*
14 *Jurnal Bahasa Melayu* (6), 29-47. [The influence of demographics on reading and
15 comprehension skills among LINUS students. *Journal of English*, 6, 29-47].
- 16 Heath, S.M. et al. (2014). A spotlight on preschool: The influence of family factors on
17 children's early literacy skills. *PLoS ONE*, 9(4). Retrieved from [http://doi.org/](http://doi.org/10.1371/journal.pone.0095255)
18 [10.1371/journal.pone.0095255](http://doi.org/10.1371/journal.pone.0095255)
- 19 Hoff, E. (2013). Interpreting the early language trajectories of children from low SES
20 and language minority homes: Implications for closing achievement gaps erika.
21 *The American Psychological Association*, 49(1), 4-14.
- 22 Jailani, A., & Abas, C. (2012). *Analisis kecelaruan membaca Bahasa Melayu pelajar*
23 *kelas intervensi awal membaca dan menulis (KIA2M)* (Tesis PhD tidak
24 diterbitkan). Universiti Malaya, Kuala Lumpur. [*Analisis kecelaruan membaca*
25 *Bahasa Melayu pelajar kelas intervensi awal membaca dan menulis*
26 *(KIA2M)*. (Unpubslied PhD dissertation). University of Malaya, Kuala Lumpur].
- 27 Jamian, A.R. (2016). *Permasalahan kemahiran membaca dan menulis Bahasa Melayu*
28 *murid-murid sekolah rendah di luar bandar.* *Jurnal Pendidikan Bahasa*
29 *Melayu*, 1 (1), 1-12. [The problems of reading and writing skills in Malay
30 language among primary school students in rural areas. *Malay Education*
31 *Journal*, 1(1), 1-12].
- 32 Jumiya Ahmad. (2014). *Masalah pembelajaran dan penguasaan Bahasa Melayu*
33 *sebagai bahasa kedua dalam kalangan murid-murid Kensiu: Satu kajian kes*
34 *(Ijazah Doktor Falsafah tidak diterbitkan)*. Universiti Utara Malaysia, Sintok,
35 Malaysia. [Learning and mastering the Malay language as a second language
36 among Kensiu students: A case study. (Unpublished PhD dissertation). Northern
37 University of Malaysia, Sintok, Malaysia].
- 38 Koh Soo Ling. (2006). Write from the start. Retrieved from [http://archives.emedia.](http://archives.emedia.com.my/bin/main/exe?f=doc&state=8p7j4k.3.6)
39 [com.my/bin/main/exe?f=doc&state=8p7j4k.3.6](http://archives.emedia.com.my/bin/main/exe?f=doc&state=8p7j4k.3.6)
- 40 Kyle, F., Kujala, J., Richardson, U., Lyytinen, H., & Goswami, U. (2013). Assessing
41 the effectiveness of two theoretically motivated computer assisted reading
42 interventions in the United Kingdom: GG Rime and GG Phoneme. *Reading*
43 *Research Quarterly*, 48(1),61-76. Retrieved from [http://doi.org/10.1002/](http://doi.org/10.1002/rrq.038)
44 [rrq.038](http://doi.org/10.1002/rrq.038)
- 45 Lau, W.F.K. (2013). Examining a Brief Measure of Parent Involvement in Children's
46 Education. *Contemporary School Psychology*, 17(1), 11-22. Retrieved from
47 <https://link.springer.com/article/10.1007/BF03340985>
- 48 Maddahiri, A.B., Khairuddin, M., Jerry, A., & Mosin, M. (2018). Linus-literacy
49 teaching practices. *Malaysian Journal of Social Sciences and Humanities (MJ -*
50 *SSH) Volume*, 3(2), 32-39.
