# Effects of Sustained Silent Reading on Elementary Students' L1, L2, and L3 Reading Skills 

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There is limited research on multilingual reading. This quasi-experimental study examined the effects of sustained silent reading (SSR) in the L2 and L3 on L1, L2, and L3 word reading fluency and reading comprehension. It involved 122 Grades 4 to 6 Kapampangan(L1)-Filipino(L2)-English (L3) multilingual children in two public schools in a resettlement site in Pampanga. Sixty-four students in one school formed the experimental group while 58 students in another school composed the comparison group. The measures used were a combination of standardized and researcherconstructed tests. The experimental group underwent an SSR program for 42 sessions (15-20 minutes/day, five (5) days/week, total of 14 hours) over three months. The program used 123 storybooks in Filipino (monolingual and with English translation) and English (monolingual and with Filipino translation). After the program, the experimental group's word reading fluency in all three languages improved, while reading comprehension improved in the L2 and L3, but not in the L1. Findings are explained using the linked languages model, cognitive-retroactive transfer hypothesis, and script-dependent hypothesis. Overall, results suggest that reading practice can improve reading skills, and that reading skills can transfer retroactively. Reading habit in any language can enhance reading skills in all the multilingual child's languages.

Keywords: word reading fluency, reading comprehension, multilingual, sustained silent reading, cross-language transfer

## Introduction

Despite the proven benefits of reading, many people do not read enough or read regularly, even in developed countries (Gelles-Watnick \& Perrin, 2021). In the Philippines, $94 \%$ of adults report that they enjoy reading, yet only $17.3 \%$ read books daily. Furthermore, most Filipino adults (87\%) are not aware of the existence of a library in the barangay (community). On the other hand, $96 \%$ of Filipino children report that they enjoy reading yet read non-school books for only 13.7 hours per month (National Book Development Board [NBDB], 2018).

More than a decade ago, former Philippine Department of Education (DepEd) undersecretary Jose Miguel Luz already lamented that the Philippines is a "nation of nonreaders" and asserted that a person "can be literate but not necessarily a reader because reading, as a skill, requires the development of a habit that must be exercised daily if it is to be retained and enhanced" (Luz, 2007). Filipino learners' reading performance in recent international assessments seems to confirm the above claims. Results of the 2018 Programme for International Student Assessment (PISA) revealed that only 19.4\% of 15-year-olds achieved at least the minimum proficiency level in overall reading literacy (Organisation for Economic Co-operation and Development [OECD], 2019). The Southeast Asia Primary Learning Metrics 2019 (SEA-PLM 2019) results showed that only $10 \%$ of Grade 5 students could understand texts with familiar structures (United Nations Children's Fund [UNICEF] \& Southeast Asian Ministers of Education Organization [SEAMEO], 2020). This poor reading performance could be linked to a lack of reading habit. Seminal works show that the absence of reading habit restricts readers' exposure to print and limits their engagement with reading, which impedes vocabulary development (Stanovich, 1986) and reading progress (Anderson et al., 1985). When readers read voluntarily and independently, they not only start reading more fluently but also improve their vocabulary. Fluency and vocabulary both contribute to reading development (Anderson
et al., 1985). Recent studies affirm the importance of such a habit in developing reading skills in both first language and second language contexts (see for example Cho \& Krashen, 2016; Clark \& Rumbold, 2006; Krashen, 2004; Krashen, 2011). Thus, it is important to provide Filipino students with adequate reading practice to develop not only a reading habit but also reading ability.

## Sustained Silent Reading

Sustained silent reading (sometimes referred to as free voluntary reading, pleasure reading, Drop Everything And Read [DEAR], Super Quiet Reading Time [SQUIRT]) provides students independent reading practice (Krashen, 2006). Frequent reading practice improves reading skills. As students read more, they become better or more proficient readers (Clark \& Rumbold, 2006; Guthrie, 2001). Reading practice provides opportunities to develop word recognition and vocabulary, which are key to comprehension (Cunningham \& Stanovich, 1997). Insufficient schemata on these important linguistic components can adversely affect one's understanding of a text, especially when it is written in a language not the readers' own (Carrell, 1988). The efficiency with which words are read impacts the resources necessary for comprehension. Children who have trouble reading words have difficulty understanding what they read (Perfetti \& Stafura, 2014). Reading practice facilitates the acquisition and expansion of word knowledge, which supports reading comprehension (Krashen, 2006).

