

合作學習在英(外)語教學的應用：理論與實務

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摘 要

本研究旨在探討合作學習應用在英(外)語教學的成效，本研究首先從不同的論點分析合作學習能有效促進學習的原因，這些理論包括動機理論、社會互依性理論、皮亞傑的社會認知論，和維高斯基的社會文化論，繼而介紹合作學習的分類與模式，包括共同學習法(Learning Together)、結構法 (the Structural Approach)，和課程配套(Curriculum Packages)，最後探討英(外)語學生如何在語言、認知和情意三方面的成長，希望本研究能讓英(外)語教師對合作學習有概括性的認識。

關鍵字：合作學習、英(外)語教學

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Cooperative Learning on Second/Foreign Language Education: Theory and Practice

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Abstract

This study attempts to explore why and how Cooperative Learning (CL) facilitates the learning of second/foreign language learners. It first explains the success of CL from four theoretical perspectives: (1) motivational theory (2) social interdependence theory, (3) Piagetian sociocognitivism, and (4) Vygotskian socioculturalism. Next, it describes the various CL models: Learning Together, the Structural Approach, and Curriculum Packages. Then, it discusses how CL benefits second/foreign language learners linguistically, cognitively, and affectively. It is hoped that this study would provide a brief overview of CL for second/foreign language educators.

Key words: Cooperative Learning, Second/Foreign Language Teaching

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INTRODUCTION

Over the past few decades, Cooperative Learning (CL) has been proposed as a framework for the teaching of a second/foreign language because it maximizes authentic and purposeful interactions among students (Shaaban & Ghaith, 2005) and it provides means of integrating four language skills (McCafferty, Jacobs & DaSilva Iddings, 2006). In Johnson, Johnson and Stanne's (2000) meta-analysis report, 164 studies comparing eight CL methods with individualistic or competitive learning indicate that CL promotes higher academic achievement than all forms of teacher-centered learning across all age levels. In addition to productivity, cognitive development and affective development are another two major areas that students benefit from CL (Shaaban & Ghaith, 2005). The present study attempts to explore why and how CL facilitates the learning of second/foreign language learners. Specifically, it explains the effectiveness of CL from different theoretical perspectives, followed by various CL models. Moreover, the study discusses how CL benefits students linguistically, cognitively, and affectively.

THEORIES UNDERLYING COOPERATIVE LEARNING

Olsen and Kagan (1992) define Cooperative Learning as “a group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others” (p.8). Cooperative Learning is one of the greatest success stories in the history of theory and actual classroom use. Several CL researchers have identified different theoretical perspectives to explain the success of CL (Dörnyei, 1997; Johnson, Johnson, & Holubec 1994; Slavin, 1996). The present study focuses on the four general perspectives: (1) motivational theory (2) social interdependence theory, (3) Piagetian sociocognitivism, and (4) Vygotskian socioculturalism.

Motivational Theory

Motivational theory focuses on the impact of incentive structures such as group rewards and class rewards on learning. Motivational theorists criticized that the competitive grading and informal reward system of the traditional classrooms create peer norms that has a counter effect on academic efforts. The incentives offered in the competitive grading system provide students with the opportunities to demonstrate superiority over one's peers. And the incentives offered in informal reward system increase only one's own achievement. Therefore, motivationalists build incentive structures to incorporate both variables, i.e., one's own and peers' achievement into CL methods. The rationale for these structures is that if learners value the success of the group, they will be motivated to help one another to achieve (Slavin, 1996).

Motivationalists' reward structures also allow all students and teams an equal opportunity for success since recognition is based on gains. The fact that group rewards are given based on group members' behaviors is enough to induce students to engage in behaviors which help the group to be rewarded. For example, goal-directed behaviors such as peer-tutoring are likely to help students pursue better team performances. In order to maximize group learning outcomes, students are motivated not only to increase their own achievement but the achievement of peers.

