

Effects of Bilingual Cooperative Integrated Reading and Composition Strategy to Promote English Literacy of Young EFL Learners

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The aim of this study was to analyze the effects of the bilingual cooperative integrated reading and composition (BCIRC) strategy to promote English reading and writing abilities of young EFL learners. The study group was composed of 25 6th grade students at an elementary school in Miaoli City in the 2015/2016 academic year. The subjects received bilingual cooperative integrated reading and composition (BCIRC) instruction for 12 weeks (80 minutes per week). The participants assigned in heterogeneous groups engaged in the Project-Based Learning (PBL) curriculum based on the driving question of reading materials and then reading on-line books through digital devices. Finally, the participants finish the group writing task cooperatively.

Reading Comprehension Test (RCT), English Learning Motivation Scale (ELMS) and Written Expression Achievement Test (WEAT), developed by the researcher, were used to collect data related to the study group' reading comprehension skills and writing skills, respectively. Results were analyzed via one-group pretest and posttest experimental design. Paired-Samples T Test was used to explore the research results.

The overall results of the findings suggested that the BCIRC strategy was efficient in facilitating the English literacy. However, there was no significant correlation between the research results and scores of school English academic achievement test. The implication was showed the connection of learning materials combined both BCIRC curriculum and English content knowledge was important. The study had pedagogical implications on the value and feasibility of language teaching in promoting young EFL learners' English literacy by using BCIRC strategy, and the limitations of the study were provided.

Key words: Bilingual cooperative integrated reading and composition, English literacy, digital reading and writing

1. Introduction

What English should look like as a subject in the 21st century and how to improve the motivation and achievement of learners who traditionally do less well in the subject is a critical issue. Literacy recently dominates the English curriculum in which it plays a very impetus in the context of language teaching and use. To engage learners more successfully, schools need to provide a more dynamic and productive curriculum in English that reflects the changing nature of society and their literacy needs. Seeing English as a holistic discipline, thereby English literacy concerning essential reading and writing are the most concrete and systematic of the language skills. The more developed the reading and writing skills, the more systematic the individual's overall use of language. By this way, a person can speak, read and listen in a more accurate and effective way (Bryson, 2003). Writing is to individual expression while reading is to comprehension. Among language skills, reading together with writing is the first skill to be learnt. It is also known that, in the learning process, there is a high correlation between reading comprehension and academic achievement. There is, however, an issue to be taken in the conception of bringing in more literacy experience and awareness far more beyond "narrowly being literate," embedded in learners' language learning path.

Cooperative learning is regarded as particularly beneficial to students in transitional bilingual programs at the point when they are making a transition to English learning. Cooperative learning routinely provides opportunities for students to work together to construct meaning and share understandings (Durán & Szymanski, 1993).

In Cooperative Integrated Reading and Composition (CIRC) lessons, students are assigned to heterogeneous learning teams and work in their teams on a variety of cooperative activities including partner reading, identification of main story elements, vocabulary and summarization activities, practice of reading comprehension strategies, and creative writing using a process writing approach. Based on this assumption, the consistent positive effects of the CIRC program were found on student reading achievement, especially on measures of reading comprehension and metacognitive awareness (Stevens & Durkin, 1992; Stevens & Slavin, 1995).

Regarding the importance of the above issues and its impact on language learning, the current study presents an empirical study conducted in an elementary school in Taiwan. Particularly, the study aims to investigate the effects of young EFL learners' reading and writing skills in the English literacy course.

2. Literature review

2.1. Bilingual Cooperative Integrated Reading and Composition (BCIRC)

Bilingual Cooperative Integrated Reading and Composition (BCIRC) provides a way to support English language learners through cooperative learning. Research on second-language learning has shown that, for students to reach high levels of proficiency, they must engage in a great deal of oral interaction. That is, to become proficient, students must cooperate to negotiate meaning and solve problems. Bilingual cooperative learning consistently provides opportunities for students to work together to better understand and decipher meanings of new words in between two languages.

