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A Research on the Effects of Cooperative Learning on English Learners' Self-efficacy

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Abstract: We have long paid more attention to the structure of the English language than to the psychology of the learners. However, learners' psychology like self-efficacy has a large effect on learners' language learning. Meanwhile, cooperative learning is a teaching methodology that prioritizes the student-centered approach which has been proved positive and effective in improving learners' self-esteem and social effects. Based on Bandura's social learning theory, Vygotsky's theory of proximal development zone and Socio-constructivism theory, the goal of the research is to discover whether cooperative learning can affect English learners' language learning self-efficacy and whether they can accept this method of instruction. The results indicate that cooperative learning is effective in enhancing English learners' general self-efficacy, interactive self-efficacy, and developing self-efficacy in language learning. Learners with high English learning self-efficacy gain more progress in English learning self-efficacy than learners with low and moderate English learning self-efficacy level, besides, cooperative learning method is widly accepted by most learners. Finally, three suggestions are put forward for further use of cooperative learning in English classes: 1. Randomizing group composition; 2. Clarifying role division; 3. Improving members' English learning self-efficacy.

Keywords: cooperative learning, self-efficacy, English learners

1. Introduction

Nowadays, most English learners in China are still in a passive learning state, resulting in the situation that they stop learning once leaving class. Therefore, cooperative learning can be a transfer of traditional teaching methods, so that learners can continue to learn after class, which is conducive to improving learners' self-efficacy and training them to consciously integrate language learning into life. So far, there have been several investigations conducted on the effective utilization of cooperative learning in the process of acquiring a foreign language. In contrast, studies of cooperative learning in foreign language teaching mainly focus on learners' achievements instead of learners' psychological development, such as the influence of cooperative learning on self-efficacy. Therefore, this study attempts to discover the influence of cooperative learning on the promotion of English learners' self-efficacy. Through the whole study, the researcher has been trying to find out the answers to two questions: (1) whether cooperative learning can improve learners' self-efficacy or not; (2) what are the learners' attitudes and opinions towards adopting cooperative learning in English learning.

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2. Literature review

2.1. Cooperative learning

William Glasser proposed cooperative learning to be used in classroom teaching. Slavin, who is a prominent advocate of cooperative learning, provides a definition for this approach said that cooperative learning is a teaching technique in the classroom that allows learners to work in groups and receive rewards or recognition based on the performance of their group [1]. Cuseo pointed out that "The main characteristics of cooperative learning are forming groups with a purpose, clarifying group tasks and individual responsibilities, facilitating group members to interact and rely on each other, paying attention to the development of social communication skills, and playing the supporting role of mentors" [2]. Concerning the cooperative learning strategies, Johns Hopkins University established Teams-games-tournament, Aronson designed jigsaw, Slavin created learners teams-achievement divisions, Johnson brothers set up learning together while Sharan and his wife set up group investigation, etc..

As for the effect of cooperative learning, Webb found that cooperative learning brings the greatest benefits to the person who explains the material in detail to others and the person who receives the explanation. Mutual teaching enhances both teaching and learning learners' academic achievement, according to research. Slavin has also done comprehensive research on cooperative learning's influence on learners' academic achievements [3]. According to Fathman's research, cooperative learning can help learners learn a second language since it gives them a lot of possibilities to utilize and produce the language. The Johnson Brothers pointed out that cooperative learning could promote higher self-esteem compared with competitive learning and independent learning. They also had proved the relationship of cooperative learning and learners' academic achievements by using many analytical methods [4].

2.2. Self-efficacy

Self-efficacy has received a lot of attention since Albert Bandura first introduced it in 1977 and has been used in a variety of fields. Self-efficacy is defined as personal beliefs about one's abilities to learn or perform skills at designated levels. The following are the primary definitions of self-efficacy offered by foreign scholars: (1) It speaks of the person's judgment, belief or subjective self-mastery and sense of whether he can complete a certain activity at a certain level [5]. (2) It is a personal case that enables individuals to effectively communicate with the world around them [6]. (3) It is a mental state in which individuals respond to a specific environment [7]. (4) It is an individual's sense of the effectiveness or ineffectiveness of his own actions [8]. Despite their variations, they all have two things in common: self-efficacy and external feedback. There are four sources of information that contribute to the development of a person's self-efficacy beliefs: the experience of enactive mastery, vicarious experience, social persuasion, and physiological and affective states.

