

REHEARSAL FOR READING COMPREHENSION: SABAHAN SCHOOLCHILDREN USE PUPPETS AND SCRIPTS TO LEARN ENGLISH

Tamara Dietrich Randolph

ABSTRACT

Fourth-, fifth-, and sixth-grade students in a private rural school in Sabah, East Malaysia, participated in a 7-day pilot study to determine the efficacy of using puppets and natural science scripts in learning English. The experimental group read printed puppet scripts while listening to them on a battery-operated audiotape player, rehearsed several times while manipulating the puppets, and then presented to an audience of their peers. To minimize the Hawthorne effect, the control group was involved with distracter activities, such as creating some type of engaging craft object or listening to the researcher read an English-language illustrated story to them. Five students randomly chosen to be in the experimental group attained considerably higher average post-test than pre-test reading comprehension scores as well as slightly higher average post-test vocabulary scores on a standardized reading test. Average post-test scores for students in the control group stayed the same for reading comprehension and went down for vocabulary. The qualitative component of the study showed strong motivation and engagement on the part of the students who used puppets, suggesting that this approach may be valuable in teaching science terms to rural schoolchildren in Sabah.

Introduction

On a tour of private schools in Sabah, East Malaysia, in the fall of 2005, the writer found that there was a strong need for more engaging materials to assist the students in knowing science and mathematics terms in English for their national tests. Additionally, as a vehicle for learning English, puppets were in high demand, which correlated with one of the area's traditional art forms (Saad 1993). With these needs in mind, upon returning to the United States,

the writer searched for durable, realistic animal puppets that could be used with natural-science puppet scripts. In her curriculum and instruction classes, she introduced script writing as a class assignment. The students researched facts about birds, insects, or animals, and then wrote engaging scripts.

Throughout the next school year and summer we created 25 high-interest reading/listening centres complete with puppets, scripts, and audiotapes. In the fall of 2006, the writer took these 25 reading/listening puppet centres to Wild Mango Primary School in Sabah, East Malaysia, to initiate a small-scale pilot study.

This paper will establish the theoretical background for the study, review research methods for the process, analyze findings, and initiate directions for further research. One research question was whether using puppets with written and audiotape scripts would increase reading comprehension in English of students randomly assigned to an experimental group from a convenience sample of fourth- and fifth-graders at Wild Mango Primary School. A second related question was whether use of these scripts would increase student recognition of high-frequency English words that can account for as much as three-fourths of all written English text (Blachowicz and Fisher 2000). Control and experimental groups were to be pre- and post-tested for vocabulary and reading comprehension.

Puppets as a Type of Task-based Learning

For task-based learning of a target language to be efficacious, according to Carless (2004, 641), it needs to have purpose, context, process, product, and what he calls "a framework of knowledge and skills." For this pilot study, having primary school age children using the target language expressively and receptively while rehearsing scripts with puppets in order to present to classroom peers subsumes all those criteria. It also meets Harmer's (2003) notion of teacher and student negotiating a teaching/learning methodology culturally suitable to both. The research literature details several variations on using puppets in working with children and young people. Most were not in the field of literacy development, but there were a few reports that made the claim that puppet use stimulated language growth for native speakers of English as well as for non-English speakers learning another target language. In addition, findings from two quantitative studies not involving puppets were judged salient for the writer's study. These are briefly summarized below.

