

Concentrated Language Encounter Approach in Practice for Global Teaching of Literacy: Lighthouse Strategy Implementation

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Abstract

This article presents the lighthouse literacy strategies model using the concentrated language encounter (CLE) approach that has been successfully replicated in many countries in different languages and cultures. A review of CLE research studies and the project implementation in Thailand showed highly significant results in students' literacy skill improvement. The theoretical bases were derived from the research on language education in Australia with aboriginal children. Through the implementation program in Thailand, three CLE models/stages in teaching language and a specific 'train the trainers' program were developed at different levels of literacy skills. Four different types of CLE literacy programs that include formal, informal, special education, and ethnic groups were successfully implemented.

Keywords: concentrated language encounter approach, lighthouse strategies, CLE models/stages of teaching literacy, train the trainers program

1. Introduction

Poverty is a serious global issue that affects people's lives and has a major impact on national educational reform planning (OECD, 2014). Literacy education is generally considered to be the only long-term solution to solving this problem. In many areas in Thailand, illiteracy and poverty are also grave issues causing various difficulties for educational, social, political, and economical development. In Thailand, the primary emphasis has been on functional literacy because it involves learning to communicate in practical and direct ways as well as adapting knowledge to vocations and other subject areas. Even in a poverty-stricken context, the need for literacy is playing an increasing role in community and workplace processes as well as in educational contexts. The use of computers in information processing is becoming more necessary and more sophisticated, both for the purposes of social participation and for economic performance. Rapidly changing demands mean that children need to enroll in educational programs to reach those goals, especially for children in various rural areas, which encompass a statistically diverse range of people, such as in the northeast, north, and south of Thailand, where different minority languages are spoken. Unfortunately, children in these areas experience many language-related difficulties at school, and as a result, there is a high student learning failure rate. Research indicates that ethnic language literacy rates in Thailand remain well below average in most groups. Ethnic minority groups have scarcely benefited from their educational developments. Studies suggest that because of poverty and language constraints (the Thai language is the official language of instruction in schools) school completion rates are lower among non-Thai speaking students. As a result of the high school dropout rates, illiteracy is generally more prevalent among ethnic minorities (Wisanee & Petchragasa, 2005; UNESCO, 2007). Accordingly, good sustainable literacy programs must be developed as a matter of national urgency (Ministry of Education, 2009; UNESCO, 2014).

In general, the traditional approaches to teaching the Thai and English languages in Thailand have not been successful primarily because they tend to perceive language in terms of various small elements that are broken down and taught in a fragmented manner. This approach was based on the theoretical assumption that students must learn all these language elements in isolation before they can put the elements together to create coherent language. However, such learning theory divorces language from the considerations of purpose and meaning (Christie, 2012).

To eliminate mass illiteracy in Thailand, appropriate approaches in the teaching of language were researched,

and the Concentrated Language Encounter (CLE) approach of Gray's program at Traeger Park was first introduced to the author by Richard Walker, an educationalist and Deputy of the then Mount Gravatt College of Advanced Education in Brisbane, Australia, in the early 1980s. It was considered that the general principals employed from the Traeger Park program were applicable for all students whether they were advantaged or disadvantaged, first or second language learners, or living in urban or rural situations (Walker, Rattanavich, & Oller, 1992).

In addition, the proposed Thailand project also had some needs of its own. The first of these was the development of curriculum materials in the Thai language and the second was development of an approach to teacher training and dissemination.

2. Original CLE Research Implication in Australia

In the 1980s, Gray (1998) confronted a similar problem in Australia. As a senior teacher charged with developing a language and literacy program for Aboriginal children at Traeger Park School in Alice Springs, Gray (1980, 1998) demonstrated that the children could not engage effectively when language and literacy instruction was delivered within a skills-based direct instructional model. He proposed that a more effective approach required teaching and learning that was transparently situated within discourses relevant to academic learning and to functioning in the wider community. In particular, the social roles and functions underlying the choices for structure and vocabulary had to be actively linked to language choices.

Gray (1998) further argued that a conventional language experience approach built around child-centered pedagogies, such as whole language, was also inadequate when learners did not already possess the culturally situated literate/language resources necessary to engage successfully within the discourses they were encountering in their schooling.

In response to the language and literacy needs that he identified concerning the Aboriginal children at Traeger Park School, Gray developed an approach that used highly staged but practical everyday contexts that he called Concentrated Language Encounters (CLE), which was a term he borrowed from Cazden (1977). A CLE, as Gray defined it, was a sequence of lessons that focused upon the production of a specific text. The text was carefully chosen and the language contextual resources necessary for its production were defined and analyzed by the teacher prior to teaching. Teaching in the CLE sequence systematically supported the development of the students' ability to control, understand, and deconstruct the 'target' text.

Gray defined 'text', based on Halliday (1975), as a body of language that is designed to do a job in a particular context. The texts studied and produced by the Central Australian Aboriginal children were taxonomised around the following three general categories:

- Transactional texts (working texts, such as forms, notes, and signs).
- Factual texts (recounts, procedures, explanations, descriptions, reports, and arguments).
- Literary texts (recounts, narratives, aboriginal stories for children, poetry, legends, and fables).

Gray (1980) identified two basic types of CLE lesson sequences in his earlier work. These lesson sequence configurations became the basic environment within which teachers and students worked to produce texts. He labeled these as Type A and Type B. Gray (2014) described these in the following manner.

Type A concentrated encounters produce written texts that originated in experiences shared by both teacher and students. For example, at school entry, making toast together was used as the basis for giving children control over the ability to produce an extended procedural text. Once the students had built up the capacity to retell this procedural text, it was transformed into a written text through teacher/student negotiation around the production of a written text. This written text was then used for reading development.

Type B concentrated encounters were derived from experiences with texts. In these encounters, texts were read to, with, or by the students and discussed. In these sessions, the teacher mediated the production and discussion of the target text using the scaffolding strategies that had been introduced (Gray, 2014, pp. 4-5).