- 51 Maszuraini Miswan & Hamed Mohd Adnan. (2015). *Pembangunan aplikasi peranti*
mudah alih untuk kemahiran membaca kanak-kanak: Aplikasi Literasi LINUS

- 1 (LiLIN). *Jurnal Pengajian Media Malaysia*, 17(2), 64-78. Retrieved from
 2 [http://jpmm.um.edu.my/filebank/published_article/9763/6\)_20160427_Pembangu](http://jpmm.um.edu.my/filebank/published_article/9763/6)_20160427_Pembangu)
 3 [nan_Aplikasi_Peranti_Mudah_Alih_untuk_Kemahiran_Memb...pdf](http://jpmm.um.edu.my/filebank/published_article/9763/6)_20160427_Pembangunan_Aplikasi_Peranti_Mudah_Alih_untuk_Kemahiran_Memb...pdf)
 4 [Development of mobile device applications for children's reading skills: LINUS
 5 Literacy Application (LiLIN). *Malaysian Journal of Media Studies*, 17 (2),64-78.
 6 Retrieved from [http://jpmm.um.edu.my/filebank/published_article/9763/6\)_2016](http://jpmm.um.edu.my/filebank/published_article/9763/6)_2016)
 7 [0427_Pembangunan_Aplikasi_Peranti_Mudah_Alih_untuk_Kemahiran_Memb...](http://jpmm.um.edu.my/filebank/published_article/9763/6)_20160427_Pembangunan_Aplikasi_Peranti_Mudah_Alih_untuk_Kemahiran_Memb...)
 8 [pdf](http://jpmm.um.edu.my/filebank/published_article/9763/6)_20160427_Pembangunan_Aplikasi_Peranti_Mudah_Alih_untuk_Kemahiran_Memb...pdf)].
- 9 Melissa Wane Manogharan, Gunasegaran Karuppanan, Kung Lung Chiong. (2018).
 10 Exploring Teacher's Readiness, Knowledge and Attitudes Towards Inclusive
 11 education in The District of Sibul, Sarawak, Malaysia. *Contemporary*
 12 *Educational Research Journal*, Vol 8 (4), 148-157, Kyrenia, Cyprus.
- 13 Ministry of Education. (2010). National Key Area Results (Education). Putrajaya:
 14 Ministry of Education. Retrieved from [https://www.moe.gov.my/en/dasar/1213-](https://www.moe.gov.my/en/dasar/1213-nkra-pendidikan/file)
 15 [nkra-pendidikan/file](https://www.moe.gov.my/en/dasar/1213-nkra-pendidikan/file)
- 16 Muhammad Shabbir, Song Wei Yuan, Guang Ren Chong, Malta Marwat Ghulamabi
 17 Bilal Ahmed. (2014). A comparative study of public versus private primary
 18 schools, an evidence from Azad Kashmir (Pakistan occupied Kashmir). *Journal*
 19 *of Education and Practice*, 5 (9), 154–168. Retrieved from [http://www.iiste.org/](http://www.iiste.org/Journals/index.php/JEP/article/view/1187)
 20 [Journals/index.php/JEP/article/view/1187](http://www.iiste.org/Journals/index.php/JEP/article/view/1187)
- 21 Muller, A., & Murtagh, T. (Ed.). (2002). *Literacy the 877 million left behind*. In
 22 *Education Today* (2nd ed). ERIC Document Reproduction Service No. ED
 23 468232, pp. 4-7.
- 24 Nazariyah Sani. (2014). *Pelaksanaan program literasi & numerasi (LINUS)*. (Tesis
 25 PhD tidak diterbitkan). Universiti Malaya, Kuala Lumpur. [Implementation of
 26 literacy & numeracy program (LINUS). (Unpublished PhD thesis). University of
 27 Malaya, Kuala Lumpur.]
- 28 Nur Shakirah Azizan & Muhammad Saiful Haq Hussin. (2017). *Bahasa Melayu*
 29 *melalui program linus*. *Jurnal Pengajian Melayu*, 28, 135-163. [Malay lanuage
 30 via Linus program. *Journal of Malay Studies*, 28, 135-163].