Social Interdependence Theory

Social interdependence theory is interrelated to the motivational perspectives. Unlike motivational theorists who hold that students help their teammates because of incentive structures, social interdependence theorists emphasize that students help one another to learn because they care for members within the group. Social interdependence perspectives postulate that the effects of CL are strongly mediated by the cohesiveness of the group. Group cohesiveness, an index of the level of group development, determines peer interaction which, in turn, determines

outcomes (Johnson, Johnson, & Holubec 1994). Cohesive groups are more productive than noncohesive ones. In other words, positive interdependence results in promotive interaction as group members encourage and facilitate one another's efforts. The more time group members spent together, the higher intermember acceptance and cooperation becomes (Hinger, 2006).

Clément, Dörnyei and Noels (1994) are the first to indicate that group cohesiveness is a significant component of L2 motivation. In a cohesive group, the group's goal-oriented norms have a strong influence on the individual and thus, the likelihood of social loafing and free riding decreases. In Dörnyei's (1997) view, CL is effective in creating cohesive groups. He further identified three possible explanations for the increase in group cohesiveness: (1) CL recognizes the importance of team building and contains regular self-evaluation, (2) The emerging cohesiveness in CL classrooms is also the function of the special dynamics of the CL process, and (3) Students are in control of organizing their own learning.

The two aforementioned perspectives explore the instructional effectiveness of CL from motivational viewpoint. Drawing on the intrinsic/extrinsic motivation theory (Deci & Ryan, 1985), motivationalists based their arguments on extrinsic motivation whereas the stance of a social cohesion theorist rests on intrinsic motivation because group incentives are downplayed or rejected. However, according to Dörnyei (1997), CL generates a powerful motivational system including both types of motivation. He illustrated his position with his L2 motivation proposed in 1994. He distinguished three independent levels of motivation: language, learner, and learning situation. The last two levels are considered to be particularly fostered by CL. At the learner level, CL group work motivates learning because it improves self-esteem and lowers anxiety. At the learning situation level, there are course-specific, teacher-specific and group-specific motives. These motives all contribute to learners' increased motivation.

Specialists in language education have agreed upon the postulation that

sustaining student motivation is one of the keys to successful teaching in L2. Motivational orientations may change. Teachers can facilitate such change through CL. The motivational theory and social interdependence theory form the fundamental basis of the motivational change. Right as pointed out by Johnson and Johnson (1999), the motivational system promoted within CL includes high incentives, high expectations for success, intrinsic motivation...and so on.

Piagetian Sociocognitivism

Piaget is the pioneer in taking the constructivist approach to cognition. The fundamental concept of constructivism is that individuals actively construct personal meaning from their experiences and that we make sense of those experiences at different stages of our lives (Williams & Burden, 1997). Piaget outlined a series of learning stages including: (1) sensorimotor stage (birth to age two), (2) preoperational stage (age two to seven), (3) operational stage (age seven to eleven), and (4) formal operational stage (age eleven to sixteen). Biological timetables were basic in Piaget's cognitive development which is characterized by expanding *equilibration*, i.e., a balance between what is known and what is currently being experienced. This is accomplished by the process of *assimilation* and *accommodation*. *Assimilation* refers to treating new material as an instance of something known whereas *accommodation* refers to modifying what we already know to take into account the unexpected result (Von Glaserfeld, 1995).

CL in the Piagetian tradition is aiming at arousing cognitive conflict in an individual. Simply put, the requirement to work together with peers may raise the chance that a learner experiences a cognitive conflict. Such a conflict can be a starting point for discussions about solving problems. The discussions of different perspectives on problem-solving strategies also feed conflicts, which are viewed as sociocognitive conflicts (Vedder & Veendrick, 2003). Piagetians declare that students benefit from interaction on learning tasks because when engaging in discussions, sociocognitive conflicts arise, disequilibrium occurs and

higher-quality understandings emerge (Johnson, Johnson & Holubec, 1993; Slavin, 1996).

Vygotskian Socioculturalism

Vygotsky is the founder of sociocultural theory of learning and cognitive development. He rejected the notion of predetermined stages. Instead, he maintained that learning and development are inherently social. While Piagetian sociocognitivism emphasizes the mediating role of conflict and controversy (Sawer & Berson, 2004), Vygotskian socioculturalism stresses the part played by other significant people in the learner's lives. The important people are known as *mediators* since they move learners into the next layer of knowledge (Williams & Burden, 1997). For Vygotsky, social interaction is a prerequisite to cognitive development:

An interpersonal process is transformed into an intrapersonal one. Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, *between* people (*interpsychological*), and then *inside* the child (*intrapsychological*). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relations between human individuals (Vygotsky, 1978, p 57).