In these CLE contexts, students worked jointly with teachers to produce texts that were appropriate to the social roles studied by the children. The CLE became the central organizing principle for curriculum planning, although it needed to be identified as part of a wider curriculum theme that involved a number of interrelated CLE lesson sequences. Gray (1987) gave an example of a CLE lesson sequence on 'saddling a horse' that was incorporated as one aspect of a broader program theme devoted to cattle stations (a significant aspect of life for remote area Aboriginal students in Outback Australia). As an important part of learning about the general theme of cattle stations, the children spent time learning how to look after and ride horses. The target text for the CLE teaching was the production of an extended instructional text that explained how to approach and fit a saddle on

a horse. In addition, other cattle station themes were explored, such as learning about mustering cattle, butchering meat, leatherworking, and so on, all of which offered different CLE lesson sequences. In this theme, most of the CLE activities were focused upon the production of procedural texts, although a number of extended explanation and narrative texts were also explored.

A critical feature for success in CLE lesson sequences was that they were staged as “routines.” Routines in CLE programming imitated parent-child language development interaction of the kind described by Bruner (1983, 1986) and other researchers in child language development that were emerging at the time (Goldfield & Snow, 1984; Heath, 1982, 1983; Nineo & Bruner, 1978; Snow, 1977, 1978, 1983a, 1983b; Snow & Goldfield, 1982, 1983; Wood, 1980; Wood, Bruner, & Ross, 1976). In a routine, the same text was revisited repeatedly over time and both the scope of the context for the text production and the language resources used within the text itself were expanded and developed qualitatively. Through this process, the students became able to control extended and elaborated texts that were initially well beyond their individual competencies.

A further key element in the CLE approach was the nature of the teaching/learning negotiation process. Critical to the success of CLE activities was the fact that both teachers and children took an active part in the negotiation of the children’s learning (Gray, 1985). Gray based the teacher/student negotiation process that took place within CLE lesson sequences on the work of Vygostky (1978) and on early research on parent/child language and literacy development that was emerging during his early CLE work (Gray, 1987). Of particular importance was of the notion of ‘scaffolding’.

In scaffolding, the teacher worked jointly with the learners in activities. In the activity, teachers allowed the children to do as much as they could do to complete the task. However, because the teacher was working with the children, they were able to help learners by providing assistance and by contributing whatever the students could not do to complete the learning task. Further, because the CLE consisted of lesson sequences (i.e., the lessons were treated as routinized activities), children became increasingly able to control the task over time. Consequently, as children became more able, the teacher allowed and encouraged them to take more and more control of the activity. This control was extended to discussion and analysis of the target texts. Eventually, the children could do the entire activity and produce appropriate texts without the teacher’s assistance.

Although the term scaffolding has been loosely appropriated by child-centered approaches, such as whole language (K. Goodman, Y. Goodman, & Bird, 1990), Gray’s interpretation (Gray, 2007) differs in relation to the strength of the role assumed by the adult in determining what is to be learned as well as how the learning is to be negotiated. Imitation, a process that is often avoided in discussion of learning in child-centered pedagogy, is also given a more nuanced position in the learning environment. Furthermore, the interpretation of what constitutes effective questioning strategies also differs from those presumed in child-centered approaches. Thus, while teaching and learning in CLE activities is experiential in that learning is contextualized in ‘real world’ activities and experience, it is misleading to presume an affinity with child-centered language experience approaches.

3. Adaptation and Implementation of the CLE Teaching Approach in Thailand

The CLE program implemented in Thailand was not a direct copy of the program Gray (1998) developed. The Thai CLE program represents an interpretation and adaptation of some of the general principles and significant teaching strategies to meet what this author, Walker, and other consultants considered to be the needs in Thai schools at that time (Walker, Rattanavich, & Oller, 1992).

The Thai CLE program paid considerable attention to systematizing and reducing the scope of the original program to make it more easily accommodated within the teaching expertise of Thai teachers and within the limited teaching resources available in Thai schools. The Thai program, however, attempted to retain the major teaching/learning advantages contained within the original CLE model.

One major advantage that was observed at Traeger Park School was that the scaffolding interaction process, along with the recurrent presentations employed as routines, allowed space within the lesson for shy and unconfident learners to participate in meaningful communication without placing undue pressure to perform and produce fully formed responses. This provided a stress-free environment for all students to engage in learning at their own pace. From the perspective of foreign language teaching, the CLE model provided a sophisticated response to the language learning issues raised by Asher (2003) concerning comprehension and performance effects stemming from Sperry’s (1968) research on brain function.

In addition, the fact that Gray’s CLE activities were experiential and firmly grounded directly in cultural and community discourses offered a teaching context that was more relevant and potentially more powerful than the rigid and behaviorally oriented solutions and contexts. A central concern of the Thai CLE teaching process is to

situate the use of language as much as possible around the practical use of language in real life contexts. Through the scaffolding provided in these situations, the aim was to build a thinking framework in the learner that is appropriate for responding and speaking in the contexts that directly affect their everyday lives. The following figure (Figure 1) is used to express this process within the CLE approach used in Thailand.