In school, sustained silent reading (SSR) is a period set aside for students to have time to read silently, freely, and without interruption selfselected books (Gardiner, 2001). It is widely applied, especially (but not exclusively), in elementary schools in the United States (US) (Bryan et al., 2003). However, the report of the US National Reading Panel (NRP) claims that there is insufficient research evidence showing that SSR actually helps students read more fluently. Instead, the panel recommends that students be given opportunities to read aloud, with some teacher
guidance and feedback (National Institute of Child Health and Human Development [NICHD], 2000). In support of this, Hasbrouck (2006) asserts that for children who are not yet fluent readers, silent reading may not be the best use of class time. It should be noted that the NRP also acknowledges the existence of "literally hundreds of correlational studies that find that the best readers read the most and poor readers read the least" (NICHD, 2000, p. 3-21), implicitly recognizing the strong link between reading ability and reading practice. Recent post-NRP studies affirm the benefits of sustained silent reading in various contexts and among different types of students. Evidence from US research suggests that in the first language (L1), reading comprehension (as well as other reading skills) is developed through independent silent reading (Allington, 2009). For example, free and independent summer reading of self-selected books brought about reading gains among elementary students from low-income families while their counterparts in the control group either lost ground or exhibited reading loss (Allington et al., 2010). Among second language (L2) learners in developing countries (e.g., Fiji, Sri Lanka), primary school students' independent reading of highinterest books is linked to improvements in reading (and writing) skills (Elley, 2000). These studies investigated reading in only one language, either first or second. However, more than half of the people in the world speak and comprehend at least two languages (Dörnyei \& Csizér, 2002), whose attributes are not necessarily similar.

## Reading in More Than One Language

Researchers have started asking whether different languages share the same reading mechanisms or processes, no matter the writing system or orthography (Nag \& Snowling, 2012; Share, 2008). The linguistic interdependence hypothesis claims that skills (like reading) transfer from the L1 to the L2 due to a common underlying proficiency (Cummins, 1979). The central processing hypothesis, rather than claiming that reading skills transfer across languages, posits that both L1 and L2 reading, no matter the alphabet or writing system, are underpinned by the same
linguistic and cognitive mechanisms like phonological awareness, working memory, and rapid automatized naming (Geva \& Siegel, 2000). Both hypotheses imply that good readers in the L1 are also likely to be good readers in the L2, while those who struggle with reading in the L1 are also likely to struggle with reading in the L2 (Cummins, 1979; Geva \& Siegel, 2000). These hypotheses are supported by studies that show the cross-linguistic transfer of reading skills both in languages that share the same Roman alphabet (e.g., word reading and pseudoword among French-English bilinguals in Côté et al., 2020, reading comprehension among Filipino-English bilinguals in Digo \& Padilla, 2013) and in languages that are represented by different scripts (e.g., word identification among RussianEnglish bilinguals in Abu-Rabia, 2001; reading comprehension among Chinese-English bilinguals in Li et al., 2012). Alternatively, the script-dependent hypothesis sees reading as being impacted by how regular or transparent the orthography (or writing system) of a language is (Geva \& Siegel, 2000). Corollary to this is the orthographic depth hypothesis, which claims that differences in the consistency of grapheme-to-phoneme correspondences (orthographic depth) lead to processing differences in naming and lexical decision, which are crucial in word recognition (Katz \& Frost, 1992). In a transparent (or shallow) orthography (like Spanish), words are acquired and read in a comparatively faster pace due to the consistent or regular letter-sound correspondence. In an opaque or deep writing system (like English) which has inconsistent letter-sound correspondence, words are acquired and read more slowly because the said irregularity makes the decoding of words more challenging (Seymour et al., 2003). These hypotheses are supported by studies that show that cross-linguistic transfer of reading skills is influenced by similarities or differences between the L1 and L2 orthographies or scripts (e.g., word reading accuracy from Spanish (L1) to English (L2), but not from Chinese (L1) to English (L2) in Pasquarella et al., 2015). Corollary to the above is what the interactive transfer framework refers to as the language distance factor, with transfer of skills being "more likely to occur between languages that share specific
relevant features" (Chung et al., 2019, p. 8). In this framework, other factors that influence the crosslanguage transfer of reading skills include language proficiency, language complexity, and educational setting (Chung et al., 2019).

In recent years, the direction of the transfer of reading (and language) skills has been examined. According to the linked languages model, the languages a person uses are connected to each other, so transfer can be dynamic, not just from the L1 to the L2 (Cook, 2003). Related to this, the cognitive-retroactive transfer (CRT) hypothesis is used by Abu-Rabia and Bluestein-Danon (2012) to explain the transfer of skills in the opposite direction, i.e., from the second language (L2) to the first language (L1). Results of their study show that after an intervention program conducted in English (L2), poor readers' reading (e.g., word identification, reading comprehension) and language skills (e.g., morphological awareness, syntactic awareness) improved not only in English but also in Hebrew, their L1. A similar study supports CRT: struggling readers improved in phonological awareness, morphological awareness, syntax awareness, reading accuracy, and reading comprehension in both Arabic (L1) and English (L2) though the intervention was conducted only in English (Abu-Rabia et al., 2013). A recent study by Andreou and Segklia (2019) among secondary school students with learning disabilities (LD) shows the same direction of transfer. The students received intervention in English (L2) and showed improvement in decoding skills in both English and Greek (L1) afterwards.

## Research Aim

In view of the foregoing, the present study examined the effects of a sustained silent reading program in the L2 and L3 on elementary students' word reading fluency and reading comprehension skills in Kapampangan (L1), Filipino (L2), and English (L3). It was hypothesized that improvements would be found not only in the L2 and L3 but also in the L1. It was also predicted that the reading gains of students who went through the program would be greater than the gains of
those who did not go through it.