CL in the Vygotskian tradition is aiming at social interaction with more knowledgeable others in *zone of proximal development* (ZPD). It is the distance between the actual developmental level in which a child can perform a task on his own and the level of potential development in which a child can perform a task together with adults or more capable peers (Vygotsky, 1978). The concept of ZPD highlights the interdependence between individuals and the social process in co-constructing knowledge in social settings (Xu, Gelfer, & Perkins, 2005). A

learner's ability to perform cognitive tasks independently based on a prior social process is the basic tenet of socioculturalism.

For socioculturalists, learning is fully situated within a given context. Learners' cognitive development is influenced by the social and cultural activities they experience (Oxford, 1997). Therefore, Vygotskians foreground the importance of learning processes, rather than educational outcomes. The interpretation of learning processes should consider the immediate social situation and the sociocultural context of the learning activities (Kumpulainen & Mutanen, 2000). In other words, sociocultural theorists are concerned with the development of ways of knowing at a macro-level.

The two constructivist-based perspectives are similar in that learning depends on the learners' ability to construct their own knowledge, not knowledge absorption. However, they differ in the issue of whether social and cultural processes have primacy over an individual processes. Piagetian sociocognitivism tends to view cognitive development as a relatively solitary act, i.e. self-organization. Social interaction is only to trigger development at the right moment (Brown, 2000). On the contrary, Vygotskian socioculturalism tends to view cognitive development as a primarily social act, i.e. enculturation into a community of practice. Piagetians' contention is that the mind is located in the *head* rather than in the *individual-in-social-action* claimed by Vygotskians (Cobb, 1996).

To sum up, CL researchers have identified four different theoretical perspectives to explain the effectiveness of CL. A basic overview about these perspectives is helpful in understanding the development of CL models.

COOPERATIVE LEARNING MODELS

Over the years, CL has been developed into various methods and procedures, reflecting different theoretical perspectives. Kagan (1995a) categorizes these options into different models. First, Learning Together developed by the Johnsons (1986) is a lesson-planning approach which organizes CL for use in any age level

with any subject. It incorporates five key elements: (1) positive interdependence, (2) individual accountability, (3) face-to-face interaction, (4) directing teaching of cooperative skills, and (5) monitoring and processing of group work. In Learning Together, teachers follow 18 steps which are divided into five main types: (1) Specifying objectives, (2) Making decisions, (3) Communicating the task, goal structure, and learning activity, (4) Monitoring and intervening, and (5) Evaluating and processing.

Second, the Structural Approach is based on the use of sequences of organized, repeatable classroom behaviors known as “structures.” They are distinct from activities. Activities are content-bound and cannot be repeated meaningfully many times. Structures are content-free ways of organizing interactions and can be divided into different categories (Oxford, 1997). They are division-of-labor structures such as Aronson’s (1978) Jigsaw, mastery structures such as Slavin’s (1978) Student Team Achievement Division (STAD), review structures such as Kagan’s (1992) Number Heads Together, and project structures such as Sharan and Sharan’s (1976) Group Investigation.

Unlike the Structural Approach, the third model is content bound and age-grade specific. It is called Curriculum Packages that require structures combining with materials specifically designed for specific content areas. Slavin’s (1986) Cooperative Integrated Reading and Writing (CIRC) is a curriculum package combining CL procedures with basal programs. It mainly uses two CL structures, Student Team Achievement Division (STAD) and Jigsaw. Following a lesson, students work on a range of cooperative activities including partner oral reading, identification of main story elements, and practice of reading comprehension strategies. All of the three CL models are designed to facilitate students’ learning to the maximum level. The benefits of CL are many as can be seen from the following section.

BENEFITS OF COOPERATIVE LEARNING TO ESL/EFL LEARNERS

This section discusses how the benefits of CL to second/foreign language learners are intertwined in linguistic, cognitive, and affective dimensions. It also briefly reviews empirical studies about the effects of CL on Taiwanese EFL learners.