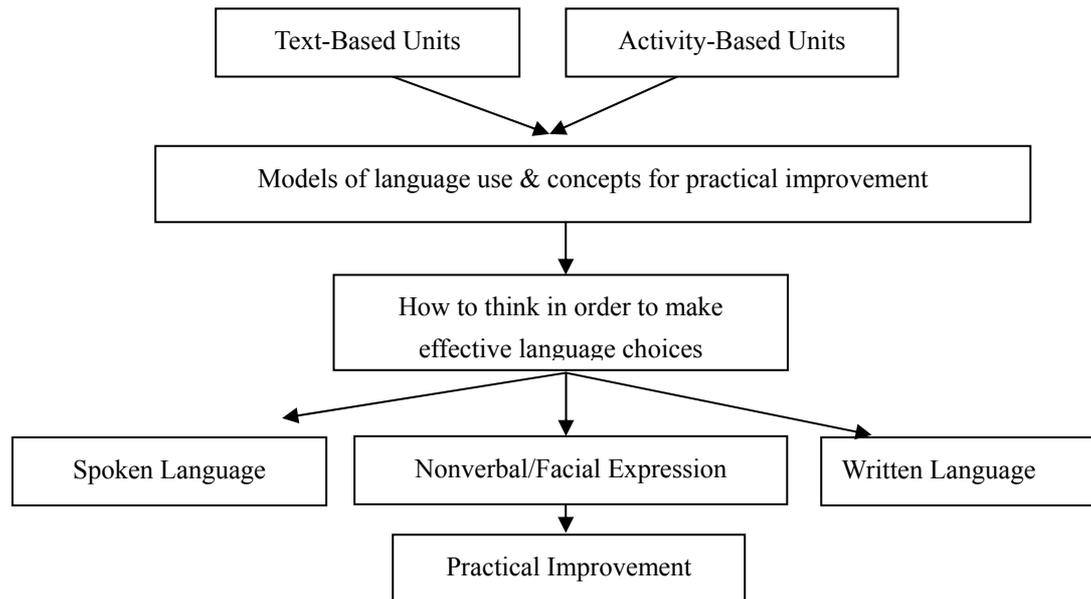


Figure 1. CLE learning process

The CLE learning process (at each stage) places emphasis on thinking about the language use. This (how to make effective language choices) is modeled in the presentation of the material explored in the text-based and activity-based units, and its acquisition is built progressively by the scaffolding techniques of instruction in each phase. The students also learn language that is practical and appropriate to their effective functioning in school and the wider community. Because students are continually making connections between thinking about language and using language in relevant contexts, they can begin to transfer their thoughts into both spoken and written language and also into nonverbal communication (facial expressions), thereby making possible a direct improvement in the quality of their everyday lives.

The overall implementation framework for the CLE program adapted within Thailand was set out and discussed in Walker, Rattanavich, and Oller (1992). The following discussion provides a brief outline of its main features. The program organization is built around three stages of literacy development, with stage 1 representing Thai students with less literacy.

1) Stage 1 is used for less experienced readers or beginner readers. The objective is to create enthusiasm in the learners for reading and writing simple texts of various kinds. The emphasis is on enjoying reading and writing and becoming successful in spoken and written language. The learners have been taught how to learn and enjoy the learning process in which self-improvement is developed.

2) Stage 2 is used for learners who are able to read and write simple texts independently. It is aimed at widening the range of text types or genres that learners can read and write in for everyday life, including reading and writing techniques to help students learn how to read and write effectively.

3) Stage 3 is used for the advanced learners, emphasizing learning through reading and writing and offering further experiences with texts. The overall objective is to provide all the literacy skills that learners will ever need when they leave school and the learning skills that they will need at higher levels.

The CLE programs were also categorized into four types of literacy programs to better organize the appropriate plan of curriculum development, key personnel training, material development, and research studies. The four types are formal or school-based programs, informal education programs (adult literacy and children), special education program (for disabled students), and ethnic group program (hill tribe students and immigrants)

(Walker et al., 1998; Rattanaich, 2013).

For the development of curriculum materials and a teacher program, Frances Christie introduced a genre-based or text-based approach to the development of the Thailand literacy program (Rattanaich & Christie, 1993). In fact, two strategies had been developed, one involving the development of basic literacy curriculum materials and the other involving a teacher development program. The genre-based approach had been used to plan for the beginner's texts used in the program because those genres or text types derive from the context of culture and the context of situations when people use spoken or written language. A genre has a characteristic overall shape, technically called a 'schematic structure,' similar to a spoken or written organization of language by people when conveying meaning to a listener or reader for a particular purpose. As different genres have different purposes, such as recounting, reporting, discussing, explaining, narrating, exposing, interviewing, observing, and so on, there is a pattern of linguistic features used when conveying the spoken or written messages in these different situations. Accordingly, teachers should be trained on such essential linguistic enquiries and resources to better plan the beginner's texts as the language model to enable their students to feel at ease while learning how to think about and organize their thoughts into comprehensible and grammatically precise and concise oral or written texts. The teacher must focus their own thinking upon the text to be considered and the context in which students should engage with that text. These aspects should be the focus when beginning the study of the whole text and understood as an important unit for building meaning. Once students have established familiarity with the text in terms of reading and talking about it, they can, especially in the writing activities developed, undertake learning about the many aspects of the language used, including spelling and handwriting systems and aspects of the organization of written sentences. All the latter items can be considered in lively and interesting ways so that the students find them relevant to their learning. The content of the texts that the students develop is chosen on the basis of content that is most likely to improve their prospects and enjoyment in life. The topics may include basic health and hygiene, public health, morals, norms of conduct, arts, crafts, culture, science, business, procedures, community decision-making, teamwork and cooperation, preservation of environment, agriculture, and/or other aspects of local and natural life (Rattanaich & Christie, 1993; Rattanaich, 1997; Christie, 2010).

Various publications on genre theory brought together sets of team-developed teaching project prescriptions for the range of genres covered in each grade (three through six). Genres of the English language were examined first, and the linguistic features of these were considered, after which Thai genres were identified, and their linguistic features were established (Rattanaich & Christie, 1993).

Because genres are not understood apart from context, a comprehensive overview of the various genres is required for the development of major curriculum themes from which the relevant genres will be selected for teaching. When the Thai CLE program spread to other regions of Thailand, it was necessary to replace some of the curriculum themes with others due to geographical and sociocultural differences. The project leaders learned to hold a writers' workshop to generate specifications for regional beginner's texts. Teachers are encouraged to develop additional program units that are based on activities of local importance. One class may read and write the same number of books and cover the same number of genres as another, even as they work through considerably fewer program units. That happens when students become exceptionally engrossed in a particular topic, and they go on to write several different kinds of texts. The genres used to develop the texts in the CLE program can be flexible based on reading objectives for entertainment, reading to do, and reading to learn.

The steps/phases of instruction in each CLE stage are organized and developed based on CLE research studies implemented when conducting the projects as shown in Table 1.