According to Bandura, self-efficacy has a significant impact on individuals' decision-making processes, their willingness to put effort into their activities, and their ability to remain persistent and resilient when faced with challenges. In the past decades, self-efficacy has enjoyed a resurgence of interest among educational psychologists, and many studies have proved its influence on academic performance in various areas. Besides, a wealth of research findings indicated that self-efficacy is correlated with self-regulation, cognitive strategy use and achievement outcomes. In face of adversity, those with high self-efficacy exhibit more self-control, self-monitoring, and tenacity than those with low self-efficacy. Schunk used path analysis to replicate the correlation between instruction processing, self-efficacy, persistence, and achievement [9]. According to Albert Bandura, self-

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efficacy has an impact on goals in a way that directly and indirectly influences achievements. Self-efficacy is regarded as the most effective predictor of achievements [10].

2.3. The relationship between cooperative learning and self-efficacy

Purnama proposed through experiments that through cooperative learning teaching strategies, students' self-efficacy has been improved [11]. Dwi also confirmed through experiments that there is an interaction between learning patterns and self-efficacy, which can affect students' math learning outcomes [12]. Among them, students with high self-efficacy are more suitable for using STAD learning methods. Annurwanda also found that after applying cooperative learning strategies, middle school students' mathematical self-efficacy improved, they became more confident, and their personal performance improved [13].

Collectively, these studies demonstrate that cooperative learning strategies significantly enhance students' self-efficacy across disciplines. Research highlights the interaction between learning approaches and self-efficacy levels. Enhanced confidence, academic performance, and personal growth further underscore the effectiveness of cooperative learning in fostering both psychological and educational outcomes.

3. Methodology

In terms of research objects, this study intends to examine the viability of cooperative learning in English learning classes of a Chinese institution and to look into the impact of cooperation.

As designed, there are two questionnaires, the first questionnaire is about the learners' English learning self-efficacy. The second questionnaire is about the learners' attitude towards cooperative learning. The survey is based on the theories of the Zone of Proximal Development, Socio-Constructivism, and Social Learning, all of which provide the theoretical foundation of cooperative learning. Socio-constructivism theory holds the idea that individuals actively construct their own cognition and knowledge in their interactions with others under the social and cultural background [14]. Social learning theory holds that learners can summarize or comprehend the characteristics of others' behaviors by observing others' behaviors and their results, form rules, and reorganize these rules to form their own behaviors [15].

The first questionnaire embodies two sections. The first section is questions about learners' background information, and the second section contains 17 items testing the learners' English learning self-efficacy, which including the following three aspects: general self-efficacy, interactive self-efficacy, developing self-efficacy. The second questionnaire contains 13 items considering the cooperative learning feedback.

After testing, the questionnaire1 has been proved that the Cronbach Alpha value is 0.906, which is greater than 0.8, indicating that the data collected by this questionnaire has a high reliability. The KMO value is 0.791, which is greater than 0.7, indicating that the data has good validity. Meanwhile, the Cronbach Alpha value of questionnaire2 is 0.882 and the KMO value is 0.796. Therefore, the questionnaires can be used for official distribution and for further analysis.

4. Results and discussion

From the questionnaire of cooperative learning, it can be seen that when it comes to students' attitudes towards cooperative learning, over half of the students (>60%) hold a positive attitude, thinking that it can cultivate their sense of cooperation and personal responsibility. About 30% of students were neutral, and only a small percentage (less than 10%) were negative. Among the students in favor of cooperative learning, students with different English proficiency levels reacted differently to cooperative learning. More students with the middle and low level English proficiency students hold

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positive idea toward cooperative learning, through which they could be more active in English learning. However, less students of the high level English proficiency showed positive attitude because they need to pay more time and energy in cooperative learning processes.

Also, in the process of cooperative learning, there are many "non-cooperate phenomena". Non-cooperation refers to not taking responsibility in cooperative learning, or deliberately not completing one's own work [16]. Over 85% students said that there is "non-cooperate phenomena" in the process of cooperative learning. According to the author's speculation, there are several reasons for not cooperating. Firstly, some students think that they can rely on others to complete the task in cooperative learning, so that they do not have to bear the responsibilities. Secondly, in the process of cooperative learning, because of disagreement and conflict between group members, some students display "non-cooperate" to express their dissatisfaction. Thirdly, in the previous cooperative learning experience, some students have taken on a lot of work and lost their enthusiasm for cooperative learning.