The Cooperative Integrated Reading and Composition (CIRC) Model was developed at John Hopkins University Center for Social Organization of Schools by Stevens, Madden, Slavin, and Famish (1987). This cooperative learning instructional model has been used in grades 2-8 for teaching reading and writing. The practice of the CIRC model involves student team building, and partner reading. Student activities include shared reading, independent reading, analyses of story structure, reading aloud, building content vocabulary, making predictions, story comprehension, and story retelling. At the teacher's discretion, CIRC may also include writing workshops. In addition to regular monitoring the teacher must periodically assess student progress and, at appropriate times, engage in direct instruction (Calderon, 1999; Bums, Roe and Ross, 1999). Calderon (1999) indicated that the CIRC Model not only helps students to develop both their social skills and language acquisition, but also to promote their academic achievement.

The BCIRC strategy, an adaptation of the Cooperative Integrated Reading and Composition (CIRC), is designed to help primary school EFL students succeed in making a successful transition to promote English literacy. In the adaptation, students work in small cooperative heterogeneous learning groups to complete tasks and engage in PBL (Project-Based Learning) that focus on reading, writing, and language activities in Chinese and English.

2.2.English literacy

Literacy First – A Plan for Action in Alberta (2010) defines literacy as follows: 'Literacy is acquiring, creating, connecting and communicating meaning in a wide variety of contexts.' Compared to the traditional approaches, a wider set of literacy skills required in the 21st century should be taught in school education so that students know how to filter, evaluate and make critical judgements as to the accuracy and ethical use of information that they acquire. Likewise, it is imperative that the EFL education system prepare students for today and furthermore for the ever-evolving future of tomorrow by ensuring students are able to solve problems, think critically and creatively, collaborate and communicate, master literacy skills and know how to learn in diverse environments.

In elementary school, young EFL learners acquire the critical building blocks of literacy. They learn how letters and words combine to convey meaning, master the conventions of writing, and develop the foundational comprehension skills that they will need all through life. With the strand of English literacy research, elementary EFL young learners will be asked to read more challenging works at earlier ages, distill the meaning from different types of print and multimedia resources, and demonstrate comprehension by citing specific evidence from those texts when expressing their reasoning orally and in writing. Following this perspective, the "Four literacy resources model" (Luke & Peter, 1997) specifies a set of practices that children need to participate insofar as to develop into good readers and writers;

- Breaking the code of written texts;
- Participating in understanding and composing meaningful written, visual and spoken texts;
- Using texts functionally;
- Critically analyzing and transforming texts.

The current study emphasizes the need for explicit instruction in how to transfer literacy knowledge and skills and specifies on the premise of literacy instruction embedded across the curriculum and developed by the growing complexity of content. The model is intended to be incorporated into English literacy learning development, so as the research and practices contained within this model is intended to be embedded in the instruction.

3. Research Design

The present study adopted Bilingual Cooperative Integrated Reading and Composition (BCIRC) instruction, which was designed to help students succeed in English reading and writing literacy in an effective and efficient manner.

3.1. Participants

25 upper-grade Chinese-speaking students at an elementary school during the 2015/2016 academic year were recruited to participate in the study. Students in this study were guiding to use online reading materials instead of paper-based storybooks or sheets. Each student was equipped with individual tablet PCs, which was used as a media for digital stories and articles for further reading and writing.

3.2. Implementation process of BCIRC strategy

The key elements of BCIRC and of the original CIRC model are the same. As in original CIRC, teachers in Bilingual CIRC assign students to four-member, heterogeneous learning teams in which they work together to help each other learn academic material. During BCIRC activities, students learn how to solve problems, study together, help each other, solicit opinions, present rationales, defend, synthesize, listen to others, and ask relevant questions. The more a child is exposed to cooperative peer exchange, the more the child's own thinking becomes refined. Bilingual CIRC allows for this type of interaction in both two languages, contributed to succeed in making the transition from native Chinese to English.

Pre-reading/writing Stage: Firstly of all, teacher helps to appropriately build students' basic background knowledge facilitating the process of reading and writing. In this stage, students are ready to do background pinning, where the curriculum objectives are designed to be met and determined, subsequently integrating vocabularies, reading and content.