Table 1. Phases of instruction in CLE

Stage 1		Stage 2	Stage 3
A. Text-based Unit	B. Activity-based Unit		
1. Shared reading of a starter text.	1. Sharing the structured experience (introducing each material used and demonstrating how to do or operate the activity with an oral explanation given clearly and slowly, step-by-step).	1. Analyzing the model text.	1. Orientation using contextualization, mapping, text organization survey, genre establishment, and dealing with unfamiliar vocabulary.
2. Recalling the text, discussing the text, and being involved in role-play.	2. Reconstructing the experience (asking students to orally review the materials used and the steps of how to do or operate the activity before allowing them to do the activity on their own individually or in small groups).	2. Linking the text to personal experience.	2. Reflections using a format for simple writing.
3. Negotiating a group text.		3. Negotiating a new text.	3. Note taking.
4. Making a big book.		4. Critically analyzing a new text.	4. Synthesizing new text.
5. Language activities through games.		5. Language activities and elaboration.	5. Editing.
			6. Final copy and elaboration.

Steps 3, 4, and 5 contain activities that are similar to those of the text-based unit in Stage 1. For Stages 2 and 3, the teacher can adapt the language activities to students' age groups and abilities to focus on smaller units of the language, such as pronunciation, idioms, more sophisticated reading activities, writing with different genres, spelling, grammatical points, etc. of texts loosely derived from the 'genre' research of Martin (1984, 1985), Halliday and Martin (1993), and Christie (1987, 1989, 1990, 1993, 2010). Many of the text types chosen as teaching goals were employed in Gray's program at Traeger Park School. However, the final taxonomy of text goals chosen differ somewhat and reflect a perception of the requirements for implementation in Thailand as in the following:

1) Stage 1

- Story books, such as single episode narratives (telling of legends or carrying a moral) and recounts (telling the sequence of events of a student project) (e.g., *Planting Our Rice*).
- Procedural texts or 'how to' books, such as *How to Make a Paper Hat*, or *How to Brush Your Teeth*.
- Expository texts or information books, such as *This is My Hometown*, *My Family*, and books about classes of things (e.g., *Our Book of Birds*).
- Incidental letters, notices, messages, and display texts of various kinds.

2) Stage 2

In the genres that continue from the stage 1 level, the beginner's texts become more complex and more sophisticated in both structure and content. The following is an example of the stage 2 program in general.

- Stories with a more complex structure than stage 1, including longer episodic narratives set in another time period.
- Procedural and expository books that have practical uses.
- Brochures and pamphlets those are good for using in a particular community.
- Letters for personal communication.
- Newspaper items, such as reports of local events, advertisements, and cartoons.
- Verse, jingles, and fun with language.

3) Stage 3

The genres at the final stage of elementary school that students need in later life are included in stage 3. For the

secondary school level, students need the types of texts that they are required to study and write at the secondary education level and deal with the texts they are likely to encounter in private and commercial life, such as the following:

- Scientific reports.
- Newspapers and reports.
- Short stories of literary quality or fictional narratives.
- Biographies, travel tales, or factual narratives.
- Plays and films.
- Radio scripts including advertisements.
- Commercial and public documents, such as business letters, invoices, receipts, accounts, timetables, catalogues, user manuals, and governmental forms.
- Reference books, such as dictionaries and encyclopedias.
- Texts used in formal business, meeting minutes, annual reports of community bodies, and speeches.

Ideally, the stage 3 program would spread across all subject areas of the primary school curriculum. In schools, the CLE methodology is likely to spread fairly quickly across other subjects.

4. Development Research Studies on the CLE Literacy Project in Thailand

4.1 Initial Pilot Program

In 1985, a first small action research on the CLE in English was introduced and conducted with third and fourth year students at the primary demonstration school at Srinakharinwirot University. Richard Walker and his colleague, Brendan Bartlett, from the Brisbane College of Advanced Education, which is now Griffith University in Brisbane, Australia, conducted this research. Rattanavich participated in this research and conducted the initial teaching of the CLE approach in English and Thai languages at the demonstration school. Within an action research model, Rattanavich adapted some phases of the original process to make it appropriate to the students' classroom activities.

4.2 Second Pilot Program

In 1987 a further CLE pilot program in the Thai language was conducted in two poor schools in the Surin province in northeastern Thailand, where students had difficulty communicating in the Thai language because they spoke other languages, Laotien and Suay (a dialect of the Cambodian language). Significant results in Thai language development in the two pilot schools were found as well as other personal developments, such as creativity, self-confidence, and responsibility (Rattanavich & Walker, 1987).

The report on the CLE pilot program conducted in Surin was submitted to Rotary International and was proposed to obtain the 3-H grant so that the program could be implemented in a wider area in Thailand for the academic years 1990 to 1995. The project was approved and funded for five years in Thailand for developing the literacy project in the four provinces in the northeast (Surin, Buriram, Chaiyaphum, and Sirsaket). The project was aimed at 800 schools in the area; the program became the lighthouse for other areas in the country (Rattanavich, 2003).

In the program, the key personnel (in-service teachers, teacher supervisors, school administrators, and office of Primary Education advisors) were trained using the CLE techniques in teaching language in the regions. There were 800 project schools selected by the Office of Primary Education Commission, the Ministry of Education. The training programs were text-based and activity based. Expert participants from supervisors, schoolteachers, and other outside experts from the Ministry of Education as well as the Srinakharinwirot University selected the children's books/texts. The CLE teaching theory and teaching techniques were the main topics to be trained year-by-year for all in-service teachers of the project schools in the four provinces for grades one through six. The teacher supervisors of the Office of Primary Education in each region have also been trained in the CLE techniques as well as in coaching and mentoring for follow up, assistance, and evaluation of the trained in-service teachers' performance and achievement. The Rotary Foundation of Rotary International supported the funding of the classroom materials, workshops, and training as well as other expenses for the training, including travelling and meals for the trainer and trainees (Walker, 2000; Rattanavich, 2003).

To conduct the research, the original CLE from Gray's research introduced by Walker was adapted at the model/stage 1 for the beginner or for Thai students with less literacy (grades 1 and 2). Models/stages 2 and 3 for upper grade students or more experienced learners were developed for a higher level of literacy skill

development.