Most of the studies cited above indicate the transfer of reading skills from the L1 to the L2, with a few recent studies showing transfer from L2 to L1 among struggling bilingual readers/learners. Unlike them, the present study investigated sustained silent reading among multilingual students who were neither diagnosed as having a learning disability nor specifically identified as poor/ struggling readers. Moreover, it examined transfer from L2 and L3 to L1.

Locally, two studies were conducted on sustained silent reading (SSR). Pinzon (2014) implemented a sustained silent reading program in English among Grade 8 students and examined if it would improve their English reading motivation and comprehension. Results showed that it did. Recently, Tado (2019) looked into the relationship of the level of implementation of sustained silent reading through a Drop Everything And Read (DEAR) program in English and teacher education students' English vocabulary and reading comprehension skills. Findings revealed no significant relationship. Unlike the two studies that examined reading only in English (a language foreign to the participants), the present study investigated the effects of SSR on reading skills in three languages.

There is a dearth of research on reading in multilingual contexts, especially in less ideal situations (Pretorius \& Currin, 2010). Two-thirds of the global population understand and speak two or more languages (Dörnyei \& Csizér, 2002). However, much of mainstream knowledge on reading is Anglocentric (Share, 2008). What works in one context may not necessarily hold in another (Niyozov \& Tarc, 2015). Thus, it is necessary to conduct reading research not only in English but in other languages as well. This is especially true in the Philippines, which is a multilingual nation (Gonzalez, 2004), with the majority speaking a local language as a mother tongue, as well as the official languages, Filipino and English (Dekker, 2017). Corollary to this, the mother tongue-based multilingual education (MTB-MLE) policy mandates
the use of three languages in and for learning: the student's first language (L1) as medium of instruction (MOI) from Kindergarten through Grade 3, and Filipino and English as MOI from Grade 4 onwards, as well as L1 literacy instruction from Grade 1 through Grade 3, and L2 (Filipino) and L3 (English) literacy instruction starting in Grade 2 (Congress of the Philippines, 2013). In light of the above, this study also intended to contribute to the scarce literature on multilingual reading, particularly in the context of the Philippines, a developing country.

## Method

## Participants

This quasi-experimental study involved 122 Grades 4 to 6 multilingual children ( $\mathrm{Gr} 4=35$; Grade $5=46$; Grade $6=41$; aged $8-13$ years; $M_{\text {age }}=9.93 ; S D=1.14$; female $=47 \%$ ) in two public schools in a resettlement site for survivors of a major volcanic eruption in the province of Pampanga. Both the schools and the resettlement site did not have a library. The schools were randomly assigned to the experimental group and the comparison group. In both schools, the students' first language (L1) was Kapampangan, their second language (L2) was Filipino, and their third language (L3) was English. There were 64 students who formed the experimental group (Gr 4 = 12; Grade $5=29$; Grade $6=23$; aged 8-13 years; $M_{\text {age }}=10.03 ; S D=1.08$; female $=44 \%$ ) while 58 students composed the comparison group (Gr 4 = 23; Grade $5=17$; Grade $6=18$; aged 8-12 years; $M_{\text {age }}=9.83 ; S D=1.20$; female $=50 \%$ ). In both schools, all the students in Grades 4 to 6 participated, with the informed written consent of their parents. Students in Grades 4 to 6 are in the initial period of the "reading to learn stage," when they utilize reading as an instrument in learning new information, concepts, and ideas. By the end of the third grade, they should have developed automatic and fluent word reading skills. Then, when they enter the fourth grade, their progress in reading is influenced by the increasing significance not only of vocabulary but also of prior knowledge and knowledge of strategies, all of which contribute
to the understanding of texts (Chall, 1983). Consistent with the MTB-MLE policy, the participants had Kapampangan, their L1, as medium of instruction (MOI) from Kindergarten through Grade 3, and Filipino and English as MOI starting in Grade 4. They received L1 literacy instruction from Grade 1 through Grade 3 only, and L2 and L3 literacy instruction from Grade 2 onwards. Thus, at the time of the study, the participants were no longer receiving instruction in their first language.

## Measures

The participants were assessed on word reading fluency and reading comprehension in Kapampangan, Filipino, and English. The word reading fluency measures were administered individually while the reading comprehension measures were group-administered. The English measures used were standardized, but they were not normed on the sample or on children comparable to them. All the local measures created had not been standardized and normed, but they were expert validated then revised, and pilot tested then revised and refined, accordingly. The construction of the local measures was guided by the characteristics of the English measures, as well as the local languages and curricula.

Kapampangan, Filipino, and English use the same Roman alphabet. Kapampangan and Filipino have all the 26 letters of English (named and categorized similarly), with the addition of the consonants ng (named as in English) and ñ (from Spanish, called /enye/). Kapampangan and Filipino orthographies are generally shallow or transparent, with highly regular letter-sound/ sound-letter correspondence (Komisyon sa Wikang Filipino [KWF], 2013; Samson et al., 2016). In contrast, English orthography is deep or opaque, with quasi-regular letter-sound/sound-letter correspondence (Katz \& Frost, 1992). Kapampangan and Filipino, being languages with regular orthographies, use many polysyllabic words (Forman, 1971; Malabonga \& Marinova-Todd, 2007). On the other hand, English has many monosyllabic words (Marinelli et al., 2016).