During-reading/writing Stage: 4 or 5 student groups were established. Activities of making predictions, partner reading and story mapping are conducted in the stage, engaging students to steadily develop higher order thinking skills via inter-group communication. Story-related writing activities accompanied with the writing tasks help students write and polish the meaningful sentences from pairs of students and, eventually, individually. Writing task is generated through the process of summarizing, synthesizing, commenting, and reflecting related to their reading materials. The BCIRC model acts as a beneficial tool in the writing processing tasks from guided writing to interactive wiring and group-cooperative writing workshops, finally steers in facilitating independent writing.

Post-reading/writing Stage: At the end of the periods, students are given a context

comprehension test, including write meaningful sentences. The tests are the culmination of a variety of interactive strategies which involve students in sequencing activities of the BCIRC process while providing them with strategies to participate fully in every learning event.

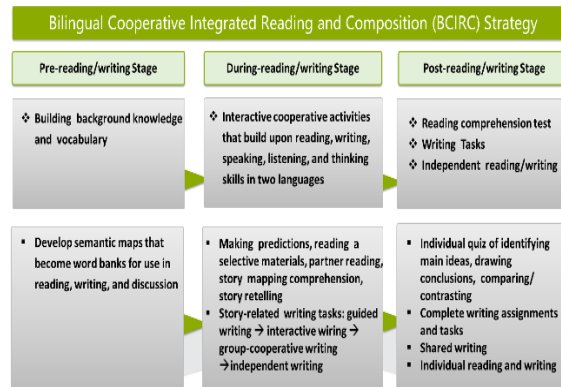


Figure 1. Bilingual Cooperative Integrated Reading and Composition (BCIRC) Strategy

3.3. Design and Methods

3.3.1. Research design

The present study aimed to compare the effects of BCIRC strategy on facilitating students' English literacy. The design has been seeking to develop and pilot instructional digital reading and writing cooperative strategy in classrooms, building on existing reading comprehension approaches while adapting them for digital reading and writing task.

A within-subjects, pretest and posttest experimental design, where each participant was recruited for 12 weeks (80 minutes per week) study.

3.3.2. Data Collection

An experimental method of “a within-subjects, pretest and posttest group” was used in this study in order to compare and measure the degree of change occurring as a result of BCIRC strategy treatments and interventions. “Reading Comprehension Test (RCT),” “English Learning Motivation Scale (ELMS)” and “Written Expression Achievement Test (WEAT),” developed by the researcher, were used as data collection tools. The participants were asked to take the RCT, ELMS and WEAT prior and after the implementation of the experimental tasks, further identifying learners' English literacy levels.

4. Results and Discussion

The present study aims to analyze the BCIRC instruction on the learners' English reading comprehension and writing skills.

4.1. Findings related to RCT

The paired-sample t-test analysis in Table 1 shows that the mean score on the posttest ($M = 65.15$) is significantly greater than the mean score on the pretest ($M = 53.38$). The observed mean difference is -11.765 , implying that the performance of the students had improved significantly. Therefore, H_0 (no significant difference between

pretest and posttest in the reading comprehension scores) was also rejected. Based on the findings, the researcher accepts the alternative hypothesis that there was a significant difference between the pretest and posttest reading BCIRC strategy had indeed helped to significantly elevate the students' performance in their reading comprehension texts.

Table 1
Paired Samples Statistics of the RCT Pretest-Posttest

	N	Mean	SD	SE	t	df	Sig. (2-tailed)
Pretest	25	53.38	6.243	1.071			
Posttest	25	65.15	6.907	1.185	-9.870	33	0.000

* $p < 0.025$, 2-tailed.

Table 2
Results of the Paired Samples t-test of RCT Pretest-Posttest Scores

Pair	Mean	SD	SE	95%CI		t	df	Sig.
				Lower	Upper			
Pretest-Posttest	-11.765	6.950	1.192	-9.870	-9.870	-9.870	33	0.000

* $p < 0.025$, 2-tailed.