An experimental and control group of students and teachers were randomly drawn from matched pairs of schools, from both language-problem and non-language problem areas of the four northeastern provinces. In each level, the experimental group consisted of 98 teachers (98 classes), with 2,945 students in 44 schools, while the control group consisted of 95 teachers (95 classes), with 2,397 students in 47 schools. Over the academic years from 1988 to 1993, the model 1 CLE program (grades one and two), the model 2 CLE program (grades three and four), and the model 3 CLE program (grades five and six) were used with the experimental group and the traditional program was used with the control group for the academic years from 1990 to 1995. The project was extended to five southern provinces (Songkla, Yala, Pattanee, Narathiwat, and Satool) using the same research plan; the post-test had only the control group design. The instruments used for data collection were pragmatic tests on Thai language communicative performance, a standardized test of Thai language usage at the primary school curriculum level. Questionnaires, structured interviews, and reports from teachers, parents, students, school administrators, supervisors, librarians, and others with expertise in the project as well as the computer program SPSS for the t-test, meta-analysis, percentage calculations, and discourse analysis were used for data analysis (Rattanavich, 2003).

The results from teachers', students', and parents' perspectives in the four northeast provinces and the five provinces in the south demonstrated a significant improvement with regard to students' self-expression, personal development, positive reading and writing attitudes, creative thinking development, and team cooperation skills as well as a decrease in drop-out levels in the project schools in all provinces. Through meta-analysis of all results of the average scores of model 1, model 2, and model 3 on Thai language communicative performance (reading, writing, listening, and speaking), 73% of the students in the control group schools scored lower than the mean score of the students in the experimental schools in the four northeast provinces, and 74% of the students in the control group schools scored lower than the mean score of the students in the experimental group schools in the southern provinces. The projects were so successful that the Thai government expanded the CLE techniques to cover the entire nation (Rattanavich, 1997).

4.3 Pilot Program for the Blind Students

Rattanavich and a team of Rotarians in Cairo, Egypt, started a small action research on the CLE literacy program for blind students. Rattanavich conducted a comparative study on the effects of teaching Thai language to blind students at the Bangkok School for the Blind in Thailand in the 2001 academic year with three levels of students: the second year of kindergarten, first grade, and second grade. The comparative study was between the CLE instruction, which has a strong functional orientation, and the traditional instruction, which emphasizes structural skills (Rattanavich, 2007).

The control group pretest and post-test design was used in the study. A pragmatic test for validating the efficacy of Thai language use and discourse analysis of observation in Thai language use was conducted; the data collected were recorded on the observation forms (with a reliability of 0.80 to 1.00). The t-test (dependent and independent samples) and the Chi-Square test through the SPSS (PC+) were used for statistical data analysis. The findings revealed that (with the exception of one small group in kindergarten) the CLE students performed significantly better in Thai language development than those taught through traditional instruction at a .01 level of confidence. The CLE students had more opportunities than the traditionally taught students for learning, participation, boldness of expression, and the demonstration of emotional intelligence. Teachers showed a greater range of student-centered teaching behaviors in the CLE classes than in the traditional classes relative to modeling thinking, encouragement, and allowing students to evaluate and improve their own work or achievements (Rattanavich, 2007a). See Tables 2 and 3.

Table 2. Summary of the comparison between the experimental and control groups of blind students' Thai language performance development (literacy skills) using t-test (dependent & independent samples).

Class Level	Tests		Within Groups						Between Groups					
			Pre-post Experiment			Pre-post Experiment			Pre-post Experiment					
			X ₁	S ₁	t	X ₁	S ₂	t	MD ₁	S _{MD1}	MD ₂	S _{MD2}	t	
Kindergarten 2 (4-5 years old)	Cloze Test	Pre	2.57	2.07	3.48*	.71	1.25	2.23	3.21	2.45	2.14	2.54	.80	
		Post	5.79	1.87		2.86	2.85							
	Dictation	Pre	8.00	1.83	.87	6.00	2.45	.80	.50	1.53	.86	2.85	-.29	
		Post	8.50	.58		6.86	3.69							
	Interview	Pre	3.07	.84	1.80	3.21	.70	-.23	.57	.07	.14	.84	1.44	
		Post	3.64	.48		3.14	.38							
	Total Scores	Pre	13.64	3.15	3.99**	9.93	3.35	1.51	4.29	2.84	2.95	5.14	.61	
		Post	17.93	2.42		12.86	5.96							
	Grade 1 (6 years old)	Cloze Test	Pre	5.43	2.82	8.56**	5.29	5.47	6.62**	9.29	2.87	7.14	2.85	1.40
			Post	14.71	3.90		12.43	2.99						
Dictation		Pre	45.86	5.55	5.69**	48.71	7.63	2.49*	6.43	2.99	5.14	5.46	.55	
		Post	52.29	4.35		53.86	4.56							
Essay		Pre	14.43	3.60	4.38**	14.57	3.36	-.83	4.57	2.76	-1.43	4.54	2.99*	
		Post	19.00	4.62		13.14	4.85							
Interview		Pre	14.46	4.14	3.81**	15.86	3.85	1.80	5.93	4.12	2.71	3.99	1.48	
		Post	20.57	1.81		18.57	2.15							
Total Scores		Pre	80.36	11.28	8.43**	84.43	14.43	3.51*	26.21	8.23	13.57	10.23	2.55*	
		Post	106.57	9.61		98.00	7.94							
Grade 2 (7 years old)	Cloze Test	Pre	5.38	4.60	8.66**	10.86	4.67	4.73**	14.13	4.61	9.00	5.03	2.06	
		Post	19.50	5.04		19.86	4.78							
	Dictation	Pre	53.75	6.04	3.61**	55.86	6.99	1.18	5.13	4.02	.71	1.60	2.86*	
		Post	58.88	4.16		56.57	5.86							
	Essay	Pre	15.00	3.78	3.82**	13.29	6.99	.80	5.00	3.70	1.29	4.23	1.81	
		Post	20.00	.93		14.57	3.69							
	Interview	Pre	7.19	.65	2.82*	6.29	1.58	2.21	1.19	1.19	1.57	1.88	-.48	
		Post	8.38	.92		7.86	.69							
	Total Scores	Pre	81.31	11.87	9.90**	86.29	12.40	4.12**	25.44	7.27	12.57	8.06	3.25**	
		Post	106.75	8.08		98.86	11.98							

\bar{X}^1 = Average Scores of Experimental Group, \bar{X}^2 = Average Scores of Control Group, S^1 = Standard Deviation of Experimental Group, S^2 = Standard Deviation of Control Group, MD^1 = Average Differences Scores of Experimental Group, MD^2 = Average Differences Scores of Control Group, S_{MD1} = Standard Deviation of Different Scores in the Experimental Group, S_{MD2} = Standard Deviation of Different Scores in the Control Group, t = Test of Significance, * = .05 Level of Significance, ** = .01 Level of Significance.