When it comes to solutions to solve the problem of "non-cooperate", about 57% of the students think that the rotation team leader system is a good way to alleviate the problem of "non-cooperate". The group leader rotation system means that in the process of group cooperation, the group leader is not fixed, but the group members are fixed [17]. Another group member takes over as group leader after each assignment, and each group member takes over as group leader in turn. In most cooperative learning programs, a student will typically be chosen by the teacher to serve as the group leader, who will then receive a better grade than other group members, which means that the group leader will surely bear more responsibilities than the other group members. Through the group leader rotation system, different group members can assume more responsibilities in turn instead of placing the responsibility on one person all the time. In this way, not only can alleviate the phenomena of some students avoid taking responsibility in the future cooperative learning due to excessive responsibilities, but also can improve the other students' sense of responsibility, and let other group members who always rely on others blindly get rid of the bad habit.

4.1. Basic indicators

From the perspective of the four indicators including cooperative learning, cooperative self-efficacy, developing self-efficacy and general self-efficacy, the lowest score is cooperative self-efficacy, with an average score of only 3.251 points, followed by developing self-efficacy, with 3.373 points, the average score of general self-efficacy is 3.437 points, and the average score of cooperative learning is 3.514 points. From the score we can draw the conclusion that students have higher level of general self-efficacy and lower level of cooperative self-efficacy. The standard deviations of the four indicators are all between 0.557 and 0.711, with very little fluctuation, which shows that there is little difference in self-efficacy among respondents, and they can represent the majority of students. What's more, the respondents' score of self-efficacy are all above 3 points, which shows that their self-efficacy are all relative high under cooperative learning teaching method.

4.2. Correlation analysis

The Pearson correlation coefficient is used to indicate the strength of the correlation. The three self-efficacy dimensions which have been mentioned above all demonstrated significance in terms of cooperative learning and cooperative self-efficacy, developing self-efficacy, and general self-efficacy. The correlation coefficient values were 0.591, 0.627, and 0.703, respectively, and the correlation coefficient values were all greater than 0, which means Cooperative learning is positively correlated with cooperative self-efficacy, developing self-efficacy and general self-efficacy. The data analysis shows that cooperative learning is helpful in boosting students' self-efficacy, and is most effective in

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boosting students' general self-efficacy, because it has the highest correlation coefficient among the three measures.

4.3. Regression analysis

From questionnaires conducted in the research, linear regression analysis is used to predict the model formula between self-efficacy and cooperative learning, cooperative learning is used as an independent variable, and self-efficacy is used as a dependent variable for linear regression analysis.

From the result of regression analysis, it can be seen that the model formula is: self-efficacy=0.680 + 0.763*cooperative learning, model R square. The value is 0.553, which means that cooperative learning can explain 55.3% of the change in self-efficacy. When the F test was carried out on the model, it was found that the model passed the F test (F=85.522, p=0.000<0.05), which means that cooperative learning will definitely have an impact on self-efficacy. The final specific analysis shows that:

The regression coefficient value of cooperative learning is 0.763 (t=9.248, p=0.000<0.01), which means that cooperative learning will have a significant positive impact on self-efficacy. The summary analysis shows that cooperative learning will have a significant positive impact on self-efficacy.

5. Conclusion

5.1. Major findings

The research focuses on the effectiveness of cooperative learning on English learners' self-efficacy. Judging from questionnaires, it could be concluded that cooperative learning does involve a lot of supportive features that are favorable for learners' English learning self-efficacy.