## Word Reading Fluency

In the current study, word reading fluency refers to the ability to read discrete words quickly and correctly. Instead of assessing only word recognition or accurate decoding, word reading fluency was measured because in the intermediate grades, automatic word reading or recognition is a key feature of proficient reading (Joshi \& Aaron, 2011). Further, word reading fluency is a more appropriate and powerful measure of reading skill in languages with regular letter-sound and soundletter correspondences (Landerl \& Wimmer, 2008).

English Word Reading Fluency. English word reading fluency was measured through the Test of Word Reading Efficiency (TOWRE; Wagner et al., 1999). It consists of two subtests, Sight Word Efficiency and Phonemic Decoding Efficiency, with 104 real words and 63 pseudowords of increasing difficulty, respectively (total $=167$ ). Each subtest requires the student to read the list as accurately and as quickly as possible within 45 seconds. This test has been used in studies involving participants who speak more than one language and those who are non-native speakers of English (e.g., O'Brien \& Wallot, 2016; Özdemir et al., 2012; Padilla \& Gottardo, 2021).

## Kapampangan and Filipino Word Reading

 Fluency. Researcher-constructed \& measures patterned after TOWRE were used to assess Kapampangan and Filipino word reading fluency. Like the TOWRE, the Kapampangan and Filipino measures have two subtests (one with 104 real words and the other with 63 pseudowords; total = 167), each of which has to be read as accurately and as quickly as possible within 45 seconds.In Kapampangan, the sight word efficiency subtest consisted of words ranging from one syllable (e.g., "wa") to four syllables (e.g., "gatpanapun"); similarly, the phonemic decoding efficiency subtest consisted of pseudowords ranging from one syllable (e.g., "lu") to four syllables (e.g., "risanganan"). In Filipino, the first subtest had words ranging from one syllable (e.g.,
"si") to four syllables (e.g., "paaralan"); on the other hand, the second subtest had pseudowords ranging from one syllable (e.g., "et") to five syllables (e.g., "agimpulatan").

## Reading Comprehension

English Reading Comprehension. Reading comprehension in English was measured using the Passage Comprehension Subtest of the Group Reading Assessment and Diagnostic Evaluation (GRADE) Level 1 (Williams, 2001). It is an untimed multiple-choice measure consisting of 24 items. It requires the student to read short passages of various types/topics (e.g., narrative: fiction; expository: science) and answer explicit and implicit comprehension questions after. This test has been used in studies involving participants who speak more than one language and those who are non-native speakers of English (e.g., Hitchcock, et al., 2011; Padilla \& Gottardo, 2021; Prescott, et al., 2018).

## Kapampangan and Filipino Reading

 Comprehension. Researcher-constructed measures patterned after the GRADE were used to assess Kapampangan and Filipino reading comprehension. Similar to those in the GRADE test, the nine items in the Kapampangan and Filipino measures consisted of a combination of literal and inferential questions about narrative and expository passages. There were three questions for each passage. Though the intent was to have the same number of items as GRADE, results of expert validation and three pilot tests reduced each of the measures to the nine best performing items.
## Materials

The materials used for the sustained silent reading program were 123 locally written and published storybooks (monolingual Filipino =18; monolingual English =13; Filipino with English translation = 68; and English with Filipino translation $=24$ ) provided by the researcher. At the time of the study, there was still no available children's book in the students' L1, Kapampangan. (To date, the situation remains the same.)

The books varied in difficulty, based on the publisher-provided age recommendation. Genrewise, 48 (39\%) were modern fantasy (with half of them having personified animals as main characters); another 48 (39\%) were contemporary realistic fiction (with topics ranging from a beloved pet and a day in the market, to bullying and physical or learning disability); 19 (15\%) were traditional literature (like legends and folktales); and the remaining 8 ( $7 \%$ ) were historical fiction and biography.

## Procedure

## Sustained Silent Reading Program

The sustained silent reading program (SSRP) ran for 42 sessions, conducted in the students' respective classrooms, at a designated time during school hours: 15-20 minutes/day, five (5) days/ week, a total of 14 hours over three months. It was supposed to run for five months but due to class disruptions brought about by inclement weather, national and local holidays, and school events, catching up on lessons had to be prioritized.

The same set of books was made available to each grade level-based group of students within the same week. In any given week, the books for each group ranged from 20 to 45 titles, always numbering at least $50 \%$ more than the total number of students in each group. Every week, a maximum of 10 new titles were added to each set, while the oldest 10 titles were removed every two weeks. Every week, each set of books for every group had titles that were below level and at-level, based on the publisher's age recommendation indicated in each book, vis-à-vis the ages of the students in each grade level-based group. In addition, the program had the following features (based on Allington et al., 2010; Bryan et al., 2003; Elley, 2000; Gardiner, 2001; Krashen, 2011; Pinzon, 2014):

1. Book Choice: Students were free to choose from the books in the collection.
2. Freedom to Abandon: Students were allowed to abandon or stop reading any book (that they found uninteresting or difficult, or
whatever reason) and to choose a different book.
3. Freedom to Read Again: Students were allowed to read again any book of their choice.
4. Requirement to Read: Students were monitored by the researcher and/or a trained research assistant (RA) during the sessions to make sure that they were actually reading, and were not engaged in any other activity like doing homework, chatting with classmates, etc. 5. Documentation: Students were asked to keep an individual reading log to list the book/s (using (a) predetermined book identification number/s) that they read during each session. 6. Lack of output/assessment: Students were not required to submit any output in whatever form, nor were they subjected to any form of assessment at the end of each session.