Table 3. Summary of the comparison between the frequency of students' learning behaviors, emotional intelligent and teachers' behaviors stressing student-centered approach in the experimental and control groups using Chi-Square

Observed Behaviors	Kindergarten 2			Grade 1			Grade 2		
	O ₁	O ₂	X ²	O ₁	O ₂	X ²	O ₁	O ₂	X ²
1. Learning Behaviors									
1.1 Classroom Participation	1183	757	93.54**	1235	793	96.33*	1110	969	18.89**
1.2 Boldness of Expression/Initiation	312	250	6.84*	119	73	11.02**	273	186	81.39**
2. Emotional Intelligence									
2.1 Self-control	171	78	34.73**	289	253	3.68	45	16	13.79**
2.2 Sympathy to Others	1157	563	205.13**	714	480	45.86**	615	432	31.99**
2.3 Responsibility	101	37	29.68**	92	48	80.67**	31	11	9.52**
2.4 Self-esteem	44	13	16.86**	20	8	5.14*	82	52	6.72**
2.5 Making Decisions and Problem Solving	4	2	0.67	8	0	8.00**	8	1	5.44*
2.6 Learning Enjoyment	84	55	6.05*	63	7	44.80**	70	12	41.02**
3. Teachers' Behaviors Stressing Student-Centeredness									
3.1 Modeling Thinking	706	528	28.68**	694	445	54.43**	982	706	45.13**
3.2 Allowing students to independently apply their learning knowledge through their own thoughts	261	127	46.28**	361	155	82.24**	91	45	15.56**
3.3 Motivating Students in Learning	289	126	64.02**	154	74	28.07**	122	80	8.73**
3.4 Reinforcing Encouragement	200	19	0.26	141	67	26.33**	268	160	27.25**
3.5 Allowing students to evaluate/improve achievements/learning by themselves	20	10	3.33	15	10	1.00	140	42	52.77**

O₁ = Average of Frequency of Experimental Group, O₂ = Average of Frequency of Control Group, X² = Chi-Square Value.

4.4 Meta-Analysis of CLE Research Studies (Model 1-3) All Over Thailand

To synthesize the effectiveness (an effect size) of the CLE instruction in both Thai and English in all types of CLE models/stages as the treatment compared to the traditional instruction, a meta-analysis was done on 76 graduate students' research studies on the CLE instruction in Thai and English programs at kindergarten, primary, and secondary levels with similar research designs, clear statistical analysis, and dependent variables on language performance, attitudes, and personality development during 1989 to 2004. It was found that students in the CLE program in both Thai and English using models 1, 2, and 3 showed a much higher percentage of achievement in language performance than those taught through a traditional teaching program: 98.30% ($\bar{d} = 2.12$) for the kindergarten level, 97.44% ($\bar{d} = 1.95$) for grades one to two (model 1), 93.45% ($\bar{d} = 1.51$) for grades three to four (Model 2), and 72.57% ($\bar{d} = 0.60$) for grades five to six (Model 3) in the Thai language program and 99.99% ($\bar{d} = 8.55$) for grades one to two (Model 1), 99.55% ($\bar{d} = 2.61$) for the secondary level, grades seven to eight (Model 1), 99.97% ($\bar{d} = 3.40$) for grades nine to ten (Model 2), and 94.52% ($\bar{d} = 1.60$) for grades eleven to twelve (Model 3) in the English program. Significant results were also found on attitudes in learning and personal development of students taught through the CLE method compared to the traditional instruction (Rattanavich, 2007b).

4.5 Latest Replicated Study on CLE Model 3

Piyapong Promnont (Promnont & Rattanavich, 2015) conducted a study on the development of reading, creative writing abilities, and satisfaction of eleventh grade students taught through the concentrated language encounter instruction method, CLE model III. One experimental group time series design was used, and the data was

analyzed by MANOVA with repeated measures, *t*-test for one-group samples, and basic statistical and line figures in the study. The study's results demonstrated that the experimental group had significantly higher development in English reading and creative writing at a .001 level and registered significantly at a much higher satisfaction at a .001 level, as depicted in Figure 2.

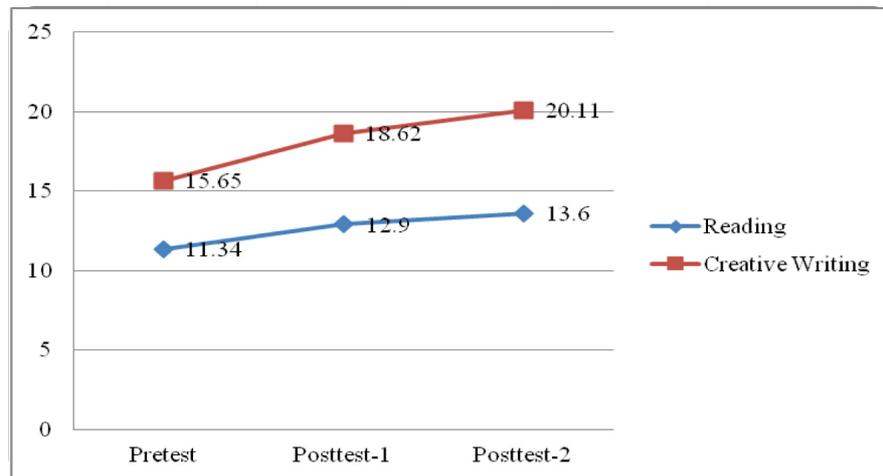


Figure 2. Comparison of the development in reading and creative writing of the experimental group

5. The Development of the CLE Approach to Teacher Training and Dissemination: Lighthouse Strategies in the Literacy Implementation Model