5.1.1. Correlation between cooperative learning and English learning self-efficacy

As is shown in the data analysis, the regression coefficient value of cooperative learning is 0.763 (t=9.248, p=0.000<0.01), which means that cooperative learning will have a significant positive impact on self-efficacy. The most influential nature of the student's source of self-efficacy information is the engagement during learning. The effects of cooperative learning on learners' self-efficacy is also proved in this thesis, especially general self-efficacy and cooperative self-efficacy. According to Socio-constructivist Theory, individuals actively construct their own cognition in the interaction with others [18]. Cooperative learning is helpful in improving learners' overall English learning self-efficacy in the process of cooperating with others. Everyone makes a contribution to group achievements, so learners can gain a sense of confidence and achievement. In the theory of Zone of Proximal Development, the zone of proximal development created by teaching is not only reflected in the teacher's teaching, but also in the cooperation with stronger peers, thus, in the process of cooperative learning, self-efficacy, which also has a zone of proximal development, is also promoted by cooperation.

5.1.2. Different-English-proficiency learners' reactions to cooperative learning

Learners with different English proficiency levels reacted differently to cooperative learning. More learners with the middle and low level English proficiency learners said that they liked this cooperative learning method through which they could involve themselves in English learning actively. However, the learners of the high level English proficiency showed less interest because they thought it wasted a lot of time and energy, and they normally shouldered more than the other level learners. But more learners in the high and middle level thought they could get adjusted to group learning compared with low level learners. As to the change of English learning self-efficacy, learners'

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English learning self-efficacy were improved in the whole. However, learners with high and moderate English proficiency levels experience less self-efficacy improvement than those with low English proficiency levels. In the theory of Zone of Proximal Development, the potential level of zone of proximal development is determined by solving problems through guidance from adults or from more able partners [19], as for learners with high and moderate English proficiency levels, in cooperative learning, they act as the more able partners, so the possibility for them to improve self-efficacy is less.

5.1.3. Effectiveness of cooperative learning model and learners' attitude

In a traditional class, only teachers provide encouragement to learners. As a matter of fact, learners often wish for others' failure because it increases their own chance of success [20]. This may lead to a hostile learning atmosphere in which learners learn to recognize their negatively linked fate.

The research has proved that having learners learn cooperatively is a powerful way and has positive effects on the classroom climate. According to the research, learners can support and encourage one another in cooperative learning groups. Working in a small group fosters cooperation, which can foster "affective bonds" between learners and considerably encourage teamwork. In cooperative classroom, real life communication occurs. They talk in order to get information they want, reach a decision, or solve a problem. Cooperative learning allows learners to engage with the concepts of the interactive language class much more directly, allowing them to explore a variety of language learning techniques. They learn to have confidence; to raise questions; to stay focused; to respond to others' questions; to build rapport with fellow learners; to recognize their own limitations; to listen carefully and to sustain an idea.

It is obvious, therefore, that cooperative learning situations generally provide for a better learning environment for second language acquisition. In order to achieve genuine objectives, learners are conversing about and negotiating the meaning of actual events and things. Additionally, learners find it far simpler to speak with a peer in a small group than to the entire class. Therefore they have more opportunities to communicate at the level developmentally appropriate for them. And this learning method is accepted by most of the learners (about 90% investigated in the research).

5.2. Suggestions

5.2.1. Assigning group members randomly instead of fixing group members

In English learning classes, cooperative learning is frequently adopted. In this way, the same group members always form the same group. As time goes by, the learners with strong ability always take on more work, while the learners with weak ability are easy to be lazy, which is not conducive to the improvement of their ability and decreases their confidence. Therefore, in cooperative learning, in addition to clearly assigning tasks to each team member, it is also necessary to frequently disrupt the structure of groups.

5.2.2. Clarifying division of responsibilities for group cooperative learning

In the process of group learning, determining the learning objectives and responsibilities of each member is the key to the successful completion of group cooperative learning. Clear division of labor refers to the requirement that every member of the group can participate in the group learning, and be able to shoulder their own responsibilities well, only in this way can ensure the efficient progress of group cooperative learning.

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5.2.3. Helping team members improve learning ability self-efficacy

Through group cooperative learning, learners experience the fun of learning in action, and then have a lot of confidence in their learning behavior. However, some members of the group study method also contributes to their lack of self-responsibility, as they assume that the other members can successfully perform the group's objective without them. Additionally, several group members thought that the exceptional learners in the group were to blame for the success of the learning assignments. Over time, this kind of learners' laziness in learning turns into a lack of confidence in their ability to learn, which requires properly guidance. For example, in the process of group learning, learners in this category should be selected to express their opinions on behalf of the group.

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