## Pretest and Post-test

The pretest for word reading and reading comprehension was conducted within two weeks before the start of the SSRP. Post-test started two weeks after the end of the program. It could not be conducted sooner due to school activities and class suspensions. Each session was limited to a specific test in a particular language. On any given day, to avoid confusion, the participants were tested in only one language. The order of administration of the two within-language measures was counterbalanced among the participants, as well as the order of administration across the three languages.

## Results

The present study examined the effects of a sustained silent reading program in the L2 and L3 on word reading fluency and reading comprehension skills in Kapampangan (L1), Filipino (L2), and English (L3). It was hypothesized that improvements would be found not only in the L2 and L3 but also in the L1. It was also predicted that the reading gains of students who went through the program would be greater than the gains of those who did not go through it.

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## Performance of the Sample

The total number of items in the measures varied, so all raw scores were converted to percentages, for consistency. Analyses were performed using percentage scores. Preliminary analyses revealed neither floor nor ceiling effects on the data. The descriptive statistics of the sample's performance on the variables are presented in Table 1. For both groups, pretest and post-test scores in the variables were highest in Filipino (L2) and lowest in English (L3). If DepEd's categories of proficiency levels in school subjects stipulated in DepEd Order No. 31, s. 2012 were to
be applied to the participants' performance, both experimental and comparison groups' pretest and post-test scores fall at the beginning level ( $74 \%$ and below), where the student "struggles with understanding; prerequisite and fundamental knowledge and/or skills have not been acquired or developed adequately to aid understanding" (p.13).

## Comparability of the Two Groups

To determine the comparability of the two groups in the sample before the start of the sustained silent reading program, two sets of t-test for independent samples were conducted, one for

Table 1

Descriptive Statistics of the Variables $(N=122)$

| Variable | Mean |  | Standard Deviation |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Pretest | Post-test | Pretest | Post-test |
| Experimental Group |  |  |  |  |
| Word Reading Fluency |  |  |  |  |
| L1 (Kapampangan) | 54.50 | 61.59 | 16.70 | 16.13 |
| L2 (Filipino) | 58.79 | 65.92 | 17.76 | 16.56 |
| L3 (English) | 54.11 | 60.73 | 15.95 | 16.15 |
| Reading Comprehension |  |  |  |  |
| L1 (Kapampangan) | 55.38 | 59.03 | 18.73 | 19.39 |
| L2 (Filipino) | 59.38 | 66.67 | 26.50 | 22.92 |
| L3 (English) | 47.66 | 50.98 | 20.69 | 20.81 |
| Comparison Group |  |  |  |  |
| Word Reading Fluency |  |  |  |  |
| L1 (Kapampangan) | 52.80 | 59.95 | 15.24 | 15.75 |
| L2 (Filipino) | 57.97 | 61.47 | 15.49 | 16.38 |
| L3 (English) | 50.30 | 55.52 | 14.18 | 16.45 |
| Reading Comprehension |  |  |  |  |
| L1 (Kapampangan) | 54.98 | 60.92 | 18.67 | 18.64 |
| L2 (Filipino) | 61.11 | 68.01 | 22.05 | 18.74 |
| L3 (English) | 41.24 | 44.04 | 14.86 | 16.36 |

Note. Percentages are reported; L1 = first language; L2 = second language; L3 = third language.
word reading fluency in each language and another for reading comprehension in each language. Results revealed no significant difference between experimental and comparison groups in word reading fluency pretest performance in Kapampangan (L1): $t(120)=0.586, p=0.559$; Filipino (L2): $t(120)=0.269, \mathrm{p}=0.788$; and English (L3): $t(120)=1.388, p=0.168)$.

There was also no significant difference between experimental and comparison groups in reading comprehension pretest performance in Kapampangan (L1): $t(120)=0.118, p=0.906$; Filipino(L2): $t(120)=-0.391, p=0.696$; and English (L3): $t(120)=1.950, p=0.053)$. Thus, before the start of the intervention, the two groups were comparable in word reading fluency and reading comprehension skills in the three languages. (Note though that the L3 difference in reading comprehension was nearing statistical significance). See Table 1 for the respective pretest performances of the two groups.

## Improvement in Reading Skills

To determine whether there was a significant improvement in the reading skills of the experimental group after the program, paired samples t-test was conducted. To ascertain whether the improvement was unique to this group, paired samples $t$-test was also conducted on the comparison group. Finally, to see if there was a difference in the post-test performance of the two groups, independent samples $t$-test was conducted. Further analysis of a significant difference between the two groups was made through additional statistical tests. The three succeeding sections present the findings of the said analyses.