The CLE teaching models developed in the program have been successfully extended to all provinces in Thailand. Through the financial support from Rotary International, The World Bank, UNESCO, and UNICEF, more than ten countries around the world, including Lao PDR, the Philippines, Bangladesh, Nepal, India, Malaysia, Egypt, Turkey, South Africa, Brazil, and the USA have been sending their key-personnel project coordinators and technical coordinators to be trained in Bangkok since 1998. They have returned to their respective countries to implement their own CLE program in many areas and have successfully replicated the lighthouse strategies as conducted in Thailand in many types of CLE programs with the same satisfactory positive results in language development and personal development. Programs, such as Adult Literacy and Street Children Literacy in Turkey, Egypt, India, and South Africa; school-based programs, as in Nepal, Bangladesh, Egypt, Nigeria, the Philippines, Malaysia, India, Brazil, and South Africa; and the disabled learner programs, as in Nigeria and Egypt have been implemented. The trained key personnel have become the resource training leaders in different areas using their own successful areas as centers of the lighthouse literacy program for dissemination (Donald & Forrester, 2003; Andzayi, Deshi, Nengal, & Pyelshak, 2003; Gomwalk, 2003; Rotary International, 2009). In addition, many research studies on the CLE literacy in Thailand and elsewhere have shown the same results (i.e., learners are able to communicate in both spoken and written language well within three months for the mother tongue and within six months for the nonnative language on the basis of five hours of learning time per week) (Rotary International, 2009; Rattanavich, 2013).

5.1 Lighthouse Strategies

The lighthouse strategies used to spread the literacy project using the CLE approach are listed below.

The preparation stage includes the following:

- Surveying the needs of literacy training in the area.
- Targeting the beneficial group and selecting the project schools by the Provincial Office of Primary Education Commission of the Ministry of Education.
- Organizing and appointing the administrator team: Project Liaison and Project Teacher supervision.
- Planning material development and creation of beginner books/texts by children's book experts/writers recommended by Srinakharinwirot University and the Minister of Education.
- Planning the CLE key personnel training (school administrators and provincial administrators, teacher

supervisors, and in-service teachers in the project schools.)

- Constructing tools for follow-up/evaluation planning for outsider teams (local Rotarians), teacher supervisors, school administrators, and project in-service teachers.

The main content in the CLE train the trainer programs at each model/stage cover the following topics:

- Goals and objectives of the training program.
- Theory and practices of the CLE approach in a particular model/stage.
- The CLE phases of instruction and techniques in a particular model/stage.
- Materials used in each model/stage: beginner texts, activities, teacher manuals, and teaching equipment/materials.
- Classroom management, group learning processes, classroom problem solving.
- Continuous phase-by-phase teaching demonstrations with the students' sampling group for different levels in each model/stage by the team training leader.
- Group teaching practice for the trainees (key personnel).
- Feedback and discussion of each phase of instruction after teaching demonstrations and group teaching practice.
- Particular important topics concerning theoretical assumptions, teaching techniques, and learning activities in each model/stage, such as scaffolding techniques, role-playing, language games, and songs (model/stage 1); workshops on top-level structure, genre analysis, integrated or cross-curriculum designs; elaboration of language activities.
- Language testing (pragmatic tests), evaluation, and assessments.
- Review of the instructional process; questions and answers about difficulties and other teachers' and students' problem solving, such as effective lesson plans, classroom/action research, and so on.
- Follow-up sessions after the training, such as forums, displaying classroom students' activities, visiting the CLE actual classes in different areas, and so on.
- Rewards and recognition program (optional).

5.2 *Teacher Training Strategies*

The teacher training strategies used in the CLE program are concerned with the following principles:

- The CLE techniques should be taught in a phase-by-phase demonstration usually by the trainer. The methodology should be developed with the students.
- If possible the sampling group of students for the demonstration should be drawn from a school where workshop participation is encouraged. Feedback, discussion, and additional explanations should be done after the demonstration between the trainer and trainees.
- The demonstration should be followed by what is called 'return teaching' whereby the workshop participants teach the phase that has been demonstrated under the supervision of the group trainers.
- Demonstrating with students from their own school proves that their own students can react just as well, and 'return teaching' with other students from the same school confirms that they (not just teachers with rare teaching talents) can achieve the same results.

Keeping to the general principles outlined above for training in the CLE method, the training workshops usually conform to what is now generally accepted as the most effective sequence for preparing teachers to implement a new teaching approach as follows:

- 1) Evocation: Calling upon what the teachers already have knowledge on regarding current problems in teaching for real-life purposes, how students learn the language, other matters related to the current type of project and program, and the need for fundamental changes in approach.
- 2) Demonstrating the methodology.
- 3) Analysis of what is happening in the new teaching sequence.
- 4) Practice teaching: 'return teaching' by the workshop participants.
- 5) Planning the implementation of the new techniques within teachers' classrooms.

6) Implementation: Teachers use the new teaching techniques with their own students, as soon as they return to their schools.

7) Follow-up: The teachers report on the implementation of the new techniques in periodic follow-up seminars at home centers, usually at least twice a year. They report and discuss such things as their own reactions to its use, the response from students, plans for the future, and recommendations for future teaching. They also provide feedback and guidance on the conduct of the project.

Teams of trainers and training workshops are an integral part of developing the pool of experienced, skillful, and knowledgeable local educators that enable the province or even the country to upgrade its language teaching from its own resources. As time passes and their value to the province or division becomes more obvious, they are truly the key personnel to further the progress in literacy teaching, especially in the different contexts of language teaching. Lighthouse strategies can perform effectively and sustainably.

5.3 The Structure of Program Cooperation and Leadership

The successful lighthouse CLE literacy program in Thailand had been operated through a model of cooperation and leadership as shown in Figure 3.