Puppets with Native-English Speakers

In this category are seven studies with young children, one report of high-school students who were being taught to read a native-American language, and a cluster of three related primary-school science findings. Yawkey's (1979) year-long study showed that five-year-old native-English speaking children learned and recalled language more effectively when they used puppets during play. Andersen's (1984) research with young children, ages three and four, showed that they exhibited surprising sophistication in terms of topics, vocabulary, syntax, and prosody as they spoke through the puppets to represent a doctor, nurse, teacher, students, and family. Bidwell (1992), a Chapter 1 reading teacher utilizing regular puppet performances with her students, found that fluency and reading comprehension increased as students re-read scripts. Garrett, Busby, and Pasnak (1998) used toy horses and hand puppets to successfully teach four-year-old Head Start students one-dimensional classification and serration in a quasi-experimental study. Szarkowicz (1999) found that young children ages 38 to 63 months were significantly more able than controls to determine false beliefs after they had participated in a story with finger puppets and dramatic action. Peck and Virkler (2006) reported on second-graders' increased comprehension, fluency, and expression by re-reading self-created and self-produced puppet plays. In Myers's (2006) classroom, using puppets with four kindergarten students for a school year greatly increased their ability to analyze, summarize, question, and predict. Teaching reading in the Hupa language was the subject of Bennett's (2002) report on work done in a Sebastopol, California, high school with shadow puppets and culturally authentic Hupa text. The conclusion was that puppets and texts supported goals of academic discourse development and more proficient reading in the target language. Puppets in primary-school science classes in the United Kingdom (Naylor *et al.* 2007) engaged children in the science process, drawing in those who were shy, motivating children to learn scientific vocabulary, and giving practice in using reasoning versus asking questions about process alone. An article by Maloney *et al.* (2006) gave preliminary evidence of similar findings, as did one by Keogh *et al.* (2006).

Puppets with Non-native-English Speakers

Two studies examined using puppets with non-native-English speakers who were either studying English or learning important health information in their

native language. In the latter category, Millican (1991) used rod puppets and stories to teach literacy classes in Senegal, reporting that students were more amenable to discussing difficult cultural topics when puppets were used. Summak, Summak, and Gür (1994) described the advantages of using traditional Turkish shadow puppets to teach English to Turkish-language students in the Netherlands, analyzing responses of 53 teachers of elementary-level children to determine that use of puppets allowed shy students to perform in front of classmates more openly than normal as well as to build syntactic and lexical skills in English. In addition, teachers judged that students felt the activity was enjoyable.

Contextualized Learning for Non-native-English Speakers Using Closed-Caption TV

Although the following study did not utilize puppets, the writer's inference was that viewing text while listening to the same text presented in an aural format could also provide contextual support, especially when opportunities to rehearse the script with attractive puppets for presentation purposes were systematically included. Neuman and Koskinen (1992) showed significant increases in vocabulary knowledge and conceptual science information in an experimental group of English-language learners in the United States when they viewed closed-caption television programmes. The researchers advocated the use of "reading materials with informative contextual supports" (*ibid.*, 103) to increase vocabulary skills.

Science Learning Using Stories

Again, no puppets were used in this study, but the notion of using literature to build science skills was what prompted the writer to use puppet scripts on natural science topics in her own research in Sabah. Morrow *et al.* (1997) studied the effects of using literature to teach science, randomly choosing two treatment groups and one control group with two classrooms in each group at one elementary school. One hundred twenty-eight students were pre-tested at the end of September and post-tested in May following eight months of treatment. Analysis was done on these scores, as well as on 180 hours of videotapes. Effect sizes for the treatment group where literature

was used both in literacy and science programmes were significantly greater than those for treatment groups where literature was used only in the literacy programme and those for the control groups where science and literacy were taught using basal texts and worksheets. In discussing their results, Morrow *et al.* referenced Bruner's (1986) paradigmatic versus narrative modes of cognitive functioning, suggesting that both modes were encouraged in experimental groups where literature was used in the science programme. This thesis was borne out by the writer's own research (Randolph 2001) with adults in mainland China using children's literature for learning English.

Materials and Methods

Twenty-five puppet scripts for the reading/listening centres were written, edited, and recorded for this pilot study. Students in two of the writer's curriculum and instruction courses were each assigned to write one puppet script with a minimum of seven scientific facts. The script had to be presented to the class with the aid of a realistic puppet.

The scripts were to be at least three minutes long, have a Flesch-Kincaid reading level (chosen for its ease of use in Word for Windows documents) somewhere between 1.5 (first-grade, fifth-month) and 4.5 (fourth-grade, fifth-month), and include a minimum of one human in addition to the animal. Fantasy was to be avoided. If the animals, insects, or birds talked at all, they had to confine their conversations to factual information that enhanced scientific understanding of that particular creature. The puppets themselves, if purchased, were carefully chosen for realistic design and colours, with reasonable cost factored in as well. Handmade puppets included stick, paper plate, and sock. Potentially problematic vocabulary terms were glossed in a section entitled "Words to Know."