Linguistic Development

CL is essentially a strategy of small-group interaction which corresponds to the essence of Communicative Language Teaching (CLT) (Kagan, 1995b). Focusing on meaning rather than form, CLT advocates the use of student-student interaction to maximize the opportunity for negotiating for meaning. The interaction in CL involves learners in many more instances of receiving comprehensible input and producing comprehensible output. Krashen's (1985) Input Hypothesis and Swain's (1985) Output Hypothesis provide a rationale for why second language learners achieve better linguistic competence in small groups. Krashen insists that second language acquisition is fostered by input that was comprehensible. While negotiating for meaning, students always adjust their input to make it comprehensible. The output hypothesis posits that learners need opportunities to produce pushed output in order to restructure their interlanguage grammar. When asked to clarify their output, learners reprocess and modify their interlanguage utterances toward greater message comprehensibility, which leads to second language development (Pica, 1994).

Although language specialists and educators acknowledge the modified output model as an effective way in second language acquisition, some research evidence suggests that teachers rarely require students to modify their output (Musumeci, 1996). According to Musumeci, teachers' sensitivity to affective variables in the SLA process may explain why they failed to engage students in the negotiation. In other words, they may attempt to help their students save face linguistically. She further identified that learners would initiate a negotiation with the teacher or peers

in a small-group setting instead of a whole class. Therefore, small groups are considered to be an ideal learning context in which learners would feel less threatened during the negotiation process.

Along a similar vein, Ghaith and Yaghi (1998) argue that small group enriches the language classroom with comprehensible input as well as promoting frequent and communicative classroom talk in a supportive environment. An early study on CL in L2 setting was carried out by Bejarano (1987) in 33 seventh-grade classes. Two CL methods, Student Teams Achievement Division (STAD) and Discussion Group (DG), were compared with the traditional whole-class method. DG is designed to provide students with broad and diverse learning experience. STAD is designed to improve student achievement of clearly well defined objectives. The findings revealed that both CL methods registered significantly greater improvement than the whole-class method on an overall test and on a listening comprehension scale.

Ghaith and Yaghi (1998) examined and compared CL with the traditional individualistic learning in terms of the achievement of English grammar of junior high school students. The control classes followed an individualistic instructional approach based on exercises in textbooks, and the experimental classes were taught using STAD. The results showed that students in small cooperative groups didn't achieve significantly higher scores on grammar rules and mechanics than those in the individualistic approach of the textbook. However, the results revealed that high achievers in the experimental group gained at least as their counterparts in the control group. Their findings rejected the argument that the better performances of low-achieving students was bought at the expense of the high-achieving students, or that high-achieving students could learn more if they were not stuck tutoring.

In recent years, a growing number of studies have reported on CL use in Taiwan. Most of these studies adopt an experimental or quasi-experimental design. They view CL as an independent variable and outcomes as a dependent variable. A majority of them have indicated that CL was effective in enhancing students'

English learning (H. C. Chen, 1999; Liang, 2002), and learning of other skills such as reading (Chane, 2003; M. M. Chang, 1995; Chu, 1996; Y. H. Wang, 2001; Wei, 1999; Wu, 2004; Yeh, 2004), listening (Chao & Y. W. Chang, 2003), speaking (Lu, 2003; Tsay & Shen, 2007), writing (Yi, 1998), vocabulary (S. M. Huang, 2002), and grammar (H. M. Wang, 1992). Local research findings support the pedagogical arguments of CL. First, CL increases language practice opportunities. One major reason for low achievers is that they don't have enough time to practice the new language. Through simultaneous talk in groups, individual practice time becomes available to each student (Long & Porter, 1985). Second, CL improves the quality of student talk. Face-to-face communication in groups is a natural setting for conversation.

Cognitive Development

Small-group interaction implies that either verbal or non-verbal exchange has occurred. Talk is the medium of thought and an important tool for learning. Students benefit from their own verbalization of ideas as well as from the contributions of others. As McDonell (1992) puts it, to silence students would inhibit their thinking. CL provides learners with an interaction model in which they engage in restating, rehearsing, and internalizing new concepts. The classroom talk helps students develop higher-level thinking skills such as analysis and evaluation of information.