## Experimental Group's Improvement

Word Reading Fluency. Results of paired samples t-test showed a significant difference between the pretest and post-test word reading fluency performance of the experimental group, in favor of the latter. This was true in Kapampangan (L1): $t(63)=10.283, p<.001$; Filipino (L2): $t(63)=10.050, p<.001$; and English (L3):
$t(63)=8.279, p<.001$. See Table 1 for the group's pretest and post-test performance. Findings suggest that, after the sustained silent reading program, the experimental group improved in word reading fluency in all three languages.

Reading Comprehension. Results of paired samples $t$-test showed a significant difference between the pretest and post-test reading comprehension performance of the experimental group, in favor of the latter. This was true in Filipino (L2): $t(63)=2.819, p<.01$ and English (L3): $t(63)=2.093, p<.05$. However, results showed no significant difference in Kapampangan (L1): $t(63)=1.712, p=.092$. See Table 1 for the group's pretest and post-test performance. Findings suggest that, after the sustained silent reading program, the experimental group improved in reading comprehension in Filipino and English (the languages of the program), but not in Kapampangan.

## Comparison Group's Improvement

Word Reading Fluency. Results of paired samples $t$-test showed a significant difference between the pretest and post-test word reading fluency performance of the comparison group, in favor of the latter. This was true in Kapampangan (L1): $t(57)=8.432, p<.001$; Filipino (L2): $t(57)=4.973, p<.001$; and English (L3): $t(57)=6.452, p<.001$. See Table 1 for the group's pretest and post-test performance. Findings suggest that the comparison group improved in word reading fluency in all three languages, even without going through the sustained silent reading program.

Reading Comprehension. Results of paired samples $t$-test showed a significant difference between the pretest and post-test reading comprehension performance of the comparison group, in favor of the latter. This was true in Kapampangan (L1): $t(57)=3.067, p<.01$ and Filipino (L2): $t(57)=2.513, p<.05$. However, results showed no significant difference in English (L1): $t(57)=1.588, p=.118$. See Table 1 for the group's pretest and post-test performance. Findings
suggest that, even without going through the sustained silent reading program, the comparison group improved in reading comprehension in Kapampangan and Filipino, but not in English.

## Post-Test Performance: Experimental Group vs. Comparison Group

Word Reading Fluency. Results revealed no significant difference between the experimental and comparison groups in word reading fluency post-test performance in Kapampangan (L1): $t(120)=0.567, p=0.572$; Filipino (L2): $t(120)$ $=1.488, p=0.139$; and English (L3): $t(120)=1.763$, $p=0.080$. See Table 1 for the respective post-test performances of the two groups. At the end of the
intervention, the two groups were comparable in word reading fluency in the three languages.

Reading Comprehension. Results revealed no significant difference between the experimental and comparison groups in reading comprehension post-test performance in Kapampangan (L1): $t(120)=-0.548, p=0.585$ and Filipino (L2): $t(120)=-0.352, p=0.726$. However, results showed a significant difference in English (L3): $t(120)=2.033, p<.05$ (see Figure 1 and Table 1). To understand this difference more, additional t-tests for independent samples were conducted. No significant difference was found between the respective Grade 4, Grade 5, and Grade 6 students of each group ( $t$ 's ranging from -. 439 to 1.435, $p^{\prime} s>$.158).

Figure 1

Two Groups' Reading Comprehension Post-test Performance in Each Language


■ Experimental $\quad$ Comparsion
Note. L1 = first language (Kapampangan); L2 = second language (Filipino); L3 = third language (English).

## Reading Gains

The gain in each variable was computed by calculating the difference between the pretest and
post-test raw scores then dividing it by the pretest raw score, yielding a percentage. Analyses were performed using these percentages. To determine whether there was a significant difference in the
gains from pretest to post-test performance in word reading fluency and reading comprehension of the experimental and comparison groups, a series of t-test for independent samples was conducted. Further analysis of a significant difference between the two groups was made through additional statistical tests. The two succeeding sections present the findings of the above analyses.

## Word Reading Fluency Gains

Results revealed no significant difference between the experimental and comparison groups in word reading fluency gains in Kapampangan (L1): $t(120)=-0.226, p=0.822$ and English (L3): $t(120)=1.406, p=0.162$. However, results showed a significant difference in Filipino (L2): $t(120)=3.371 ; p=.001$ (see Figure 2).
To understand this difference more, three
additional tests were conducted. Paired-samples t-test revealed that the experimental group read significantly more Filipino (monolingual and with English translation) than English (monolingual and with Filipino translation) books, $t(63)=17.187$, $p<.001$. Mann-Whitney $U$ test showed that the difference between the two groups in word reading fluency gain in Filipino lay in the performance of Grade 4 students in the experimental group ( $U=44.00, p=.001$ ), whose mean rank gain was 25.83 against those in the comparison group's 13.91. Finally, one-way analysis of variance (ANOVA) revealed a significant difference between the students in the experimental group in terms of the number of Filipino books read (monolingual and with English translation). A Bonferroni post-hoc test showed that the Grade 4 students read significantly more ( $M=68.33$; $S D=9.50$ ) than the Grade 5 ( $M=46.41$; $S D=9.31$ ) and Grade 6 students ( $M=52.96 ; S D=15.56$ ).