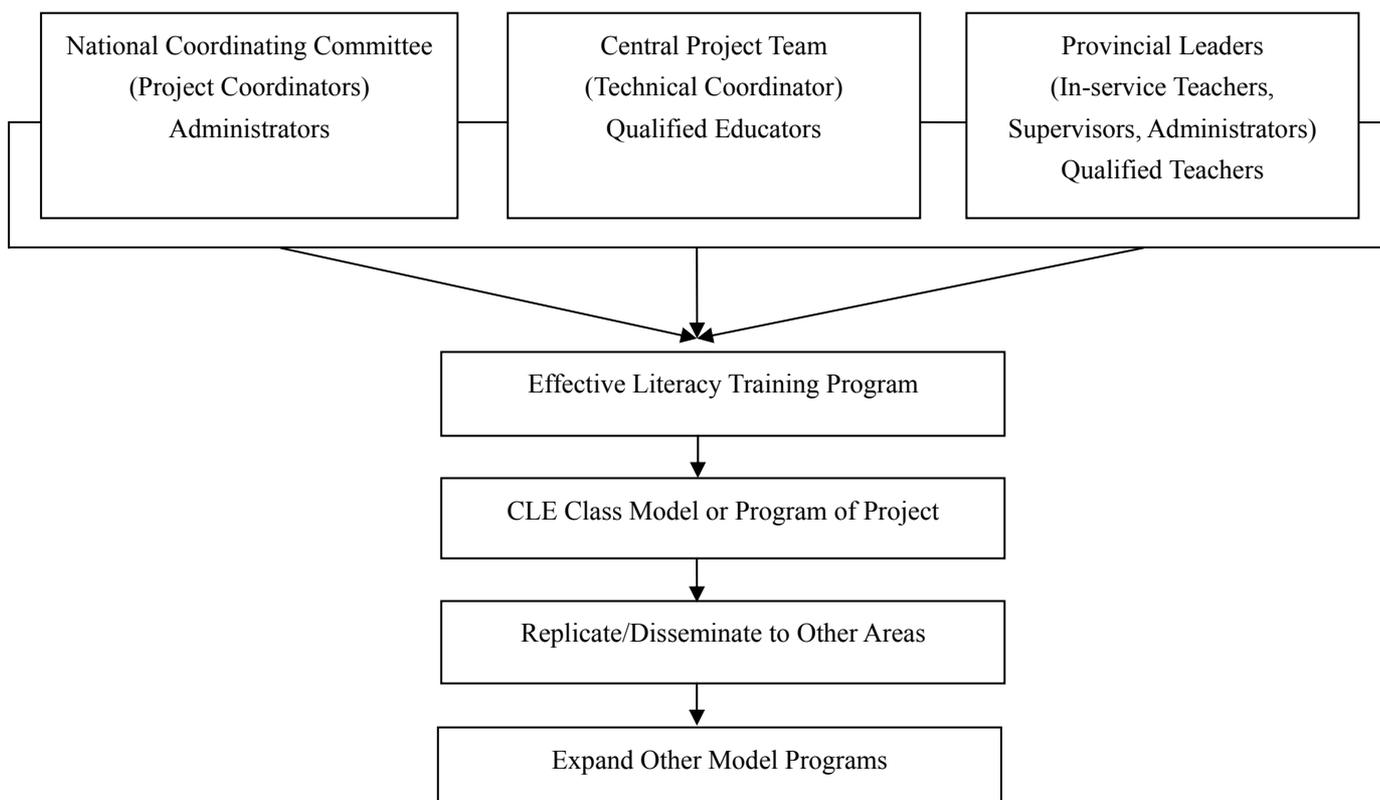


Figure 3. Lighthouse literacy strategies

As the main lighthouse literacy project in Thailand began, three leadership groups emerged: a national coordinating committee, a central project team, and provincial project teams. The national coordinating committee consisted of senior representatives of Rotary International, of the Ministry of Education, of the Srinakharinwirot University, and of the central project team, respectively. The central project team consisted of University staff, officers from the Ministry of Education, and Rotary leaders in Thailand. Throughout a five-year period, this team carried immediate responsibility for the coordination of all aspects of the project. Key personnel from provincial officers of the Ministry of Education (in-service teachers, supervisors, and school and provincial administrators) managed the project within their own provinces. That included making local arrangements for training and follow-up seminars and for week-to-week administration and supervision of the work in the schools. When extension training began in the third year of the project, regional teacher trainers also

became available in each province.

Members of the central project team were trained by experts or resource persons invited from abroad (Australia, England, and America) and from Thailand. When those members became familiar with the current theory and practice in literacy teaching and literacy program development, they trained the key personnel and the provincial leaders from the provinces with the assistance of the resource persons. As the program spread to further regions of the country, officers who had been appointed by the Ministry of Education to oversee the work in each major region were also given the training by the central project team.

The success of this large-scale work in Thailand indicates that this is a model of language curriculum that has much to be commended, both for its important theoretical bases, and for the example it provides as a collaborative effort between funding agencies and the State of Education.

6. Conclusion and Implications

It has been found through continuity and long-term commitment of the team using the CLE lighthouse literacy strategies that the integrated dynamic group learning process based on text-based and activity-based units developed in the curriculum covers all the needs for alleviating mass illiteracy and reaching the goal of life-long education on topics, such as vocational skills, creativity, democratic thinking, problem solving, ethics and morality learning, multiple intelligence use, sharing and helping others, personality development, and responsibility. The CLE approach in teaching literacy has become one of the best, inexpensive, practical literacy educational programs that can be adapted to different languages and cultures to overcome illiteracy problems around the world that affect people's long-term lives by socially, economically, and politically improving their lives. The teaching process allows students to have more opportunities to construct for themselves knowledge and experiences in life skills more autonomously and in a democratic manner under the cooperative and interactive learning process with the teacher's assistance and consultancy. In addition, analyzing the learning types of the CLE approach according to the four pillars of successful education suggested by Delors (1998), CLE encompasses learning to know (expanding students' knowledge and understanding), learning to do (involving students in practical activities and vocational skills using real life experiences), learning to live together (allowing students to learn through a dynamic group process to experience their reading, writing, listening, and speaking around core activities), and learning to be (offering students opportunity to develop their intellect, judgment, ability, creativity, feelings, relationships, and imagination).

Any effective CLE classroom can become an effective center of learning for other interested teachers, educators, or parents who can observe and study the methods and techniques under the coaching and mentoring of successful teachers. Any other literacy supportive programs in schools or communities should be considered to strengthen the lighthouse program, such as classroom libraries, community mobile libraries, school clinical reading centers, parental training (CLE at home), and innovative computer assisted programs.

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