Scripts were put into plastic envelopes and puppets were placed inside large zip lock freezer bags for safety from humidity and insects. The name of the matching script was written on each bag. A colourful plastic carousel clothespin line was included so that bags of puppets could be hung from the ceiling at the school.

A psychologist colleague who had made the initial trip to Sabah with the writer assisted in selecting a reading comprehension test, the *Woodcock Diagnostic Reading Battery* (1997). Since there was no known English-language reading comprehension test that had been a norm on the Sabahan students, this particular one was chosen as a convenient way to establish a

baseline score for both experimental and control groups. Another consideration was that our institution's curriculum library already had sufficient test booklets in stock and would allow us to use them without cost.

Prior to arrival in Sabah, the writer had obtained oral permission to involve the children in this research process; later she formalized this with written permission. Once at Wild Mango School, after randomly selecting half the students in the fifth- and sixth-grade classroom for the control group and half for the experimental group, then testing them all for reading comprehension and vocabulary identification, the writer initially planned for the experimental group to use the reading/listening centres while the control group did their regular reading programme for the rest of the term. The teacher would have control of the audio players and batteries, as this school does not have electricity, and would check those tools out to the students as needed for their work in the reading/listening centres.

Videotaping and observer journaling would be done while the writer was on site. Those data were to be analyzed to see if differences in attitude, risk-taking, and other qualitative aspects might be brought to bear on the reading comprehension issue.

The plan was that after one school term of following the schedule for use of the reading/listening centres by the experimental group, the teacher would retest the whole group for reading comprehension and forward the scores to the writer for comparison with their previous scores. The writer would then analyze the scores to see what differences, if any, might exist between those that used the reading/listening puppet centres and those that did not.

It turned out that the writer changed the original plan after she arrived and noticed the shining interest in the eyes of all ten students who were in the experimental and control groups. The writer immediately chose to use "distracter" activities with the control group, feeling that they might serve two useful purposes: one, to ward off the Hawthorne effect that could skew results towards higher scores for her experimental students; and two, to keep from disappointing those five pairs of eager, shining eyes. One of the strengths of qualitative research for classrooms is its recursive nature; thus, this change was acceptable, although it cut by half the amount of time the writer was able to spend with students from the experimental group. Nevertheless, the two factors discussed above outweighed the time consideration; thus, shortly after commencing the original research protocols, the writer began to work into her schedule the distracter process by reading the orangutan story with *C-Enam* and later with *C-Tujuh*.

All ten children who were in the Primary 5/6 classroom after the opening exercises on the writer's first day at Wild Mango School—and who were presented to the writer as eligible for the research programme—were scheduled that day for pre-testing for reading comprehension and word identification. There were two glitches, however. First, after the testing and random selection process, the writer found that three children were fourth-graders and one was a sixth-grader (The writer had been told that the sixth-graders were in another area preparing for their national tests). Second, a terrific storm came up during the time the tests were being conducted. At that point the writer was trying to do this in the little breezeway between the classrooms, but the storm completely disturbed the testing for one student. With the noise of the rain on the metal roof, one could not be heard except by shouting. All school activities ceased for the duration of the storm. Evidently, during this commotion the writer lost track of the fact that this student did not finish getting tested on reading comprehension. The writer did not find this out until she was back in the United States, analyzing the data.

After the storm, the writer finished testing the ten students and then randomly selected five students for the experimental group and five for the control group by drawing the numbers 1–5 or else “x”s out of a plastic cup. *E-Satu*, *E-Dua*, *E-Tiga*, *E-Empat*, and *E-Lima* drew the numbers 1–5, thus being selected for the experimental group, while *C-Enam*, *C-Tujuh*, *C-Lapan*, *C-Sembilan*, and *C-Sepuluh* drew “x”s and thus were selected for the control group. The average ages of the two groups turned out to be very similar.