4.2. Findings related to ELMS

Table 3 presents the paired t-test results of the comparison pretests and posttests of English Learning Motivation Scale (ELMS). The students had positive promotion on each motivation factor after 12 weeks, and promotions were statistically significant in liking, dedication, self-efficacy, and total score: for liking ($t_{(39)} = - .3.81$, $p = .000$), for dedication ($t_{(39)} = - .4.07$, $p = .000$), for self-efficacy ($t_{(39)} = - .3.87$, $p = .000$), and for total score ($t_{(39)} = - .3.80$, $p = .000$). These findings show the effectiveness of digital reading and writing strategy instruction in promoting student English learning motivation.

Table 3.
Results of the Paired Samples t-test of ELMS pretest and posttest

	Pretest			Posttest			t	df	p
	N	M	SD	N	M	SD			
Liking	25	18.93	2.83	25	20.83	3.01	-3.81***	49	.000
Dedication	25	23.38	3.15	25	25.70	3.32	-4.07***	49	.000
Self-efficacy	25	22.20	3.03	25	24.43	2.81	-3.87***	49	.000
Intrinsic	25	15.05	3.28	25	15.68	3.64	-1.19	49	.241
Extrinsic	25	46.63	6.42	25	48.18	6.66	-1.52	49	.136
Total score	25	126.18	13.92	25	134.80	15.56	-3.80***	49	.000

*** $p < .001$

4.3. Findings related to WEAT

To find out whether the students improved significantly in their writing abilities, the pre- and post-test mean scores were compared by using a paired samples t-test. Results of the dependent sample t-test show a significant difference between the pretest and the posttest mean scores of the group at 0.05 level, suggesting that students achievement has significantly improved as a result of using the intervention (T.=-13.7) with mean (-32.00) and standard deviation (12.70). The result indicated that the post-test mean score was obviously higher than that obtained from the pre-test at a significance level.

Table 4
Paired Samples Statistics of the WEAT Pretest-Posttest

	N	Mean	SD	SE	t	df	Sig. (2-tailed)
Pretest	25	-32.000	12.7035	2.319	-13.7	29	0.000
Posttest							

* $p < 0.05$, 2-tailed.

Table 4 presents the results of Written Expression Achievement Test (WEAT). There are several personal and group writing tasks, i.e., poem writing worksheets, rhyming poems, group digital stories, etc., prerequisite to be finished as for the wiring production in-between the 12 weeks PBL lessons. Regarding to their writing project, three assessment criteria were selected in the rating scale:

Task Fulfillment

This is intended to assess the young EFL learners' understanding of given input for each task and ability to perform task requirements accordingly.

Idea Organization

This is intended to assess ability to organize writing with the use of organizational patterns, cohesive devices and transition words. Also, it assesses ability to develop ideas with supporting details and examples.

Language Use

This is intended to assess the young EFL learners' grammatical, syntactic and vocabulary knowledge.

Table 5
Means Values of Sub-Measures of English Writing Skills in the Writing Tasks

	First Writing Mean	Last Writing Mean
Task fulfillment	73.54	86.25
Idea organization	72.21	89.71
Language use	75.75	82.49

In Table 5, the writing tasks written from the first and last session of the writing phase are compared with regard to the average rating level scores of task fulfillment, idea organization, and language use per text. As can be seen, the means for all measures in the last writing task produced by EFL learners were higher than those in the first writing task.

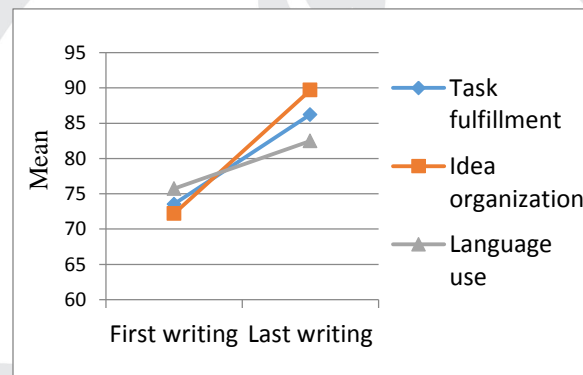


Figure 2. Degree of improvement in the writing tasks

The above figure shows there was a rising mean scores average showing in the writing performance. It was noticeable to see the students' improvement through learning aiding with BCIRC strategy.