Figure 2
Two Groups' Word Reading Fluency Gains in Each Language


Experimental Comparison

Note. L1 = first language (Kapampangan); L2 = second language (Filipino); L3 = third language (English).

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## Reading Comprehension Gains

Results revealed no significant difference between the experimental and comparison groups in reading comprehension gains in Kapampangan (L1): $t(120)=-0.514, \mathrm{p}=0.608$; Filipino (L2): $t(120)$ $=-0.240, p=0.811$; and English (L3): $t(120)=0.023$, $\mathrm{p}=0.982$.

## Discussion

The present study examined the effects of a sustained silent reading program in L2 and L3 on word reading fluency and reading comprehension skills in Kapampangan (L1), Filipino (L2), and English (L3). It was hypothesized that improvements would be found not only in the L2 and L3 but also in the L1. It was also predicted that the reading gains of students who went through the program would be greater than the gains of those who did not go through it.

Results showed that word reading fluency in all three languages improved in both the experimental and comparison groups. For the experimental group, the findings support the hypothesis that a sustained silent reading program in the L2 and L3 would improve reading performance not only in the L 2 and L3 but also in the L1. The books in the sustained silent reading program were in Filipino (L2) and English (L3). The experimental group's improvement in word reading fluency in these languages could be attributed to the reading practice they had in the program, consistent with past research (e.g., Cunningham \& Stanovich, 1997; Krashen, 2006).

The comparison group's improvement in L2 and L3 word reading fluency, despite not undergoing the program, could be attributed to the kind of L2 (Filipino) and L3 (English) literacy instruction that they were receiving during the time of the study. It is also possible that the students in this group had their own reading practice, though they did not participate in the study's intervention program. If this was so, the reading practice could have been influenced by their teachers, peers, and/or family members. This requires further investigation.

Despite the facts that a) none of the books in the program was in the L1, and b) the students were no longer receiving L1 literacy instruction, the experimental group's Kapampangan (L1) word reading fluency still significantly improved. This could be explained in three ways. First, the results could be explained by the linked languages model, which asserts that the languages a person uses are connected to each other, so transfer of skills can be dynamic, not just from the L1 to the L2 (Cook, 2003). Corollary to this, the said improvement could also be interpreted using the cognitive-retroactive transfer (CRT) hypothesis, which claims that the transfer of reading skills could be from the L2 to the L1 (Abu-Rabia \& Bluestein-Danon, 2012). Finally, the improvement in Kapampangan word reading fluency could be explained by the orthographic similarities of Kapampangan, Filipino, and English (e.g., similar Roman alphabet). As the interactive transfer framework claims, transfer of skills is "more likely to occur between languages that share specific relevant features" (Chung et al., 2019, p. 8). Finally, the findings were consistent with the direction of the transfer of reading skills that Abu-Rabia et al. (2013) and Andreou and Segklia (2019) found in their studies. In like manner, the comparison group's improvement in L1 Kapampangan) word reading fluency despite the lack of L1 literacy instruction could be attributed to cross-language transfer, as in the case of the experimental group and supported by the same theoretical assertions and empirical findings. However, it should be noted that, though effort was exerted to make the three word reading fluency tests parallel/comparable, the psycholinguistic features of the items (e.g., phoneme count, syllable count) were not completely similar across the languages. This could have possibly affected the word reading fluency test results.

Results indicated that there was no significant difference between the experimental and comparison groups' post-test word reading fluency performance in all three languages. However, the experimental group exhibited a significantly greater gain in Filipino (L2) word reading fluency. This partially confirms the prediction that the reading gains of students who went through the program
would be greater than the gains of those who did not go through it. This significant difference between the two groups could be traced to the amount of reading practice in Filipino that the experimental group (especially the Grade 4 students) engaged in. Research shows that reading practice provides opportunities to develop word recognition (Cunningham \& Stanovich, 1997) and helps develop reading skills not only in the first language but also in the second language (e.g., Cho \& Krashen, 2016; Clark \& Rumbold, 2006).

Findings also revealed that, for the experimental group, reading comprehension improved in Filipino (L2) and English (L3), but not in Kapampangan (L1). These findings lend only partial support to the hypothesis that a sustained silent reading program in the L2 and L3 would improve reading performance not only in the L2 and L3 but also in the L1. The improvement in L2 and L3 could be attributed to the reading practice the students had in these languages through the sustained silent reading program. As shown in past research, reading practice helps readers become better or more proficient (Clark \& Rumbold, 2006; Guthrie, 2001). The group's lack of significant improvement in L1 reading comprehension could be explained by the relative complexity of reading comprehension as a skill compared to word reading fluency. Though reading practice helps develop word recognition and vocabulary, which are both integral to reading comprehension (Cunningham \& Stanovich, 1997), the short duration of the program might not have been enough to develop these skills at a level that would allow reading comprehension to transfer to a language in which literacy instruction had ceased. Insufficient schemata on important linguistic components like word recognition can adversely affect one's understanding of a text (Carrell, 1988). The students' post-test performance in word reading fluency and reading comprehension in all three languages could be categorized as being only at the beginning level (DepEd, 2012). Moreover, they were no longer receiving L1 literacy instruction. As the interactive framework asserts, the transfer of reading skills could be influenced by language proficiency and educational setting (Chung et al.,
2019).