The first full day at Wild Mango School, the writer started the research protocols with a reading/listening centre for *E-Satu*, using the bats script, tape, and puppets. The writer had set up the back desk in the corner of the room, facing the wall, with the text in its plastic folder, audiotape player with tape already inserted, and necessary puppets. After this initial single student, the writer set up another station and began working with the experimental students in pairs. The writer worked with the control groups on distracter activities one at a time. Rehearsals were scheduled for one initial reading with tape and script, followed by one time reading aloud with the researcher taking one of the parts, another rehearsal with the student reading the text and listening to the tape, and then the presentation, which was done with some visuals but no stage or curtain to stand behind. There were, however, extra regalia included in each script. The sheep script, for example, utilized a soft woolly sheep hand puppet, a farmer stick puppet, a daughter stick puppet, and tiny “wool” clothing pinned with minuscule clothespins to a miniature clothesline. These elements seemed to intrigue the four girls in the experimental group.

TABLE 1: Summary of results, including comprehension and letter-word identification scores

Name	Beginning Score	Ending Score	Comments
<i>E-Satu</i>	456 Letter Word ID score 479	446 LW ID score 492	Diligent about rehearsing and presenting. Drop in score could reflect psychometric principle of retesting going towards the mean. Did bats, chickens, sheep, dogs, snow scripts. Gave information for story frame for researcher to write children's book about her.
<i>E-Dua</i>	425 LW ID score 447	419 LW ID score 466	Seemed self-conscious. Often glanced up and around while rehearsing. Chicken script too high, so did dogs, sheep, pig, snow scripts.
<i>E-Tiga</i>	419 LW ID score 482	446 LW ID score 460	Tracked script with eyes while listening to audiotape, sub vocalized. Did pig, sheep, snow, chicken scripts.
<i>E-Empat</i>	380 LW ID score 463	412 LW ID score 476	Smiled often, sub vocalized, vocalized while reading script with tape. Did bats, sheep, snow scripts.
<i>E-Lima</i>	380 LW ID score 470	412 LW ID score 470	Enjoyed manipulating tape recorder. Smiled often as read with tape. Did bats, sun and rain, sheep scripts.
The above experimental students' average gain in comprehension scores was 15 points in seven days (the researcher met with many of the children and their families on Saturday and Sunday when school was not in session). Their letter-word identification average scores gained 4.6.			
<i>C-Enam</i>	unavailable (see p. 8 of this report) LW ID score 495	452 LW ID score 498	Cut paper snowflakes, read orangutan book, read <i>Too Much Snow for Tootie</i> book, snowman shapes and colours game. Gave information for story frame for researcher to write children's book about her.
<i>C-Tujuh</i>	380 LW ID score 479	380 LW ID score 470	Cut paper snowflakes, read book about <i>Children of Sabah—#1</i> , snowman shapes and colours game.
<i>C-Lapan</i>	441 LW ID score 495	441 LW ID score 479	Cut paper snowflakes, read orangutan book, snowman shapes and colours game, read snowflake book and <i>Too Much Snow for Tootie</i> book.
<i>C-Sembilan</i>	425 LW ID score 457	419 LW ID score 466	Cut paper snowflakes, read orangutan book, read snowflake book and <i>Too Much Snow for Tootie</i> book.
<i>C-Sepuluh</i>	430 LW ID score 504	436 LW ID score 498	Cut paper snowflakes, read orangutan book, snowman shapes and colours game. Read snowflake book and <i>Too Much Snow for Tootie</i> book.
Control students' comprehension-score averages showed the same score (419) for pre-test and post-test. They lost 3.8 points on letter-word identification score averages.			

Throughout the week that the writer spent at Wild Mango School, she was able to observe individual responses to puppets and scripts. The children exhibited what the writer has come to call "the shining-eyed syndrome." Their body language showed strong interest; their faces were animated. When they read, they focused exclusively on the text, their eye movements tracking appropriately from left to right and then back to the left, matching the taped reading. Movements or noises in the classroom did not appear to disturb them, with one exception. Of course, they had the headsets on, which helped to block ambient noise, but their focus is what kept them on task. They presented their scripts to their classmates with a fair degree of confidence, smiles, and laughter.