5. Conclusion and Implications

The present study has been demonstrated that the use of BCIRC strategy did play a critical role in young EFL learners' English literacy. BCIRC strategy is considered a valuable tool for invigorating learning and motivating participants to collaboratively construct and personalize digital narratives as authentic products of learning (Yang & Wu, 2012). Within the individual work and group PBL project, young EFL learners' reading and writing abilities, including the task fulfillment, idea organization and production of digital story, were significantly enhanced and fostered through the adaptive learning pace accompanied the implementation of BCIRC strategy. As students work together to master reading and writing skills in two languages, they also learn cooperation and "people skills" that are invaluable. They become higher-order thinkers and become less afraid of failure. When teachers are able to use this cooperative learning approach to education, students grow—and so do the teachers

These findings generally suggest that BCIRC strategy is effective on reading comprehension and writing expression skills. In light of these results, four major implications from this study suggested that BCIRC teaching methods benefits language acquisition (Chen, 2004; Stevens, 2003).

The major implication is that interaction strategies orchestrated through BCIRC enable students to reach higher level of reading and writing proficiency in two languages. BCIRC learning process and procedures allow students to transfer the social, academic, and cognitive skills into English reading and writing development with much greater ease.

The second prevalent outcome is student engagement time. Guided interaction around meaningful and interesting tasks and this cooperative model helped even the most reluctant learners become actively engaged in learning.

The third implication is self-confidence and positive attitude. The varied exposure to sufficient learning materials helped students see their achievements as positive.

The fourth major implication is the improvement-of-practice gains. Teacher in this study has shifted from traditional grammar-based learning, ESL drill on discrete skills to problem solving, and integrated language, reading, and writing. In between these stages, BCIRC teacher devoted extensive time to organize, reconstruct, recognize and refocus their lessons, and more teacher profession development generated significantly.

References

- Bryson, F.K. (2003). *An examination of two methods of delivering writing instruction to fourth grade students*. Unpublished master thesis, Texas Woman's University, Texas.
- Bums, P., Roe, B., & Ross, E. (1999). *Teaching reading in today's elementary school* (7th ed.). Boston: Houghton Mifflin Company.
- Calderón, M., Hertz-Lazarowitz, R., Ivory, G., & Slavin, R.E. (1997). *Effects of bilingual cooperative integrated reading and composition on students transitioning from Spanish to English reading* (Report No. 10). Baltimore, MD: Center for Research on the Education of Students Placed at Risk.
- Calderón, M. (1999). Promoting language proficiency and academic achievement through cooperation. *ERIC Digest*. Retrieved March 20, 2005, from <http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED436983>
- Chen, M. L. (2004). *A study of the effects of cooperative learning strategies on student achievement in English as a foreign language in a Taiwan college*. Unpublished doctoral thesis, Spalding University, Taiwan.
- Durán, R. P. & Szymanski, M. H. (1993). *Construction of learning and interaction of language minority children in cooperative learning g* (Tech. Rep. No. 45). Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.
- Durukan, E. (2011). Effects of cooperative integrated reading and composition (CIRC) strategy on reading-writing skills. *Educational Research and Reviews*, 6 (1), pp. 102-109,
- Stevens, R. J., Madden, N. A., Slavin, R. E., & Famish, A. M. (1987). Cooperative integrated reading and composition: Two field experiments. *Reading Research*

Quarterly, 22, 433-454.

Stevens, R.J., & Durkin, S. (1992). *Using Student Team Reading and Student Team Writing in middle schools: Two evaluations* (Report No. 36). Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.

Stevens, R. J., & Slavin, R.E. (1995). The effects of Cooperative Integrated Reading and Composition (CIRC) on academically handicapped and non-handicapped students' achievement, attitudes, and metacognition in reading and writing. *Elementary School Journal*, 95, 241-260.

Stevens, R. J. (2003). Student team reading and writing: a cooperative learning approach to middle school literacy instruction. *Education and Research and Evaluation*, 9(2), 137-160.

Yang, Y. T. & Wu, W. C. (2012). Digital storytelling and for enhancing student academic achievement, critical thinking, and learning motivation: A year-long experimental study. *Computers and Education*, 59, 239-352.