- 31 Offord, D.R., & Lipman, E.L. (1996). Emotional and behavioural problems. In
 32 Anonymous, *Growing up in Canada: National longitudinal survey of children*
 33 *and youth* (pp. 119-126). Ottawa, ON: Human Resources Development Canada.
 34 Retrieved from <https://s3.amazonaws.com/academia.edu.documents/41828609/>
- 35 Palaniappen, M. (2009). *Hubungan faktor keluarga terhadap tabiat dan minat*
 36 *membaca dalam kalangan murid Tahap 2, Sekolah Jenis Kebangsaan Tamil*
 37 (Tesis PhD tidak diterbitkan). Universiti Sains Malaysia, Pulau Pinang, Malaysia.
 38 [The relationship of family factors on reading habits and interests among Year
 39 Two students, National-type Tamil Schools. (Unpublished PhD dissertation).
 40 Science University of Malaysia, Penang, Malaysia].
- 41 Raban, B. & Nolan, A (2006). Preschool children's reading experiences. Educations
 42 preschool. *Journal of Parent Participation*, 47, 26-27.
- 43 Rimm-Kaufman, S. E., Pianta, R. C., & Cox, M. J. (2000). Teachers'
 44 judgments of problems in the transition to kindergarten. *Early Childhood*
 45 *Research Quarterly*, 15, 147-166. Retrieved from [https://www.sciencedirect.](https://www.sciencedirect.com/science/article/pii/S0885200600000491)
 46 [com/science/article/pii/S0885200600000491](https://www.sciencedirect.com/science/article/pii/S0885200600000491)
- 47 Ruslida Che Man. (2005). *Hubungan penglibatan ibu bapa dengan pencapaian kanak-*
 48 *kanak Prasekolah dalam kemahiran asas membaca*. Kuala Lumpur: Universiti
 49 Malaya. [The relationship of parental involvement and preschool children's
 50 achievement in basic reading skills. Kuala Lumpur: University of Malaya.
 51 Retrieved from <http://pustaka2.upsi.edu.my/eprints/837/1/PERANAN%20IBU>

- 1 [%20BAPA%20DALAM%20MEMASTIKAN%20PENCAPAIAN%20LITERAS](#)
2 [I%20KANAK-KANAK%20PRASEKOLAH%20SEMASA%20BERADA%20D](#)
3 [I%20RUMAH.Pdf](#)].
- 4 Sagarra. N., & Alba. M. (2006). The key in the keyword: L2 vocabulary learning
5 Methods with beginning learners of Spanish. *The Modern Language Journal*.
6 90(2), 228-243. Retrieved from <https://doi.org/10.1111/j.1540-4781.2006.003>
7 [94.x](#)
- 8 Shapiro. A.M., & Waters. DL (2005). An investigation of the cognitive processes
9 underlying the keyword method of foreign vocabulary learning. *Language*
10 *teaching research*, 9(2), 129-146. Retrieved from <https://tdl.org/tdl-ir/handle/215>
11 [2/17998](#)
- 12 Sigelman, C.K., & Rider, EA (2011). *Life span human development* (7th ed).
13 Belmont, California: Cengage Learning, Inc.
- 14 Sim, S.S.H., Berthelsen, D., Walker, S., Nicholson, J.M., & Fielding-Barnsley, R.
15 (2014). A shared reading intervention with parents to enhance young children's
16 early literacy skills. *Early Child Development and Care*, 184(11), 1531–1549.
17 Retrieved from <http://doi.org/10.1080/03004430.2013.862532>
- 18 Von Suchodoletz, A. et al. (2013). Behavioral self-regulation and relations to
19 emergent academic skills among children in Germany and Iceland. *Early*
20 *Childhood Research Quarterly*, 28(1), 62-73. Retrieved from [http://doi.org/ 10.](http://doi.org/10.1016/j.ecresq.2012.05.003)
21 [1016/j.ecresq.2012.05.003](#)
- 22 White, C.S, & Coleman, M. (2000). *Early childhood education building a philosophy*
23 *for teaching*. New Jersey: Prentice Hall.