The control students participated in distracter activities, but those were not designed for the students to have the extra benefits of hearing language while at the same time seeing it in print. They also did not get the re-reading opportunities that have been found to be effective in raising fluency and reading comprehension (Samuels 2002; Samuels and Farstrup 2006). Additionally, control group students did not have the kinaesthetic advantages of handling technology or highly textured puppets. They listened to stories, looked at pictures in stories, and manipulated shapes for various crafts. The primary researcher talked to them, but there was very little, if any, language coming from the students to the researcher and certainly no rehearsal for presentations, as the experimental group was able to do.

Unfortunately, *C-Enam*, who obtained the highest control group post-test score (452), did not have a pre-test score for reading comprehension, which had been explained earlier. This was a shame, because *C-Enam*'s post-test reading comprehension was highest of any of the students, experimental or control (although it was lower than the starting score for *E-Satu*). *C-Enam* worked hard at all the distracter activities, but, of course, they were not designed for optimum language interchange. Of the control group with both sets of scores, *C-Sepuluh* was the only one whose comprehension score went up—from 430 to 436.

The average standardized score for the reading comprehension pre-test among the control students was 419. Their average post-test score was 419 also. This suggests that the distracter activities were not reading comprehension builders, at least not for this short-term, seven-day study. The finding contrasts all the more with the average fifteen-point gain for the experimental group. The average standardized score for the letter-word

identification pre-test for experimental students was 468.2. Their post-test average score was 472.8. This was a modest gain, but a gain, nonetheless, in their English pronunciation capabilities.

By contrast, the control group pre-score average for letter-word identification was 486, while their post-test average went down to 482.2. This showed that the distracter activities did not assist them in building their ability to identify English words.

Conclusion

Six scripts were used with five students in Wild Mango School over the course of the week. The scripts that were written to Flesch-Kincaid reading levels of 1.5 through 2.5 were the ranges found to be most accessible in the pilot study.

Because this was a convenience sample, results cannot be generalized to any other group, but the data are provocative, calling for further study with a larger sample. If a minimum of seventy-five students could be involved in a follow up study, statistical analysis could be done, which would give a sense, even with a convenience sample, of the efficacy of the work. If the results hold for growth in reading comprehension and vocabulary skills and if the puppet programme is judged to be logistically feasible, this might be a curriculum addition that would interest other educators in Sabah and mainland Malaysia as they face national mandates for tests in science and mathematics to be conducted in English.

References

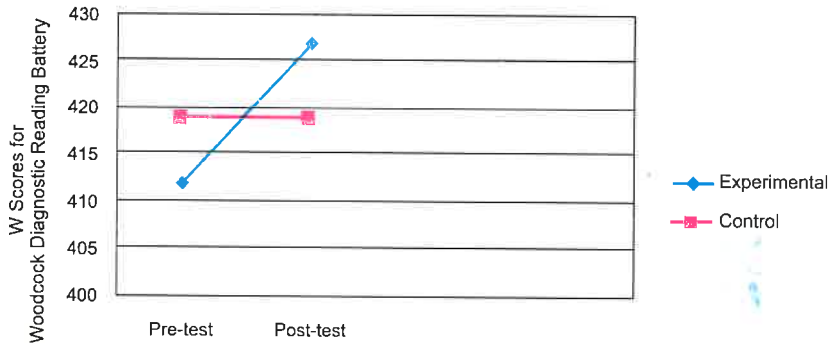
- Andersen, E. 1984. The acquisition of sociolinguistic knowledge: Some evidence from children's verbal role-play. *The Western Journal of Speech Communication*, 48, 125-144.
- Bennett, R. 2002. Teaching reading with puppets. Proceedings of the 7th Annual Conference on Stabilizing Indigenous Languages, Toronto, Ontario, Canada, May 11-14, 2000. Eric Document 42 242.
- Bidwell, S. 1992. Ideas for using drama to enhance reading instruction. *The Reading Teacher*, 45, 653-654.
- Blachowicz, C., and P. Fisher. 2000. Vocabulary instruction. In *Handbook of Reading Research, Vol. III*, ed. M. Kamil, P. Mosenthal, P. D. Pearson, and R. Barr, 503-523.