The classroom talk can be private speech or giving explanations to others. Giving explanations has been considered to play a crucial role in stimulating cognitive development. In order to maximize the benefits of CL, some students must act as "more knowledgeable others" who assist their peers (Klingner & Vaughn, 2000). Through tutoring, peer tutors are forced to reorganize and clarify the material in new ways so that their explanations can be easily understood. Tutored students profit from "kid language" translated from the teachers' language by their peer tutors. The cognitive reorganization allows tutors to obtain a more

in-depth understanding of the material and tutees to consolidate the material better. The growth in cognitive development leads students to make gains in second language learning.

Students practice a variety of cognitive strategies in different stages of CL. For example, due to the potential for *what if* questions to occur, students have chances to practice verification strategies. During group processing stage, they practice metacognitive strategies. McDonell (1992) observed students asking more questions of different kinds and making comments about language. This suggested that metalinguistic awareness was a by-product of language development. She further associated this metalinguistic knowledge with the development of metacognitive strategies which contained thinking about the learning process, planning for learning, and self-evaluation after the learning experience.

Compared with studies on linguistic achievement, studies on cognitive growth are relatively few. Ghaith and El-Malak's (2004) study is one of the few that examines gains related to higher level cognitive abilities. They investigated the effects of Jigsaw II on EFL learners' reading comprehension: literary reading comprehension and higher order reading comprehension, in particular. Literary reading refers to the ability to understand explicitly stated information such as recognizing details whereas higher order comprehension refers to interpretive and critical comprehension such as making inferences. No significant differences were found for overall and literal comprehension test scores. However, students in the CL class outperformed those in the teacher-led class on the higher order comprehension, which suggests that CL promotes critical thinking and creativity.

Affective Development

Small-group interaction also implies a student-centered classroom. When classroom interaction patterns favor more exploration of ideas by students, they will have more positive attitudes toward learning. Students will feel more in control of their own learning and display more on-task behavior. They no longer wait for

the teachers to deliver knowledge to them. Instead, they learn by themselves actively and spontaneously. Small groups allow students to express their ideas in a non-threatening learning environment. With the security of the group, they are less afraid of making mistakes. If there is correction, it is in the process of negotiation of meaning, not in the process of evaluation (Kagan, 1995a). Students with increased motivation and lower anxiety levels are more able to talk to learn and build on the talk of others. The affective development is positively associated with students' gains in language competence.

ESL/EFL researchers and professionals have consistently recognized the value of CL for affective development. Dörnyei (1997) declares that affective factors represent essential elements in the success of CL leading to second language acquisition. He discusses the motivational basis of student achievement in CL. He points to a multidimensional construct of motivation that includes three levels of motivation: language, learner, and learning situation. CL improves motivation particularly at the level of learner and learning situation. CL fosters language learning at the learner level mainly because it reduces anxiety and facilitates language learning at the learning situation level primarily because of group cohesiveness and reward system. Likewise, Shaaban and Ghaith (2005) maintain that the affective outcomes include positive attitudes towards learning and other learners, enhanced intrinsic motivation, lower level of anxiety, increased self-confidence, and self-esteem.

More and more comparative studies examining the effects of the affective development of Taiwanese students have revealed positive results in different affective factors (Liang, 2002; Lu, 2003; Wei, 1997; Yang, 2003; Yeh, 2004). Y. H. Wang's (2001) study has reported various positive responses from her senior-high-school participants including better communication skills, being willing to and unafraid of reading short stories in English, appreciation of different viewpoints and other culture, and the enjoyment of participation in group activities. Along a similar vein, C. Y. Huang (2004) has also reported that CL not only

motivates her participants to read English but enhances emotional growth among students such as respecting and sharing opinion.

To sum up, as CL provides learners with many opportunities to communicate and interact with others, it has been proposed as an ideal framework to the teaching of a second/foreign language over the years. Empirical evidence also points to the positive effects on linguistic, cognitive, and affective development.

CONCLUSIONS

For many decades, CL has been widely implemented to the teaching of a second/foreign language across all age levels because both theoretical arguments and research evidence support that contention that CL is an effective instructional approach. This study has explained the success of CL from different theoretical perspectives. It has also described the various CL models. Moreover, it has discussed the benefits of CL to second/language learners and has briefly reviewed the empirical studies conducted in the local context. It is hoped that this study would provide a basic overview of CL for second/foreign language educators.

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