Results showed the comparison group's significant improvement in reading comprehension in Kapampangan (L1) and Filipino (L2), but not in English (L3). As in the case of the group's improvement in L2 word reading fluency despite not undergoing the program, the improvement in L2 reading comprehension could be attributed to the kind of L2 (Filipino) literacy instruction that they were receiving and/or their own reading practice. The lack of significant improvement in L3 (English) reading comprehension despite ongoing L3 literacy instruction might have been a function of the group's poor baseline L3 reading comprehension, which could have constrained skill development. The results could also be explained using the script-dependent hypothesis (Geva \& Siegel, 2000) and the orthographic depth hypothesis (Katz \& Frost, 1992). English has an opaque or deep orthography (Katz \& Frost, 1992), making word recognition, which is important in reading comprehension (Perfetti \& Stafura, 2014), more challenging (Seymour et al., 2003). On the other hand, Kapampangan, like Filipino, has a transparent or shallow orthography (KWF, 2013; Samson et al., 2016). As previously stated, despite the lack of L1 literacy instruction at the time of the study, the shared orthographic features of Kapampangan and Filipino could have facilitated the transfer of reading comprehension from the L2 to the L1, as the interactive transfer framework (Chung et al., 2019) and cognitive-retroactive transfer (CRT) hypothesis claim (Abu-Rabia \& Bluestein-Danon, 2012).

Contrary to the prediction, findings indicated that there was no significant difference in the L1, L2, and L3 reading comprehension gains of the two groups. However, the experimental group's post-test L3 (English) reading comprehension performance was significantly higher than that of the comparison group. This could be due to the L3 reading practice that the experimental group engaged in during the sustained silent reading program (see Clark \& Rumbold, 2006 and Guthrie, 2001). Alternatively, it could be due to the marked difference in the pretest performance of the two
groups (which was nearing statistical significance), in favor of the experimental group. This is important to note in view of the lack of significant difference in the reading comprehension gains in all the three languages. Lastly, it is also important to note the marked difference between the number of items in the English test (i.e., 24) and the Kapampangan and Filipino tests (i.e., 9), which could have possibly affected reading comprehension test results.

## Limitations and Future Directions

In general, the results lend only partial support to the study's hypothesis and prediction. This could be connected to the methodological limitations, which are duly acknowledged. First, the sample size was small. It is suggested that subsequent studies use a larger sample to address the issue of generalizability. Second, the local measures are not standardized, and their psychometric properties have not been established. It is suggested that the measures be reviewed in terms of the psycholinguistic and semantic features. It is also recommended that these measures be improved by using them in future studies and analyzing their validity and reliability.

Third, most of the books in the intervention program are bilingual, confounding the examination of reading practice in a particular language. Future research can use a two-phase program - one using monolingual Filipino books and the other using monolingual English books - to understand reading engagement in each language better and how it influences reading performance in one or more languages. If possible, among non-native Filipino speaking multilingual students, the program could have a third phase - using monolingual books in the mother tongue. Fourth, the duration of the intervention program was short. It is recommended that future studies hold a longer program to optimize the benefits of reading practice (e.g., 20-30 minutes/day, five days/week, for at least six months). Fifth, this study did not examine other factors that could influence reading performance, aside from reading practice. Subsequent investigations can measure and/or control for
linguistic (e.g., phonological awareness, vocabulary), cognitive (e.g., rapid naming, nonverbal intelligence), affective (e.g., attitude, motivation), and/or ecological (e.g., instruction, home environment) factors. Sixth, the present study used only quantitative analysis. Future research can include qualitative analysis (e.g., type/s of words read correctly and/or faster after the program, kind/s of comprehension questions answered accurately after the intervention, type/s of reader/s that benefitted the most from the program). Finally, this study only examined retroactive transfer of reading skills from L2/L3 to L1. It is recommended that subsequent investigations look at both prospective ( L 1 to $\mathrm{L} 2 / \mathrm{L} 3, \mathrm{~L} 2$ to L 3 ) and retroactive types of transfer. This is important not only for the multilingual participants in the study but also for other multilingual students in the Philippines (and other countries) who read and learn in and through different languages that dynamically interact with each other.

## Conclusion

Despite the limitations of the present study and the further research needed for a better understanding of the relationships of the variables, the results can still be taken seriously because both the choice of the measures and the design of the intervention program are supported by previous research. Overall, the findings suggest that reading practice can improve reading skills, and that reading skills can transfer retroactively. This implies that a reading habit should be developed in any language because doing so enhances reading skills not only in this language but also in the readers' other languages. Finally, this study advances current understanding of multilingual reading and cross-language transfer of reading skills, especially among populations and languages that are underrepresented in the literature. One can never read enough of them.

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#### Abstract

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## Author Note

This study is part of a larger research project on reading skills among multilingual learners, which was reviewed and approved by the University Research Ethics Board at Wilfrid Laurier University (REB \#5303), with the help of Alexandra Gottardo (Psychology Department, Wilfrid Laurier University). The corresponding author is Portia P. Padilla (pppadilla@up.edu.ph). She declares no conflict of interest in connection to the present study.


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