- Bruner, J. 1986. *Actual Minds, Possible Worlds*. Cambridge: Harvard University Press.
- Carless, D. 2004. Issues in teachers' reinterpretation of a task-based innovation in primary schools. *TESOL Quarterly*, 38, 639–662.
- Garrett, K., R. Busby, and R. Pasnak. 1998. Paper presented at the 4th National Head Start Research Conference, Washington D.C., July 9–12. Eric Document 423 047.
- Harmer, J. 2003. Popular culture, methods, and context. *English Language Teaching Journal*, 57, 288–294.
- Keogh, B., S. Naylor, B. Downing, J. Maloney, and S. Simon. 2006. Puppets bringing stories to life in science. *Primary Science Review*, 92, 26–28.
- Maloney, J., B. Keogh, S. Naylor, B. Downing, and S. Simon. 2006. Using puppets in the classroom to get children talking about their ideas. *Teaching Earth Sciences*, 30, 26.
- Millican, J. 1991. *Reading, Writing, and Cultivating: A resource book for post-literacy trainers based on experiences in Senegal*. The Hague, Netherlands: Centre for the Study of Education in Developing Countries. ED 367 843.
- Morrow, L., M. Pressley, J. Smith, and M. Smith. 1997. The effect of a literature-based program integrated into literacy and science instruction with children from diverse backgrounds. *Reading Research Quarterly*, 32, 54–76.
- Myers, P. 2006. The Princess Storyteller, Clara Clarifier, Quincy Questioner, and the Wizard: Reciprocal teaching adapted for kindergarten students. *The Reading Teacher*, 59, 315–324.
- Naylor, S., B. Keogh, B. Downing, J. Maloney, and S. Simon. 2007. The Puppets Project: Using puppets to promote engagement and talk in science. In *Contributions from Science Education Research*, ed. R. Pinto and D. Couso, 289–296.
- Neuman, S., and P. Koskinen. 1992. Captioned television as comprehensible input: Effects of incidental word learning from context for language minority students. *Reading Research Quarterly*, 27, 94–106.
- Peck, S., and A. Virkler. 2006. Reading in the shadows: Extending literacy skills through shadow-puppet theatre. *The Reading Teacher*, 59, pp. 786–795.
- Randolph, T. 2001. Using illustrated Chinese folktales with adult language learners in China. *Hwa Kang Journal of TEFL*, 7, 56–75.
- Saad, M. 1993. History, dreams and reality: Storytelling programmes in Malaysia. Paper from the 22nd Annual Conference of the International Association of School Librarianship, Adelaide, South Australia, Sept. 27–30. Eric Document 399 937.
- Samuels, S. 2002. Reading fluency: Its development and assessment. In *What Research Has to Say About Reading Instruction*, ed. A. Farstrup and S. Samuels, 166–183. Newark, DE: International Reading Association.
- Samuels, S., and A. Farstrup. 2006. *What research has to say about fluency instruction*. Newark, DE: International Reading Association.

- Summak, M., E. Summak, and M. Gür. 1994. Drama behind the curtain: Shadow theatre in ESL/EFL classes. Paper presented at the 28th annual meeting of the Teachers of English to Speakers of Other Languages (TESOL), March 1-2, 1994. Eric Document 375 628.
- Szarkowicz, D. 1999. Monsters, bananas, and seaweed: Active participation and young children's understanding of false belief. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Albuquerque, New Mexico, April 15-18, 1999.
- Woodcock, R.W. 1997. *Woodcock Diagnostic Reading Battery*. Illinois: Riverside Publishing, Houghton Mifflin Company.
- Yawkey, T. 1979. Let's pretend play as language learning. *Reading Improvement*, 16, 130-133.

APPENDIX A

Reading Comprehension: Wild Mango Primary School 2006



Letter-Word Identification: Wild Mango Primary School 2006

